

# Inter-Society Color Council *News*

## ANNUAL REPORT ISSUE

### NO 1982 WILLIAMSBURG CONFERENCE

The Board of Directors wishes to announce that no Williamsburg Conference is planned for the early spring of 1982. It may be recalled that the original concept of this series of special technical conferences was that they should be held only when urgently needed. No urgent requirement for a 1982 conference was brought to the Board's attention; hence, no conference will be held. Announcements of plans for future conferences will be made as soon as they are identified. Possible conference dates for which the Council holds tentative reservations are listed on page 2 of the Membership List, but this does not mean that conferences will be held on each date listed.

### APPLICATIONS FOR INDIVIDUAL MEMBERSHIP APPROVED AT BOARD OF DIRECTORS MEETING, APRIL 26, 1981

Mr. Eustaquio T. C. Acero Testing instruments for color, haze, and gloss. Gardner Laboratory Division, Pacific Scientific Company  
Quezon City, The Philippines

Mr. Roy S. Berns Color constancy, depth of shade, computer assisted color matching, and spectrophotometry. Graduate student at Rensselaer Polytechnic Institute. Formerly lab manager of a carpet mill.  
186 Pershing Avenue  
Troy, New York 12180

Mr. Lawrence G. Biggs Human factors, reproduction, technology, color matching, spectrophotometry, and specification. Making copies from color Cathode Ray tubes on paper. Society for information Display.  
Tektronix, Inc.  
PO Box 500  
Beaverton, Oregon 97077

Mr. Wesley A. Coppock, Jr. AATCC. Industrial color control.  
7008 Brynhurst Drive  
Charlotte, North Carolina 28210

Mr. Paul Corzatt Formulation and control of dye mixtures coloring urethane and cast acrylic plastics for visual comparison with colorimetric water chemistries. Design of computer system to aid in the above.  
Hach Chemical Company  
PO Box 389  
Loveland, Colorado 80537

Mrs. Judith Crook Research and application of color/light interaction, simultaneous contrast, perceptual effects, etc. in communication and environmental aesthetic and design concerns —  
357 Catalina Drive  
Newport Beach, California 92663

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psychological and spatial effects of light and color; actual predictable effects in two- and three-dimensional form/space interactions. University teaching and research in the areas of color and light theories and application; interdisciplinary work with psychology in visual language and phenomenology relating to visual creativity and seeing what we are seeing and the application of this valuable awareness. American Crafts Council.

Mrs. Patricia M. Dawson Computer color matching (for non-opaque systems, especially).  
RD #5, Box 332  
Belle Vernon, Pennsylvania 15012

Miss Sheila G. Drake Styling and formulation of new colors and control problems associated with the production of automotive paints. Detroit Colour Council, Detroit Society for Coatings Technology.  
36 E. Lincoln  
Madison Heights, Michigan 48071

Miss Antoinette Galisky ASID. Devising color schemes, and creating environments.  
205 Via Riviera #2  
Redondo Beach, California 90277

Ms. Maelee Thomson AEA. Professional Artist; currently a Printmaker. (Developed a unique color process which I use for the coloration of Collagraphs which utilizes dry pigments (fresco) and embossing in a one time printing technique.) American Color Print Society, National Trust for Historic Preservation, and additional Art Associations.  
Foster  
4030 N.W. 19th Place  
Gainesville, Florida 32605

Mrs. Ellen A. Gerrity Illuminants B and C; pigment identification.  
A-13 Bryckwyck Apts.  
Sunset Terrace  
Troy, New York 12180

Ms. Mary Ann Glantz Perception, spacial qualities of color, organizing factors of color. Teaching color theory and application, textile design, interior design, full professor in art, 3D media at California State University, Northridge. American Craft Council, Handweavers Guild of America.  
1310 W. Washington  
Venice, California 90291

Miss H. Josie Harkness CAUS, CMG, H&G. Human response to color, color as a marketing tool, and own special ability to forecast color accurately.  
301 East 22nd Street  
New York, New York 10010

- Mr. Francis G. Jackson  
4820 Green Moor Court  
Hudsonville, Michigan  
49426  
Application to product and the impact it has on people.
- Mrs. Jean C. Johnson  
2 Bunker Hill  
Richardson, Texas 75080  
Teach use of color in painting; science of color as it relates to color perception.
- Mrs. Joan M. Kellogg  
M.A., ATR  
1125 Green Acre Road  
Towson, Maryland 21204  
AEA. Psychological aspects of color, also changes of color perception/projection following chemical intervention or through naturally occurring hormonal changes. American Society for Psychopathology of Expression.
- Art Therapy Association, American Society for Psychopathology of Expression.
- Mr. James William  
Leckinger  
Apt. 521, Mohawk  
Terrace Apartments  
Clifton Park, New York 12065  
Psychophysical and psychometric studies related to color. Spectrophotometric instrumentation.
- Miss Judith H. Lubar  
500-D Old Central Road  
Clemson, South Carolina  
29631  
AATCC. Quantifying its visual impact; its measurement and control; its effective use in industry.
- Ms. Joann Malone  
The Rensselaer Color  
Measurement  
Laboratory  
Department of Chemistry,  
MRC 217  
Rensselaer Polytechnic  
Institute  
Troy, New York 12181  
ACHS. I am interested in the current work being done in the areas of fluorescence, the problems associated with color formulations, and the industrial applications of these. Student at Rensselaer Polytechnic Institute at the color laboratory, in visual color matching of postage stamps. Have also worked at the American Olean Tile Company, Lansdale, PA in color formulation and matching for ceramic tiles. Phi Lambda Upsilon, National Fraternity for Chemistry.
- Mr. Francis Xavier  
Desmond O'Donnell  
11 Pittsfield Avenue  
East Greenbush,  
New York 12061  
ACHS. Psychometric scaling of gloss. Graduate student at Rensselaer Polytechnic Institute. Gemological Association of Great Britain, Royal Society of Chemistry.
- Mr. John F. Richardson  
Toms River Chemical  
Corporation  
PO Box 71  
Toms River, New Jersey 08753  
Quality control of dyes by computerized color control.
- Miss Nancy Mills  
Robertson  
11404 Rouen Drive  
Potomac, Maryland 20854  
Color response; or color in relation to the human emotional response system and how color affects our physical embodiments, and color interaction; or the physical properties of color, the color wheel, color theories.
- Dr. Hasmukhbhai S. Shah  
Department of Physics  
S.V. Regional College of  
Engineering and  
Technology  
Surat 395007, India  
Application of turbid medium theory to color science. Optical Society of India, Colour Group of India, and Indian Physics Association.
- Ms. Marilyn K. Squier  
1330 Regal Row  
Dallas, Texas 75247  
Computer color measurement, pigments, pearlescence, and transmission. Sample preparation, interpreting results. Society of Cosmetic Chemists.
- Ms. Suzanne Toews  
PO Box 1365  
Clovis, California 93613  
CMG. Human response to color, and theories of color harmony.
- Mr. Karel R. Van Langen  
3M Company  
3M Center, 223-1S  
St. Paul, Minnesota  
55144  
CMG, H&G, IDSA. Color as it relates to all the markets, such as automotive, transportation, original equipment, leisure time, truck fleets, airlines, etc. Color Institute of America.
- Mr. Thomas Vonier  
TVA, Inc.,  
2000 P Street, N.W.  
Suite 413  
Washington, D.C. 20036  
AIA. To develop awareness among architectural students and practitioners to promote energy and psychological impacts inherent in colors. Association of Collegiate Schools of Architecture, National Institute of Building Sciences, American Wind Energy Association, American Planning Association, and American Association for the Advancement of Science.
- Mr. Robert M. Weaver, Jr.  
11 Lakeview Avenue  
Beverly, Massachusetts  
01915  
AATCC, FSCT. Instrumental color analysis, color difference evaluation, metamer indices, color strength, and color formulation

## CHANGES IN MEMBERSHIP LIST, FEBRUARY 1 - APRIL 20, 1981

### A. Changes in Status

- Mr. Shelby Brannon: change from IMGS to IMG  
Color Marketing Group: change title from Administrative Secretary to Director of Communications for Ms. Sherry Ellman  
Dr. Robert A. Funk: change from Mr.  
Mr. Jeffrey R. Hagerlin: change initial  
Mr. Wallace R. Jonason: change initial  
Dr. Romesh Kumar, IMG: change from Mr. and IMGS  
Mr. Charles G. Leete, MCCA/L: off IMG  
Prof. M. G. Mellon: change to IMGR  
Mr. Harold Stedman: change to IMGR  
Harry I. Zeltzer (O. D.), IMG: change from Mr.

### B. Additions

- Mr. Eustaquio T. C. Acero, IMG, 891-893 Edsa, Quezon City, The Philippines  
Mrs. Wendy Coker, IMG (Reinstatement), 3 Arundel Crescent, Surrey Hills 3127, Victoria, Australia  
Mr. Wesley A. Coppock, Jr., IMG, 7008 Brynhurst Drive, Charlotte, North Carolina 28210  
Mrs. Patricia M. Dawson, IMG, RD #5, Box 332, Belle Vernon, Pennsylvania 15012  
Miss Sheila G. Drake, IMG, 36 East Lincoln, Madison Heights, Michigan 48070  
Mr. Edward J. Flax, IMG, Vice President & General Mgr., F. Weber Company, Wayne and Windram Avenue, Philadelphia, Pennsylvania 19144 (Replaces Frank Chille as corporate representative)

Ms. Maelee Thomson Foster, IMG, 4030 N.W. 19th Place, Gainesville, Florida 32605

Mrs. Ellen A. Gerrity, IMGS, A-13 Bryckwyck Apartments, Sunset Terrace, Troy, New York 12180

Ms. Mary Ann Glantz, IMG, 1310 West Washington Blvd., Venice, California 90291

Mrs. Jean C. Johnson, IMG, 2 Bunker Hill, Richardson, Texas 75080

Mrs. Joan M. Kellogg, IMG, 1125 Green Acre Road, Towson, Maryland 21204

Mr. James W. Leckinger, IMGS, Apt. 521, Mohawk Terrace Apts., Clifton Park, New York 12065

Miss Judith H. Lubar, IMGS, 500-D Old Central Road, Clemson, South Carolina 29631

Mr. John F. Richardson, IMG, Toms River Chemical Corporation, PO Box 71, Toms River, New Jersey 08753

Miss Nancy Mills Robertson, IMG, 11404 Rouen Drive, Potomac, Maryland 20854

Ms. Janet Schroeder, ASTM/E, Editor, Standardization News, Am. Soc. for Testing & Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103

Mr. Karel R. Van Langen, IMG, 3M Company, 3M Center, Bldg. 223-1S, St. Paul, Minnesota 55144

Mr. Thomas Vonier (AIA), IMG, TVA, Inc., 2000 P Street, NW, Suite 413, Washington, D.C. 20036

Ms. Dolores J. Ware, CAUS/L, The Color Association of the US, 24 East 38th Street, New York, New York 10016

Mr. Robert M. Weaver, Jr., IMG, 11 Lakeview Avenue, Beverly, Massachusetts 01915

#### C. Deletions

Mr. Richard E. Chartrand, IMG (resigned)

Dr. David G. Drennon, IMG (resigned)

Mrs. Miriam K. Fredenthal, IMG (resigned)

Mr. Willard P. Greenwood, IMGR (resigned)

Mr. Harold Grieve, IMG (resigned)

Miss Joyce Johnson, IMG (resigned)

Mr. Stanley C. Laplante, IMG (resigned)

Mr. Harry Loeb, IMG (resigned)

Mr. Gordon Matlock, IMG (resigned)

Mr. Bruce Rusnak, IMG (resigned)

Mr. Mathias J. Schuler, IMG (resigned)

Mr. John T. Smith, Jr., IMG (resigned)

Mr. Harry A. Barber, IMG (no address)

Mr. Kenneth A. Jones, IMG (no address)

Mr. John L. Mazzanti, IMG (no address)

Mrs. Bonnie E. A. McKenzie, IMG (no address)

Mr. Stephen Schultz, IMG (no address)

Dr. Sidney Stecher, IMG (no address)

Mr. Frank A. Chille, IMG, (Corporate change to Mr. Edward J. Flax)

Mrs. Joanne M. Cook, IMG (off delegation)

Ms. Kathryn Lieb, ASTM/E (Replaced as Editor by Ms. Janet Schroeder)

#### D. Change of Address

Mr. William A. Binkley, IMG, Arco Polymers, Research and Development, 3801 West Chester Pike, Newton Square, Pennsylvania 19073

Mr. Selby M. Brannon, IMG, 1413 Meadow Trace, Apt. 6, Pryor, Oklahoma 74361

Mr. David E. Browne, IMG, Ponca Pellets, Inc., Box 319, Goddard, Kansas 67052

Mr. Salvatore Carangelo, IMG, Inmont Corporation, L-5 Factory Lane, Bound Brook, New Jersey 08805

Miss Mary E. Carter, IMG, USDA, SEA, AR, Rm 340A, Administration Bldg., Washington, D.C. 20250

Ms. Carol Crawford, IMG, 23727 78th Place West, Edmonds, Washington 98020

Mrs. Thomas L. Croft, IMG, PO Box 7, Captiva Island, Florida 33924

Mr. Leonard R. Dearth, IMG, TAPPI, 5411 W. Spencer Street, Appleton, Wisconsin 54911

Prof. A. DeGregori, IDSA, IMG, 106 Gladstone Road, Pittsburgh, Pennsylvania 15217

Mrs. Janina V. Edwards, IMG, 1120 Cedrus Lane, Box 1175, McLean, Virginia 22101

Dr. Robert I. Goldbert, IMG, 157 West 57th Street, New York, New York 10019

Mr. Bernard R. Halpern, IMGR, PO Box 795, Kentfield, California 94914

Mr. Wallace R. Jonason, IMG, 135 Collingwood, San Francisco, California 94114

Mr. A. M. Keay, DCMA/C, IMG, Mobay Chemical Corporation, Dyes and Pigments Division, Pigments Department, PO Box 419, Hawthorne, New Jersey 07507

Mr. Rolf G. Kuehni, AATCC, IMG/V, Mobay Chemical Company, Dyes and Pigments Division, Dyes Department, PO Box 385, Union, New Jersey 07083

Dr. Romesh Kumar, IMG, American Hoechst Corporation, 129 Quindnick Street, Coventry, Rhode Island 02816

Dr. Lawrence R. Lerner, ACHS/C, IMG, Mobay Chemical Corporation, Dyes and Pigments Division, Pigments Department, PO Box 419, Hawthorne, New Jersey 07507

Mr. Charles Lachlan McDonald, IMG, 2610 North Market Street, Wilmington, Delaware 19802

Mr. S. J. Popson, IMG, TAPPI/C, Technidyne Corporation, 1862 Production Drive, Louisville, Kentucky 40299

Mr. Daniel T. Roberts, Jr., IMG, BASF Wyandotte, Pigments Division, Technology Services, 491 Columbia Avenue, Holland, Michigan 49423

Ms. Angela J. Rosich, IMG, Arco Polymers, Research and Development, 3801 West Chester Pike, Newton Square, Pennsylvania 19073

Mr. Donald R. Ross, IMG, Alcan Ingot & Powders, PO Box 209, Elizabeth, New Jersey 07207

Mr. Donald D. Schneider, CMG/V, IMG, NPCA, 750 North Claremont Avenue, Chicago, Illinois 60645

Mr. Raymond N. Shaw, IMG, 32 Third Street, Apt. 309, Warren, Rhode Island 02885

Miss Beatrice West, CMG, IMG, 1299 S. Ocean Blvd., Villa K-3, Boco Raton, Florida 33432

Mr. Robert H. Wood, SPSE, SPSE/L, Executive Director, Soc. Photog. Sci. & Engrs., 7003 Kilworth Lane, Springfield, Virginia 22151

#### CHANGES IN MEMBERSHIP LIST APRIL 20 - JULY 10, 1981

##### A. Changes in Status

Ms. Paula Jean Alessi: on ACHS

Dr. Stephen F. Bergen: on PR 35

Mrs. D. Jean Churchill: change from Ms. Jean

Mr. S. Leonard Davidson: on ACHS/V  
 Mr. Mark D. Gottsegen: on PR 37  
 Mr. Robert F. Hoban: off TAPPI  
 Mr. Richard S. Hunter: off TAPPI  
 Mr. Yorick G. Hurd: on SMPTE  
 Dr. Lawrence R. Lerner: on ACHS/V  
 Mrs. Joy Turner Luke: off PR 37  
 Dr. C. E. Matkovich: change to ACHS/C  
 Sr. Mary Virginia Orna: off IMG and change to ACHS  
 Dr. Danny C. Rich: change to IMG/V, on PR 22  
 Dr. Robert C. Sproull: off PR 35  
 Mr. Henry Stremba: change title to Executive Vice President

## B. Additions

Mr. John F. Alexander, Jr., IMG, PO Box 836, Clearwater, South Carolina 29822  
 Ms. Cindy L. Ashton, IMG, 3M Company, 3M Center, 207 BN, St. Paul, Minnesota 55144  
 Mr. Roy Berns, IMGs, 186 Pershing Avenue, Troy, New York 12180  
 Mr. Ronald E. Bostick, IMG (Reinstatement), 26 Sable Street, Norwalk, Connecticut 06854  
 Mr. Kenneth E. Burchett, IMG, S.R. 2, Box 4040, Branson, Missouri 65616  
 Mr. Bruce B. Burnett, TAPPI, Union Camp Corporation, Research Laboratory, PO Box 412, Princeton, New Jersey 08540  
 Mr. T. Sean Digby, IMG, 3220 Rex Avenue, St. Louis, Missouri 63114  
 Prof. Tai-Huo Dong, IMG, Optical Instruments Dept., Zhejiang University, Hangzhou, Zhejiang, Peoples Republic of China  
 Mrs. Marion K. Fredenthal, IMG (Reinstatement), 129 West 56th Street, New York, New York 10019  
 Mr. Paul J. Frost, TAPPI, Crown Zellerbach Corp., Central Research, Camas, Washington 98607  
 Dr. Roger D. Goos, MSA/L (Replaces Dr. Harry B. Thiers as liaison), Department of Botany, University of Rhode Island, Kingston, Rhode Island 02881  
 Miss Karen M. Haraburda, IMGs, 628 Fountain Street, Philadelphia, Pennsylvania 19128  
 Miss H. Josie Harkness, IMG, 301 East 22nd Street, New York, New York  
 Mr. Robert P. Huth, IMG (Replaces Mr. Robert K. Johnson as corporate representative, The Hilton Davis Chemical Div., 2235 Langdon Farm Road, Cincinnati, Ohio 45237  
 Mr. Francis G. Jackson, IMG, 4820 Green Moor Court, Hudsonville, Michigan 49426  
 Mrs. Marion L. James, IMG, James Exteriors, 5120 NE 12th Avenue, Fort Lauderdale, Florida 33334  
 Mr. Art L. Jimenez, IMG, DeSoto, Inc., 1700 S. Mount Prospect Road, Des Plaines, Illinois 60018  
 Mr. Daniel Levine, IMG, Beck Offset Color Co., 7040 Colonial Highway, Pennsauken, New Jersey 08109  
 Mr. Robert I. Loftin, TAPPI/E, TAPPI Press Mgr., Tech. Assoc. Pulp & Paper Ind., One Dunwoody Park, Atlanta, Georgia 30338  
 Mr. David Makow, IMG, 14 Davidson Crescent, Ottawa, Ontario, Canada K1J 6M2  
 Mr. David Malk, IMG, 1291 Pine Edge Drive, La Habra, California 90631  
 Mr. Francis X. D. O'Donnell, IMGs, 11 Pittsfield Avenue,

East Greenbush, New York 12061

Mr. Takashi Okuda, IMG, Calty Design Research, Inc., 2810 Jamboree Road, Newport Beach, California 92660

Mr. Edward R. Pope, IMG, Department of Art, 6241 Humanities Bldg., University of Wisconsin, Madison, Wisconsin 53706

Dr. Hasmukhbhai S. Shah, IMG, Department of Physics, Sardar Vallabhbhai Regional College of Eng. and Tech., Surat (Gujarat) 395007 India

Mr. L. Ralph Sorge, IMG, c/o King-Casey, Inc., 49 Pine Street, New Canaan, Connecticut 06840

Ms. Marilyn K. Squier, IMG, 1300 Regal Row, Dallas, Texas 75247

Mrs. Joann M. Taylor, IMGs, Department of Chemistry, Cogs. 326, Rensselaer Polytechnic Institute, Troy, New York 12181

Mr. Henri Van Bentum, IMG, c/o The Banff Centre, PO Box 1020, Banff, Alberta TOL OCO, Canada

## C. Deletions

Mr. Jerry G. Alert, IMG (resigned)  
 Mr. Charles E. Garland, IMG (resigned)  
 Dr. John MacMillan, IMG (resigned)  
 Mr. Richard Bache, IMG (no address)  
 Mr. Gary R. Carr, IMG (no address)  
 Mr. Henry B. Castaneda, IMG (no address)  
 Mr. Robert K. Johnson, IMG (Corporate representative change to Mr. Robert R. Huth)  
 Mr. Hideichi Misono, IMG, (Corporate representative change to Mr. Takashi Okuda)  
 Dr. Harry B. Thiers, MSA/L (Liaison change to Dr. Roger Goos)  
 Mr. Hugh G. Neil, IMG (deceased), Milarea Tech. College (1 of 2 not renewed)  
 Dr. Pritan Dhaliwal, ACHS (off delegate)  
 Mr. Michael Kouris, TAPPI (off as editor)  
 Mr. Patrick J. Peoples, TAPPI/V (off delegate)  
 Mrs. Barbara Piggins (off as editor)  
 Dr. J. A. Van Den Akker, TAPPI (off delegate)

## D. Change of Address

Prof. Mary Buckley, ASID, IDSA, Baycrest, Huntington, New York 11743

Mr. Jean Chevalier, IMG, 93 Champs Elysees, Paris 75008, France

Mr. William R. Dawes, IMG, Allied Corporation, Fibers & Plastics Div., PO Box 831, Hopewell, Virginia 23860

Miss Marcella Graham, IMG, 418 Walnut Avenue SW, Roanoke, Virginia 24016

Ms. Linda Jansson, ASID/L, Executive Director, Amer. Soc. of Interior Designers, 1430 Broadway, New York, New York 10018

Mr. Wallace Michael, CMG, IMG, RR1, Box 554, Maple Avenue, Atkinson, New Hampshire 03811

Mr. Douglas Mogler, FSCT, IMG, 645 Shelter Creek Lane 245, San Bruno, California 94066

Mr. John S. Mueller, IMG, Princeton Arms North 11, Apt. 152, Cranbury, New Jersey 08512

Miss Helen M. Paulson, IMG, Vision Department, Naval Sub. Medical Res. Lab., Naval Submarine Base, Groton, Connecticut 06349



Mr. David L. Spooner, IMG, C&P Dept., Chestnut Run, E.I. du Pont de Nemours & Co., Wilmington, Delaware 19898  
Ms. Joanne B. Sprehe, OSA/E, Editor, Optics News, Optical Society of America, 1816 Jefferson Place, Washington, D.C. 20036

Dr. Robert C. Sproull, ACP/V, IMG, 10912 Gary Player Drive, El Paso, Texas 79935

## REPORT OF THE PRESIDENT WILLIAM D. SCHAEFFER

Your president inherited an outstanding organization, thanks to the work of his predecessor, Mr. Franc Grum. The enthusiastic work of committee and meeting chairpersons, committee members, and officers has provided a level of support during the past year for this office for which I am most appreciative. The president-elect, Mr. Louis Graham, and our secretary, Dr. Billmeyer, particularly have given freely of their time and energies when I was physically unable to do so. As a result, the transition to a new administration moved successfully, if somewhat slowly.

The transition to our new treasurer, Mr. Edward Conner, has been completed thanks to his diligence and to the cooperation of Mr. S. Leonard Davidson, our past treasurer. On the recommendation of Mr. Conner and approval by the Board of Directors, 1981 ISCC dues for sustaining members and member-bodies were increased to \$100.00 and for individual members to \$20.00. This is the first dues increase since 1971 despite ten years of inflation.

New editions of the ISCC Membership Directory and By-Laws Booklet were published in 1980. Extensive revisions were the work of Dr. Billmeyer and Mr. Davidson.

An ISCC Service Award has been established by the Board of Directors to recognize those who have contributed extraordinarily to the Council. The award was suggested by Mr. Rolf Kuehni and he chaired the committee that defined the guidelines. He, with Mr. Ray Spilman, also have recommended the form of the Award. Nominations will be solicited for a 1982 presentation.

The ISCC Study Group, more recently known as the Planning Group, has recommended to the Board of Directors the organization of a "retreat" program to examine the Council program over the next three to five years. That recommendation will be fulfilled with a special directors' meeting at the Airlie House in Virginia on July 24-26.

The opening event of the Golden Anniversary of the Council was the very successful 1981 Williamsburg Conference. The theme "Creativity, The Common Denominator: Artist and Scientist Working Together," the cosponsorship by the Canadian Society for Color, and an excellent program organized by Dr. Alan R. Robertson, Mrs. Bonnie Bender and Mr. Edward L. Cairns, attracted some 82 registrants, about half non-ISCC members. The program fulfilled the expectations of the organizers, the participants, and the audience in that artists and scientists talked and frequently communicated.

The highlight of the Golden Anniversary year undoubtedly was the Annual Meeting, April 26 to 28 in New York City. The series of events starting with the reception Sunday evening at the Cooper-Hewitt Museum, and continuing with the committee meetings on Monday, the banquet and the talk by Yale and Frances Forman on "Color in the Everyday Life of the Chinese People," and the three symposia on Tuesday covering "50 Years of Progress in the Use of Color," "Color in the

Future" and "Color Education," provided a broad sampling of the interest areas for members of the ISCC. Particularly important was the paper "Historical Perspective: 50 Years of ISCC," presented by Miss Dorothy Nickerson who witnessed first hand the organization of the Council. Pulling together the program and displays from several member associations were cochairpersons Ms. Joyce Davenport and Dr. Allan Rodriguez. Mr. Ray Spilman and Dr. Billmeyer designed and edited, respectively, the souvenir booklet which all members should now have. Many others assisted in all stages of the meeting and their help is gratefully acknowledged for making the Golden Anniversary Meeting memorable.

The 1982 Annual Meeting will be held in Charlotte, N.C. on April 18 through 20. Mr. Ralph Besnoy is the chairman and is developing a program on "Welcome to Textile Country."

## REPORT OF THE PRESIDENT-ELECT LOUIS A. GRAHAM

During the past year there have been only two activities to report:

1. During the illness of the President, roughly from mid-June to mid-September, 1980, the President-Elect functioned as President Pro-Tem and with the cooperation and assistance of the Executive Committee conducted the routine and other necessary matters concerning the office of President. Non-routine items and those requiring direct attention were postponed until the President resumed office activities.

2. Following the request of the Past President, Franc Grum, work has been initiated on preparing a possible list of "color experts" whom ISCC members will be able to contact for assistance. This work is estimated to take another six months to conclude.

All other activities of the President-Elect were concentrated on the Problems Committee, and are reported under that heading.

## REPORT OF THE SECRETARY FRED W. BILLMEYER, JR.

Plans for an orderly transition of the office of secretary from the incumbent to Ms. Therese L. Commerford have been under way for the past year, and it is anticipated that they will be completed in April, 1982.

The Board of Directors approved the election of the Society for Information Display as the 37th member body of the Council at its meeting on April 26. Approval was also given to the application of N.V. Philips' Gloeilampenfabrieken of The Netherlands for sustaining membership in the Council. The formation of a new national color society, the *Grupo Argentino del Color*, is noted. The Council extends welcome and best wishes to each of these groups.

The Board of Directors appointed Mr. Harry K. Hammond, III, as Associate Editor of the journal *COLOR research and application* representing the Council. As Editor-in-Chief, I welcome the opportunity to work closely with Mr. Hammond. I am also pleased to announce that the Color Science Association of Japan became at the beginning of 1981 an Endorsing Society of *COLOR research and application*, joining the ISCC, The Colour Group (Great Britain), and the Canadian Society for Color in this capacity. During 1980, the journal published eight articles derived from papers presented at ISCC or ISCC-sponsored meetings (including all the articles in the Spring issue), eighteen additional articles by ISCC members (including all but one Note in the Fall issue), and three meeting reports or news items pertaining to the ISCC. In-

deed, in 1980 only four articles were authored by non-ISCC members.

The accompanying table shows the number of ISCC members in each of our several categories as of April 20, 1981, just preceding the 50th Anniversary Meeting. However, the periodic changes in the membership list whose publication in the Newsletter was inaugurated this year by the Secretary's Office show that such numbers are ephemeral, representing only a snapshot along the continuing growth curve of the Council.

#### ISCC Membership on April 20, 1981

<i>Membership Category</i>	<i>Number of Members</i>
IMG: United States	456
Canada & Mexico	15
Overseas	64
IMGR (retired)	18
IMGS (Student)	8
Honorary members	13
Delegates*	246
AIC representatives	29
Member-body liaison	39
Sustaining members	3
Library subscribers	19
Total membership*	927

\*Many Delegates are also IMG's, and a few miscellaneous members are not included, hence the total membership is not the sum of the items above.

#### REPORT OF THE TREASURER EDWARD T. CONNOR

The financial conditions of your Council remain strong. As of December 31, 1980 net worth was \$25,642. This represents an increase of a very modest \$73 during the year 1980 — an indicator of a tightening financial picture. During the previous year of 1979, net worth increased \$2,669. The reduction in 1980 is due to non-yearly reoccurring printing costs of the Council's By-Laws and Membership Booklet (incurred every three years and two years respectively).

1980 income was 1% under the budget. Additionally it was 7% less than the actual of the previous year — due to lower net income from the Williamsburg Conference. Expenses were reduced by 6% versus the budget. However, they still exceeded the previous year's expenses by 9% due to the printing costs mentioned earlier.

Income from membership dues rose 4% with essentially no change in dues rate and thus shows a slight increase in our number of members.

Your Directors approved a general dues increase beginning in 1981 as a necessary step in maintaining the quality and scope of services to the membership in the face of steeply rising costs.

The duties of the Treasurer's office were transferred to me from Leonard Davidson during the year. Leonard has been justly recognized by the Council for his many years of service and contribution as Treasurer. I extend public thanks to him for his assistance and counsel in the transfer of duties and am indebted to him for his continued availability in rendering advice and support.

May I also extend sincere thanks to the members of the Finance Committee, Mr. Charles G. Leete, Mr. William N. Hale, Jr., and Mr. Warren B. Reese, and to my fellow officers, the Board of Directors, and all of the members of the Inter-Society Color Council for their guidance and cooperation during this transition year for your new Treasurer.

#### REPORT OF THE 1981 ANNUAL MEETING

The 50th anniversary of ISCC was celebrated during the 1981 Annual Meeting held at the Roosevelt Hotel in New York City on April 26-28, 1981. The meeting opened with a Sunday evening reception at the Cooper-Hewitt Museum of the Smithsonian Institution, where an exhibit of 19th century woodwork in furniture by American craftsmen was featured. Wine and cheese refreshments were served. The entire museum facilities were made available exclusively to the ISCC. Thanks are due to the Color Marketing Group and the American College of Prosthodontics for the arrangements.

Twelve of the 13 active Project Committees of the Council met on Monday. Four of the twelve committees that met held 3-hour sessions. It again was necessary to schedule four simultaneous committee meetings at each of the four different time periods during the day, resulting in the usual conflict of choice for those people interested in attending many of the sessions. Reports of these committees and suggested new committees are published elsewhere in this issue. An added feature this year was exhibits in the hallways provided by the ISCC Member Bodies, describing their organizations' activities. They were a remarkable display of the diversity of color applications represented within the ISCC.

On Monday evening, a reception and the Golden Anniversary Banquet were held in the Grand Ballroom of the Roosevelt Hotel with President William D. Schaeffer presiding.

Greetings and felicitations were received from a number of individuals and societies on the occasion of the 50th anniversary of the Council. For convenience these are summarized in the minutes of the Annual Business Meeting elsewhere in this issue.

The 1981 ISCC Godlove Award was presented to Dr. Robert M. Boynton of the University of California at San Diego. The citation for the presentation of the Award was read by Dr. Peter K. Kaiser, and its text is found elsewhere in this issue. Dr. Boynton responded briefly, and his remarks are also included.

The after-banquet speakers were Mr. Yale Forman and Mrs. Frances Forman of Yale Forman Designs, Inc. who presented a delightful pictorial view of their recent trip to China, entitled "Color in the Everyday Life of the Chinese People." The Formans also had on display some of the beautiful fabrics they had brought back from China.

The Tuesday morning symposium, titled "50 Years of Progress in the Use of Color," was presided over by Co-Chairman Allan B. J. Rodrigues. The speakers and topics were:

"Historical Perspective: 50 Years of ISCC" — Miss Dorothy Nickerson.

"Member Bodies — The Nucleus of the Council" — Miss Joyce S. Davenport, DeSoto, Inc.

"Instrumental Control of Color" — Mr. Hugh R. Davidson, Davidson Colleagues.

"Color in Prosthodontics" — Dr. Stephen F. Bergen, The American College of Prosthodontics.

"Gemstones: Causes of Color and Its Description" — Mrs. Eunice R. Miles, substituting for Dr. V. Manson who was unable to attend.

"The Artist's Use of Color Knowledge" — Mr. Nathaniel Jacobson.

"Gilding the Lily" — Mr. R. Randall Vosbeck, The American Institute of Architects.

A special 50th Anniversary luncheon was held at noon on

# FINANCIAL STATEMENT AS OF DECEMBER 31, 1980

	General Fund		I.H. Godlove Award Fund		Proj. Comm. 37 Fund		Consolidated	
	12/31/79	12/31/80	1979	1980	1979	1980	1979	1980
<b>BALANCE SHEET</b>								
<b>ASSETS</b>								
Cash—Ck. Acct.	\$14,170	\$10,995	—	—	—	—	\$14,170	\$10,995
Cash—Sav. Acct.	4,614	4,933	\$885	0	—	—	5,499	4,993
Certificates of Deposit	12,921	13,894	—	\$941	—	—	12,921	14,835
Prepaid Insurance	24	169	—	—	—	—	24	169
Newsletter Covers	3,069	2,046	—	—	—	—	3,069	2,046
Dues Receivable	1,345	1,494	—	—	—	—	1,345	1,494
Due from Gen. Fund	0	0	24	24	\$220	\$ 38	244	62
	<u>\$36,143</u>	<u>\$33,531</u>	<u>\$909</u>	<u>\$965</u>	<u>\$220</u>	<u>\$ 38</u>	<u>\$37,272</u>	<u>\$34,534</u>
<b>LIABILITIES</b>								
Due I.H. Godlove Fund	\$ 24	\$ 24	0	0	—	—	\$ 24	\$ 24
Due Proj. Comm. 37	220	38	—	—	0	0	220	38
Adv. Reg. Williamsburg Conf.	11,459	8,805	—	—	—	—	11,459	8,805
Advance Dues Collected	0	25	—	—	—	—	0	25
	<u>\$11,703</u>	<u>\$ 8,892</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>\$11,703</u>	<u>\$ 8,892</u>
<b>FUND BALANCE</b>								
Beginning Balance	\$21,655	\$24,440	\$895	\$909	\$350	\$220	\$22,900	\$25,569
Added during year	2,785	199	14	56	(130)	(182)	2,669	73
	<u>\$24,440</u>	<u>\$24,639</u>	<u>\$909</u>	<u>\$965</u>	<u>\$220</u>	<u>\$ 38</u>	<u>\$25,569</u>	<u>\$25,642</u>
<b>TOTAL LIAB. AND FUND BAL.</b>	<u>\$36,143</u>	<u>\$33,531</u>	<u>\$909</u>	<u>\$965</u>	<u>\$220</u>	<u>\$ 38</u>	<u>\$37,272</u>	<u>\$34,534</u>
<b>INCOME/EXPENSE STATEMENT</b>								
<b>INCOME</b>								
Dues	\$13,174	\$13,086	—	—	—	—	\$13,174	\$13,086
Dues Uncollectable	(1,680)	(1,195)	—	—	—	—	(1,680)	(1,195)
Subscriptions/Reprints	919	393	—	—	—	—	919	393
Use of Mailing List	50	50	—	—	—	—	50	50
Annual Mtg.—Net	1,399	1,636	—	—	—	—	1,399	1,636
Williamsburg Conf.—Net	2,856	1,417	—	—	—	—	2,856	1,417
Contributions	0	0	—	—	200	300	200	300
Interest	1,133	1,292	52	56	—	—	1,185	1,348
	<u>\$17,851</u>	<u>\$16,679</u>	<u>\$ 52</u>	<u>\$ 56</u>	<u>\$200</u>	<u>\$300</u>	<u>\$18,103</u>	<u>\$17,035</u>
<b>EXPENSE</b>								
Newsletter	\$ 8,148	\$ 8,130	—	—	—	—	\$ 8,148	\$ 8,130
Amort. Newsletter Cover	1,023	1,023	—	—	—	—	1,023	1,023
Pres. Office	0	191	—	—	—	—	0	191
Sec. Office	3,200	3,500	—	—	—	—	3,200	3,500
Treas. Office	604	385	—	—	—	—	604	385
Directors Mtgs.	704	114	—	—	—	—	704	114
Audit	425	450	—	—	—	—	425	450
Print—ByLaws	0	1,060	—	—	—	—	0	1,060
Print—ByLaws Supplement	109	0	—	—	—	—	109	0
Print—Membership List	0	1,359	—	—	—	—	0	1,359
Print—Color '77 Proc.	379	0	—	—	—	—	379	0
Committee Exp.	179	0	—	—	—	—	179	0
Printing/Mailing	—	—	—	—	\$330	\$482	330	482
Award Engraving	—	—	\$ 38	0	—	—	38	0
Misc.	295	268	—	—	—	—	295	268
	<u>\$15,066</u>	<u>\$16,480</u>	<u>\$ 38</u>	<u>0</u>	<u>\$330</u>	<u>\$482</u>	<u>\$15,434</u>	<u>\$16,962</u>
<b>EXCESS OF INC. VS EXP.</b>	<u>\$ 2,785</u>	<u>\$ 199</u>	<u>\$ 14</u>	<u>\$ 56</u>	<u>(130)</u>	<u>(182)</u>	<u>\$ 2,669</u>	<u>\$ 73</u>

Tuesday, A brief business meeting of the Council was included, presided over by Dr. Schaeffer. The minutes of this annual meeting follow. At the close of the business meeting, the 50th Annual Meeting was officially adjourned.

After a brief recess, the Tuesday afternoon symposium convened with Co-Chairman Joyce S. Davenport presiding. Speakers and topics for "Color in the Future" were:

"Trends in Industrial Design" — Mr. Raymond Spilman, Raymond Spilman Industrial Design.

"The Future of Color Science" — Dr. Alan R. Robertson, National Research Council of Canada.

"New Dimensions, New Techniques and New Expectations

for Color in Future Interior Spaces" — Mr. Jack Lowery, Jack Lowery Associates.

A symposium on "Color Education," with Mrs. Ruth M. Johnston-Feller presiding, followed. Three speakers were featured in this session, and they and their presentations were:

"Off-Color Learning" — Mrs. Anna Campbell Bliss.

"Industrial Color Education" — Mr. Roland Connelly, Burlington Industries.

"Facets of Color — Color Education Through Video" — Professor Nancy Jo Shoemaker, Philadelphia College of Textiles & Science.

Mr. Max Saltzman, who was to speak on "Colorants: Past

and Present,” telegraphed his regrets and chagrin at having to cancel his appearance at the last minute, due to his involvement in a court case. Mrs. Bonnie Swenholt also was forced to cancel her presentation, “Color in Photography,” and return home, when felled by a serious virus infection. A special vote of thanks is extended to Mrs. Eunice R. Miles who presented an impromptu talk on “Gemstones” with only 15 minutes advance notice.

The 50th Anniversary meeting of the ISCC was a huge success. Secretary F. W. Billmeyer, Jr. reported the number of pre-registrants was the largest ever. A special souvenir program booklet designed by Raymond Spilman was provided all in attendance. Special thanks are due to Mrs. Bonnie Swenholt, Arrangements Chairman, and Program Co-Chairmen Joyce S. Davenport and Allan B. J. Rodrigues for an excellent and successful 50th Anniversary celebration.

Mrs. I. H. Godlove’s many friends in ISCC regret her inability to attend presentation of the Godlove Award to Dr. Boynton, due to illness. This marked the first time since inception of the award that a Goodlove has not been present to honor the recipient. We all join in wishing Mrs. Godlove a rapid recovery.

The ISCC was very pleased to have received congratulatory messages from sister organizations around the world, many of whom sent their representatives. The meeting was well attended, informative and enjoyable, thanks to the speakers and the enthusiastic participation of the membership — a fitting celebration of our fifty years!

Therese R. Commorford  
Joyce S. Davenport  
Allan B. J. Rodrigues

## 1981 ISCC GODLOVE AWARD CITATION

Ladies and Gentlemen:

It is my pleasure to introduce the 1981 recipient of the Godlove Award, Professor Robert Merrill Boynton. Bob, as he is known to almost everyone, is the consummate scientist-teacher. He has been active in vision and color-vision research for over 30 years, writing well over 100 basic and applied research papers and contributing many chapters to text and reference books.

His research always employs the techniques appropriate to the problem being attacked. Thus, he has used both psychophysical and electrophysiological methods. When specific methods were not available, he invented new ones; the minimally-distinct-border method is a case in point.

In 1979 he summarized his vast experience in the field of color and published an excellent book called, *HUMAN COLOR VISION*. In the preface he wrote, “. . . it is hoped that those who are concerned with color esthetics and color technology will find my treatment of human chromatic mechanisms to be of some value. (Such a group would include artists, interior decorators, optometrists, ophthalmologists, illuminating engineers, architects, textile and ceramics workers, graphic arts designers, and color TV and photographic engineers.)” It would seem that this year’s Godlove Award recipient wrote his book with the members of the ISCC in mind.

Bob has been associated with the ISCC for 20 years, serving as the Optical Society’s and the American Psychological Association’s representative to this Council.

As founder and first director of the University of Rochester’s Center for Visual Science, Bob invited a steady stream of sci-

entists from around the world to give invited lectures. What a rare opportunity this was for the succession of students, post-doctoral fellows and research associates who worked with him.

The University of California system has successfully enticed many of the world’s best scientists to its campuses. In 1974, the San Diego campus convinced Bob to leave Rochester and move to sunny Southern California, thus ending twenty-two productive years in Rochester.

The following anecdote tells more about Bob than any description I could hope to give. About 15 years ago when I was his post doc, he told me he probably would never make a major contribution to vision research. That was why he was so happy to work with the National Institutes of Health committee that evaluated vision research grant applications. Working on this committee afforded him the opportunity, albeit anonymously, to help other more gifted scientists to make major contributions.

I believe that the Tillyer Award he received in 1972, from the Optical Society of America and the Godlove Award being presented tonight, provide ample testimony that his self-evaluation made 15 years ago was incorrect, and that indeed, he has made major contributions to the field of color vision.

Bob, it is my pleasure, on behalf of the Inter-Society Color Council to present you with the 1981 ISCC Godlove Award.

Congratulations.

Peter K. Kaiser

## RESPONSE BY THE GODLOVE AWARD RECIPIENT

The Godlove Award for 1981 properly belongs to a large number of people (whose names I will mention) who have interacted with me in the execution of research concerned with color vision. Besides thanking them all publicly here, and acknowledging my debt to the ISCC committee that nominated me for this honor, I would also like to thank the National Institutes of Health for supporting our work continuously for the past 28 years, and for the recent information that we are good for at least 5 more.

In 1948, my senior year at Amherst, I applied for graduate work in experimental psychology at Brown University and was accepted on condition that I would be willing to work with a young man named Lorin A. Riggs, who had been accurately described to me by his department chairman, Walter S. Hunger, as a “real comer.” Riggs worked in vision, I was told, and although I knew nothing about that and would not otherwise have chosen the subject as a graduate speciality, I gave it a try.

My Ph.D. with Riggs made me a direct lineal academic descendent of Wilhelm Wundt, the founder, a century ago, of the first laboratory of experimental psychology. (Riggs to Graham to Nafe to Titchener to Wundt). Riggs — a truly great experimental scientist — introduced me to color vision with a strong Helmholtzian bias. But I worked only with colorless, scotopic human ERGs as a graduate student. I abandoned this approach and started to think seriously about research in color almost immediately upon beginning a 22-year hitch as a faculty member at the University of Rochester.

During my very first year at Rochester I had occasion to meet Leo Hurvich, Dorothea Jameson, David MacAdam, Glenn Fry, Deane Judd, and Gordon Walls. The first three were in Rochester — MacAdam of course still is — and I met the others at various conventions and conferences. MacAdam kindled my interest in chromatic discrimination and color differences.



Hurvich and Jameson convinced me that Helmholtz had been wrong, except about the very first stage of color vision. Walls, a died-in-the-wool trichromatist, intrigued me with his "branched-pathway schema" and his tantalizing suggestion that there was something very peculiar about blue cones and their pathways. Judd, more than anyone I had ever known, seemed equal parts physicist and psychologist. His 1951 chapter in Stevens' *Handbook of Experimental Psychology* was almost a Bible to me. Fry soon got me involved with the CIE and excited my interest in chromatic adaptation. And it is not to detract from the excellent qualities of the others whose names I have so far mentioned to submit that Fry and Riggs set examples of hard work, human decency, and broad scientific and applied competence that have served for me as a kind of impossible ideal. Dick Blackwell also persuaded me to spend part of my time on applied problems, and helped my career in other ways.

My graduate research had been concerned with stray light in the eye, which in turn had led me into the literature on disability glare. The earliest research of W.S. Stiles using the two-color threshold method was also related to this topic, and so I became aware of his work (buried deep in *Proceedings of the Royal Society of London*) which was ignored by most U.S. vision scientists until the 1960s. My first sabbatical leave from Rochester was spent at NPL in Teddington, in Stiles's laboratory, where I had an opportunity to learn from him, from Brian H. Crawford, and also gain some new perspectives from Frank J.J. Clarke (a young optician from David Wright's program at Imperial College) who later would spend a year in Rochester. We had done some work of our own using two-color thresholds; here I was aided by my early graduate students Gillray Kandel (now a professor at RPI) and Judith W. Onley (who stayed on at Rochester for some years but died tragically at the age of 41). Mitsuo Ikeda, then a graduate student in Optics, worked with us there and later returned to Japan, where he is now Professor at the Tokyo Institute of Technology and a leader among Japanese visual scientists.

The decade from 1960 to 1970 saw the establishment of CVS at Rochester and, where color research was concerned, the development of the HTRF shortcut method for assessing selective chromatic adaptation, its further application to the study of colorblind individuals, the development of a color-naming technique and the demonstration through its use that dichromats become defective trichromats when large-area stimuli are employed. Collaborators in this work included a post-doctoral scholar from Germany, Horst Scheibner, and graduate students Carl Ingling, Edward J. Rinalducci and Charles Sternheim. All are professors now, at Düsseldorf, Ohio State University, Georgia Tech, and Maryland respectively. Also, undergraduates Jim Gordon and John Siegfried, who would later earn Ph.D.s and remain active in vision research, assisted us at UCLA, and we began our work on scaling large color differences. This led to work on the minimally distinct border (MDB), which was to continue for some time, next with Gunther Wagner, a German exchange fellow.

My second sabbatical, nine years after the first, came in 1969-70. During the 1960s, Kenneth T. Brown at UCSF had succeeded in taking the primate ERG apart, using monkeys and microelectrode methods. Brown's former student David Whitten and I, working in Brown's lab, were able to show that a substantial amount of selective chromatic adaptation occurs in the cones themselves. This work has been extended since with

William Baron, first at Rochester and later in his lab at SRI. (Recently Baron has published exciting evidence of opponent-color processing that can be seen in the responses of the red and green cones themselves.)

Other former graduate student at Rochester whose dissertation research related to color vision were William Bush (two-color thresholds), William Wetherall (colorimetry), Andrew Monjan (chromatic adaptation in the monkey), Guy Clark (color and search), and Terry Yates (chromatic responses of primate single cortical units).

Back at Rochester in the early 70s, we continued to struggle to understand the MDB. Work done with Frank Ward, a graduate student, and Tom Greenspon, a post-doc, would be understood only retroactively as a result of the later efforts of Brian Tansley and Arne Valberg. Tansley — now on the faculty of Carleton U. — divided his four doctoral years (following excellent MS training with R. Lakowski at the University of British Columbia) between Rochester and UCSD to which I moved, after twenty-two years at Rochester, in the fall of 1974. Brian was the first to show that B cones do not contribute to the MDB and (with Robert Glushko) that all borders melt at equal luminance for red-green dichromats. Valberg, while visiting our UCSD lab, from Norway, showed how our earlier MDB data made sense in this context.

During the past six and a half years my junior colleague, Donald MacLeod, has been a constant source of inspiration to me. He, Mary Hayhoe, and Don's students Alvin Eisner and David Williams have made notable contributions to color science. So have post-docs Francine Frome and Allen Nagy and Naotake Kambe (the latter a visitor from Japan) and John J. Wisowaty, my current graduate student.

On behalf of all of the people that I have mentioned, I am both pleased and honored to accept this award.

Robert M. Boynton

## REPORT OF THE ANNUAL BUSINESS MEETING

The 1981 annual business meeting of the Inter-Society Color Council was called to order by President William D. Schaeffer at about 1:25 P.M., April 28, 1981, at the end of the annual meeting luncheon. President Schaeffer made a few announcements and referred to details appearing in a written summary, which follows these Minutes.

President-Elect Louis A. Graham spoke briefly on the status of the Problems Committee, as is covered elsewhere in this Annual Report issue.

Mr. Edward T. Connor briefly summarized the reports of the Treasurer and the Finance Committee, which are also included in this issue. He mentioned specifically the necessary increase in Individual Member (but not student or retired member), Sustaining Member, and Member Body dues. He pointed out that dues income accounts for about two-thirds of the Council's income, the remainder coming (with considerably less certainty) from surpluses at annual meetings and Williamsburg conferences.

The Secretary made brief business announcements and referred to his report to be published in the Annual Report issue of the Newsletter.

Mention was made on this occasion as well as at the 50th Anniversary Banquet of a number of messages of congratulation and felicitation received by the President and Secretary or delivered in person on the occasion of the Golden Anniversary of the Council. Messages were delivered in person at the Banquet

by Dr. C. James Bartleson, President of the International Colour Association (AIC), by Professor W. David Wright on behalf of the Council's members and friends in the United Kingdom, and by Dr. Lorenzo Plaza, President of the Comité Espanol de Color. Letters were received by the Secretary from Prof. Dr. Manfred Richter, President of the Deutscher Verband Farbe, from Dr. (Mrs.) Shalini S. Patwardham, Secretary of the Colour Group of India, and from ISCC members Blanche R. Bellamy and Beatrice West. Dr. Schaeffer received letters from The Colour Group (Great Britain), the Grupo Argentino del Color, and the Color Marketing Group; they are appended to these Minutes.

The meeting was adjourned at 1:40 p.m., making it one of the shortest Annual Business Meetings on record.

Respectfully Submitted, Fred W. Billmeyer, Jr., Secretary.

### 1980-1981 ISCC ACTIVITIES AND HIGHLIGHTS DISTRIBUTED AT THE ANNUAL BUSINESS MEETING

Thirty applications for ISCC individual membership have been approved. The N.V. Philips Gloeilampenfabrieken was elected a sustaining member.

New editions of the ISCC Membership Directory and Constitution were published in 1980. Extensive revisions were the work of our secretary, Dr. Fred Billmeyer, and our past treasurer, Mr. S. Leonard Davidson.

Contested elections for three ISCC directors, 1981-1984, resulted in selection of Mr. Warren B. Reese, IMG, Ms. Barbara Schirmeister, ASID, and Dr. Thomas G. Webber, IMG and SPE. Also, Mr. Ralph Stanziola was elected director to fill the incomplete term of Dr. Robert Marcus, resigned.

Effective for 1981, ISCC dues for sustaining members and member-bodies were increased to \$100.00 and for individual members to \$20.00.

"Creativity, The Common Denominator: Artist and Scientist Working Together" was the theme for the very successful 1981 Williamsburg Conference that attracted some 82 registrants, about half non-ISCC members. Cooperatively sponsored by the ISCC and the Canadian Society for Color, the conference was organized by Dr. Alan R. Robertson, Mrs. Bonnie Bender and Edward L. Cairns. There will be no 1982 Williamsburg Conference.

The basis for the new ISCC Service Award was established by a committee chaired by Mr. Rolf Kuehni, and the form of the Service Award was developed by Mr. Ray Spilman. Nominations will be solicited for a 1982 presentation.

A paper "APS Manual for Determining Color Designations of Stamp Colors" from Project Committee 38 was approved for release by the ISCC Board of Directors. It will be published in *The American Philatelist*.

You should know some of the folks who worked hard to make The Golden Anniversary Meeting a major success. Co-chairperson Ms. Joyce Davenport and Dr. Allan Rodrigues arranged the program and displays. Mr. Ray Spilman and Dr. Billmeyer designed and edited, respectively, the souvenir booklet. We hope you enjoy the results.

William D. Schaeffer

### THE COLOUR GROUP ( GREAT BRITAIN) APRIL, 1981

To the President, Officers, Directors and Members of the Inter-Society Colour Council.

On behalf of all members of The Colour Group, I would like to take this opportunity of sending you sincere congratulations and cordial greetings on your Fiftieth anniversary.

Your focussing and co-ordination of interests and skills in colour, arts and science has provided an excellent example to us all. Long may it continue!

John B. Hutchings, Chairman

### GRUPO ARGENTINO DEL COLOR

Buenos Aires, March 10, 1981

Dr. William D. Schaeffer

Dear Dr. Schaeffer:

It is a pleasure in the name of the GRUPO ARGENTINO DEL COLOR to send you and for your transmittal to all members of the ISCC our best wishes and compliments on the occasion of the 50th anniversary of the Council.

We deeply hope that the future will provide all the means to pursue the magnificent work developed in this past half century.

Being the newest National Colour Society constituted among the international community, we wished to be present in our modest way to share with so many friends our pleasure in celebrating your anniversary.

1931 seems a major year in the history of colour science, not only because the CIE colorimetry functions were internationally recommended, but also because the intense, fruitful and pioneering work of the ISCC began.

Once more, our most sincere congratulations.

Yours sincerely,

Ing. Juan R. Jasinski, Secretary; Lic. Roberto D. Lozano, President

### COLOR MARKETING GROUP, JUNE 10, 1981

Dear Dr. Schaeffer:

The Board of Directors of Color Marketing Group at its meeting on May 16, 1981, unanimously moved to congratulate the Inter-Society Color Council on the occasion of its 50th anniversary.

This motion was made in full recognition of the importance of the work of the Inter-Society Color Council and its incalculable contribution to the cause of color.

Recognizing our heritage, we are proud to be a Member Body of the Inter-Society Color Council.

Sincerely, Everett R. Call, Executive Secretary

### REPORT FOR THE BOARD OF DIRECTORS

The ISCC Board of Directors met on October 16-17, 1980, February 8, 1981, and April 26, 1981. The October Board meeting was held in Pittsburgh, beginning the evening of October 16 and finishing on October 17. The report of the Nominating Committee was received and approved with the proviso that a covering letter be sent all voting delegates, polling them on their opinions of single candidates vs. contested elections. The Finance Committee recommended, and the Board concurred, on the following dues increases to be effective in 1981:

Member-Bodies, Sustaining Members \$100.00

Individual Members \$ 20.00

This vote constitutes a change in the Standing Rules, Article SR II, Sections 1, 2, and 3. The Executive Committee also accepted a new Standing Rule on the Member-Body Liaison Committee, which was approved by the Board.

The program for the 50th Anniversary Meeting was discussed by Dr. A. Rodrigues, Co-chairman. Dr. Billmeyer also announced that Ms. J. S. Davenport had agreed to co-chair the annual meeting with Dr. Rodrigues.

The 1982 Annual Meeting will be held in Charlotte, North Carolina at the Sheraton Center.

At the February 8 Board Meeting, held in Williamsburg, R. Stanziola was unanimously elected a Director to fill the unexpired term of Dr. R. T. Marcus and H. K. Hammond, III was approved as ISCC Associate Editor of *COLOR research and application*. The report of the Godlove Award Committee was received and approved. The Service Award Committee with R. Kuehni, Chairman, proposed the service award be a Steuben glass in the form of a truncated tetrahedron. This proposal was approved.

Also at the February Board meeting, a site was chosen for the two-day meeting of the Board to consider matters of long-range planning. This special meeting will be held at Airlie House in Virginia on July 24-26. The 1982 Williamsburg Symposium was cancelled due to lack of a co-chairman and adequate time for preparation.

The April 26 Board Meeting was held in New York City. Only one of the new Directors was able to attend the meeting as a guest and he was welcomed. A new committee will be formed, the Service Award Committee, and its first task will be the selection of a suitable candidate for the honor. Co-chairmen were selected for the 1982 Annual meeting to be held in Charlotte, North Carolina. They are R. Besnoy and R. Connelly. R. Besnoy presented an outline of the proposed agenda for this meeting. The Board discussed at length alternative sites for holding the Annual meeting. A computer listing of the ISCC membership geographically was enlisted. Several cities were considered and Chairman B. Swenholt, Arrangements Committee, will examine available facilities and recommend a meeting site for 1983 and 1984.

The meeting was closed by Dr. William Schaeffer with thanks to the retiring Directors.

Respectfully submitted, Therese R. Commerford, Assistant to the Secretary

## REPORTS OF STANDING COMMITTEE CHAIRMEN

### REPORT OF THE ARRANGEMENTS COMMITTEE BONNIE K. SWENHOLT, CHAIRMAN

The arrangements for the 1981 Annual Meeting were completed at the February 8, 1981 meeting of the Board of Directors. Much of the arrangement had been contracted for by Mr. Davidson.

As you know, we will be having our 1982 Annual Meeting in Charlotte, North Carolina. Although it has been customary to go to New York City in odd numbered years, I would like to consider a change in this procedure. It seems to me that New York City is pricing itself out of the market. I have requested proposals from Atlanta, Pittsburgh, and Washington, D.C. for 1983. I would also request discussion of the possibility of considering for 1983 or 1984, Chicago, Kansas City, or Nashville.

Other than for those who live within driving distance of some of the locations we have chosen, there is little if any difference in the transportation cost to (e.g.) Kansas City from that to New York City. Frequently, the difference is more than compensated by the lower cost of food and lodging.

Since the by-laws indicate that location of annual meetings should be established 3 years in advance, I have requested guidance of the officers and Board members regarding any geographical restrictions that should apply when negotiating for meeting space.

Another question has been raised by several people: "Must the February Symposium always be in Williamsburg?" Reasons given for the question include: 1) Difficulty of transportation to and from Williamsburg; 2) Inclement weather making transportation questionable; 3) Nearly everyone has "done" colonial Williamsburg. How about a new place? Should I investigate other locations? If so, am I correct in feeling that greater accessibility would be the most important factor?

In any case, it is my intention to, whenever possible, appoint a local arrangements chairman and/or committee when a site has been chosen. I believe this is more efficient than letters and long distance telephone calls. Such appointments will be approved either by the full Board or the Executive Committee.

### REPORT OF THE AWARDS COMMITTEE STEPHEN F. BERGEN, CHAIRMAN

As described in the Standing Rules, the Awards Committee is an oversight committee with the objective of coordinating the operations of the Godlove, Macbeth, and Service Award Committees.

The report of the Godlove Award Committee was presented earlier in this issue in the form of the citation for the 1981 Godlove Award. The Chairman of the 1982 Macbeth Award Committee is Richard S. Hunter. The Chairman of the Service Award Committee has not yet been appointed.

F.W.B.

### REPORT OF THE BY-LAWS COMMITTEE WILLIAM A. THORNTON, CHAIRMAN

The only activity of the By-Laws Committee during the 1980-1981 year was to complete the description of the Standing Committees in the Standing Rules, begun during S. Leonard Davidson's chairmanship of the By-Laws Committee. This was done in the late spring, in time for the publication of the 1980 By-Laws booklet, with the final portions approved by the Executive Committee.

A further change in the Standing Rules, the increases in the dues for member bodies, sustaining members, and individual members, was approved by the Board of Directors at its October 16-17 meeting.

F.W.B.

### REPORT OF THE EXECUTIVE COMMITTEE

Between the April and October, 1980, Board meetings, the Executive Committee approved a description of the Member Body Liaison Committee for the Standing Rules. During this period President W. D. Schaeffer offered to submit his resignation due to his illness, but the Executive Committee refused this offer with the assurance that the committee would assume responsibility for Council affairs until Dr. Schaeffer could again take charge.

Between the October, 1980, and February, 1981 Board meetings, the Executive Committee took a number of actions, all of which were confirmed by the Board in February. Among these were:

Approval of the report of the Godlove Award Committee.

Approval of the general format of the 50th anniversary meeting program booklet.

Approved an additional candidate for the election of Directors, requested by individual members under Art. IV, Sec. 5 of the By-Laws.

Approved the application of N.V. Philips' Gloeilampenfabrieken for sustaining membership.

Approved Airlie House as the site for the July, 1981, long-range planning meeting.

Between the February and April meetings, the Executive Committee discussed several matters in preparation for later Board action.

Respectfully Submitted, Fred W. Billmeyer, Jr., Secretary

## REPORT OF THE FINANCE COMMITTEE EDWARD T. CONNOR, CHAIRMAN

The approved budget of the Council for the calendar year 1981 follows. Included for comparison purposes are budget and actual figures for 1980.

The budget projects an income increase of 35% compared to the actual in 1980. The majority of the increase is from dues brought about by the increase in dues structure. The balance is from expected higher net proceeds from the 1981 Annual Meeting and 1981 Williamsburg Meeting.

On the expense side, the budget projects an increase of 25% over the actual spending of 1980. Printing and mailing costs of the Newsletter account for the major part.

From a financial standpoint our objectives for 1981 are:

1. Provide for the major increase in cost of printing and postage so as not to endanger frequency and quality of service of the Council to the membership.

2. Provide for an increase in the investment in Committee work and for Directors' meetings for long-term planning purposes of your Council.

3. Maximizing investment income on our savings.

4. Budget for a reasonable surplus, particularly in that income in 1982 and some of the future years is not expected to have the contribution from a Williamsburg Conference.

## REPORT OF THE MEMBER-BODY LIAISON COMMITTEE JOYCE S. DAVENPORT, CHAIRMAN

The communication between the member bodies and the ISCC Liaison Committee continues to show supportive and positive results. The objective is to keep in touch with the delegations, on a personal basis wherever possible and also by a regular report, which precedes each ISCC Board of Directors meeting. This amounts to three news communiques a year plus special memos when circumstances necessitate. These letters are intended to keep the recipients informed and gives highlights of each Board of Directors meeting which may be of interest. The letters may include delegation changes, voting status of delegates, and items of general interest such as publications, joint society meetings, and/or activities of various member bodies.

It has been the goal of this liaison to encourage member bodies to participate in the Council's activities, which it is

## 1981 BUDGET—General Fund

INCOME	1981 Budget	1980 Budget	1980 Actual
Dues	\$17,150	\$13,900	\$13,086
Dues Uncollectable	(1,500)	(1,500)	(1,195)
Subscriptions/Reprints	100	0	393
Use of Mailing List	0	0	50
Annual Mtg.—Net	3,000	1,800	1,636
Williamsburg Conf.—Net	2,500	1,700	1,417
Interest	1,300	1,000	1,292
	<u>\$22,550</u>	<u>\$16,900</u>	<u>\$16,679</u>
EXPENSE			
Newsletter	\$10,700	\$ 9,000	\$ 8,130
Amort. Newsletter Cover	1,023	1,023	1,023
Pres. Office	200	200	191
Sec. Office	3,850	3,500	3,500
Treas. Office	800	700	385
Directors Mtgs.	700	700	114
Audit	600	450	450
Print—ByLaws	0	0	1,060
Print—Membership List	0	1,450	1,359
Committee Exp.	500	150	0
50th Anniv. Booklet	1,500	0	0
Service Awards	300	0	0
Misc.	500	500	268
	<u>\$20,673</u>	<u>\$17,673</u>	<u>\$16,480</u>
EXCESS OF INC. VS EXP.	\$ 1,877	(773)	\$ 199

hoped will be beneficial for all concerned. The wealth of information, expertise and professionalism which each organization can share with its fellow groups in other areas of color science cannot be overlooked, nor can it be emphasized too strongly. It is important that we utilize this knowledge whenever possible.

The participation of several delegation chairmen in the 50th annual meeting program was a perfect example of group participation. The results were excellent and well received by the total attending membership.

At the annual meeting some of the member bodies participated in a small exhibit. This was a series of display boards, photographs, literature and slide presentations. These visual aids explained briefly the function and interests of those organizations and provided an informative addition to the activities of the general session.

The status of the member bodies is as follows. Except for two delegations, the American Institute of Architects and the Institute of Food Technologists, the member body delegations are well represented.

One new member body has been accepted during the year, the Society for Information Display.

Finally, I would like to thank the participating member body delegations for the time and effort they spent producing such interesting and informative displays of their respective societies. The displays received numerous and favorable comments during the annual meeting.

## REPORT OF MEETING OF CHAIRMEN OF THE MEMBER-BODY DELEGATIONS

Although there appeared to be some conflict in the timing of this committee meeting and that of the New Projects Committee, the meeting was well attended. There were many new faces, some chairmen attending for the first time while others were newly appointed. It was an ideal opportunity for each to introduce himself and to make a brief statement regarding the organization he represented.

Representatives of the new member body, the Society of Information Display were in attendance and answered several questions regarding their interests and color problems. Miss Dorothy Nickerson also attended and stressed how pleased she was to see strong emphasis placed on the member body participation.

Respectfully Submitted, Joyce S. Davenport

## **REPORT OF THE MEMBERSHIP COMMITTEE BONNIE BENDER, CHAIRMAN**

Dr. Fred W. Billmeyer, Jr.  
Inter-Society Color Council Secretary

Dear Fred,

I am sorry if I have been delinquent in writing a report for the Membership Committee. As you know we have had only one Member-Body join the Council this year and that is the "Society for Information Display."

I would like to ask that the Council appoint a new Membership Chairman since I am taking on added business responsibilities. I will be happy to forward all my records to the new chairman when the selection is made.

I enjoyed working on the Williamsburg Seminar and it was a great satisfaction to hear so many favorable comments. At the recent CMG Meeting (May 16-20) several members inquired about the ISCC as a result of this seminar. Hopefully, they will become members of the Council.

Colorfully yours, Bonnie Bender

## **REPORT OF THE PLANNING COMMITTEE**

The Board accepted with regret the resignation of Dr. Alan R. Robertson as Chairman of the Planning Committee at the end of April, 1980, Board meeting. No permanent chairman has been appointed, but Mrs. Joy Turner Luke has undertaken the arrangements for a closed meeting of Board and committee members to discuss long range planning. A quiet retreat has been chosen as the meeting place in order to minimize distractions and to enable participants to explore the possibilities for future development of the ISCC and to consider changes which might enable the Council to better serve its membership.

F.W.B.

## **REPORT OF THE PUBLICATIONS COMMITTEE WILLIAM BENSON, CHAIRMAN**

Over the past year the newsletter has published reports on activities of several color laboratories of ISCC members, including, it might be noted, the laboratory of the recipient of the 1981 Godlove Award. In addition to a general request for contributions to the newsletter, I wish to emphasize especially that I would like to receive more reports on what is going on in the laboratories of the members.

## **REPORT OF THE PUBLICITY COMMITTEE THERESE R. COMMERFORD, CHAIRMAN**

Officers and Directors have been requested to submit copies of their biographies to the Publicity Chairman for future use. Those received from incoming Directors are presently being prepared as press releases to be forwarded to publications and newspapers of these individuals' choice.

Chairmen of future annual meetings, Williamsburg conferences, and of any Standing and Project Committees requiring

publicity are asked to submit their requests well in advance of the event (at least four months) to meet publication dates of the various journals.

## **REPORT OF THE PROBLEMS COMMITTEE LOUIS A. GRAHAM, CHAIRMAN**

At the beginning of this year, 1981, the following persons were appointed as coordinators for various groups of the ISCC active project committees:

Robert Hoban: Projects 25-D, 25-P, 25-F, and 36.

Dr. Alan Robertson: Projects 22, 27, and 34.

Raymond Spilman: Projects 33, 37, and 38.

Dr. William Thornton: Projects 18, 32, and 35.

The Chairmen and Coordinators met several times during the year in an effort to establish more active relationships with the individual project chairmen and their committees. One result of this activity was the development of a brochure entitled "Guidelines for Project Committees." The object of these guidelines is to provide a working outline for the problems committees based on Ruth Johnston-Feller's 1977 committee report. The constitution and by-laws of ISCC plus the Johnston-Feller report lay down the rules for the problem committees. If there is any variance between these new guidelines than the aforementioned rules, the rules must be assumed to be correct and preeminent.

During the 1981 50th Anniversary Meeting, all the active committees listed above met in New York. The attendance at every committee was large and responsive; separate committee reports follow.

During the year the following committees were retained on the inactive or standby status:

Project #6 - Survey of color terms.

Project #7 - Survey of American color specifications.

Project #30 - Color in the building industry.

Project #10 - Color aptitude test. Has been closed with the resignation of Dr. Robert Marcus, Chairman, and a final report is in the process of being prepared.

During the April, 1981, 50th Anniversary Meeting, a call was issued for new projects to be considered by ISCC. More than 25 people attended this session, and the following possible projects were listed for consideration:

1) Transformation of coloration of the visual scene by the illumination.

2) Visual color aptitude testing.

3) Teaching films, video tapes or slides on the subject of color specifications and measurement.

4) Human response to colors on objects.

5) Color and imagination.

Obviously, each of these possible project areas need clarification, and we are now in the process of contacting interested persons who registered during the discussions.

I would like to express my appreciation and that of ISCC in general for the fine work of the project committee chairmen and their coordinators during the past year. The Problems Committee constitutes a major portion of the activity of the ISCC, and the participation of each ISCC member in their areas of interest is solicited.

## **REPORT OF PROJECT COMMITTEE 6 SURVEY OF COLOR TERMS C. JAMES BARTLESON, CHAIRMAN**

This Project Committee remains on standby status pending completion of work in the CIE concerning new color terms for



the fourth edition of the International Lighting Vocabulary and pertinent CIE Technical Reports. At that time these terms can be added to the survey, which is largely otherwise complete.

#### **REPORT OF PROJECT COMMITTEE 7 SURVEY OF AMERICAN COLOR SPECIFICATIONS**

**ROBERT F. HOBAN, CHAIRMAN**

Committee on standby status. No report.

#### **REPORT OF PROJECT COMMITTEE 10 COLOR APTITUDE TEST**

**ROBERT T. MARCUS, ACTING CHAIRMAN**

##### **Final Report**

"To design, construct, validate and make available a color matching aptitude test" defines the scope of Inter-Society Color Council Project 10 — "Color Aptitude Test."

For over forty years this committee has been in existence. An experimental version of a test was released in the 1940's with total commercialization in the 1950's; improvements in the 1960's and the latest release in 1978. The Federation of Societies for Coatings Technology markets the "Color-Matching aptitude Test."

During the early 1970's, attempts were made to redesign the test. When a new design was not forthcoming from the attempts, the Federation procured new chips and began marketing the 1978 version of the test. For the past several years, the Federation's ISCC delegation has been comparing the 1978 version with the 1964 version.

A letter from R. Marcus to B. Swenholt written in April of 1979 explained the details of the comparison and tabulated the data for the first round of experimentation. Several questions surfaced as a result of that study, and the delegation had hoped that a second round of experimentation might resolve those questions. Even though more testing was planned, the members present at the April 1980 meeting of the Project 10 Committee felt that the scope of the project had been completed. Any further testing to be done would be left to the Federation delegation. Unfortunately difficulties precluded the planned experiments, and the Federation delegation decided not to continue testing.

With this report, the work of Project Committee 10 should be considered complete. A need still exists to study the areas of color-vision and color-matching testing. The Project 10 Committee and the Federation's delegation felt that a new committee with a much expanded scope could prove quite useful. If such a project were instituted, it was hoped that a color aptitude test subcommittee could be formed. When the Federation's current inventory is depleted in about three or four years, further guidance on the subject of color-matching aptitude will be sought from the Inter-Society Color Council. So while the particular task of one committee is complete, knowledge of the subject is not.

#### **REPORT OF PROJECT COMMITTEE 18 COLORIMETRY OF FLUORESCENT MATERIALS**

**THOMAS E. CULLEN, CHAIRMAN**

The majority of the work by this committee over the past year has been in two major areas that have been assigned to task forces. These are:

Task Force I, Evaluation of methods used to predict total radiance factors for fluorescent materials and  
Task Force II, Fluorescent standards.

##### **Task Force I. Fred Billmeyer, Chairman**

Six laboratories have made measurements to test procedures for predicting the total radiance factor of fluorescent samples measured under any light sources to that of measuring it under true CIE illuminant D-65. This is most important as no real light source exactly matches the defined illuminant and those lights in commercial instruments that simulate D-65 vary considerably. The test at these labs indicates a wide range of results, indicating a number of instrumental as well as procedural problems. More labs will be making the tests, hopefully narrowing the results. It is hoped that some concrete recommendations can be made to the CIE TC 2.3 in September.

##### **Task Force II. Dave Alman, Chairman**

After getting this task force off to an excellent start, Dave Alman has had to resign. The chair has been turned over to Mrs. Cynthia Ashton.

Two years ago, a number of fluorescent samples were tested for possible use as standards. They passed all tests except the ones on stability to light exposure. The committee had decided the light levels were unrealistic and therefore, this year the light exposure tests were redone at reduced levels. Most of the samples looked good. The committee has thus decided to move on in two areas. These are:

- 1) Develop procedures for using these standards before submitting them to round-robin testing.
- 2) Expand the search for additional standard materials to include fluorescent glasses.

Respectfully submitted, Roland Connelly

#### **REPORT OF PROJECT COMMITTEE 22 MATERIALS FOR INSTRUMENT CALIBRATION**

**CHARLES J. SHERMAN AND DANNY C. RICH,  
CO-CHAIRMEN**

Dr. Danny C. Rich of the Sherwin-Williams Company will serve as co-chairman of this committee with Charles J. Sherman.

The resignation of Bob Marcus was announced. Bob was coordinator of the Task Group to keep the tables of the "Guide to Material Standards and Their Use in Color Measurement" up to date. A chairperson is needed, since it is the goal of this committee to review these tables every two or three years. The last update was June, 1980, and this latest edition is available from the Secretary of ISCC, Dr. Fred Billmeyer. These tables give sources of Standard Materials, Calibrated Materials Standards, and Calibration and Measurement Services.

Task Groups on Fluorescent Materials, Translucent Materials, Retroreflecting Materials, Terminology, and Recommended Procedures gave reports. Jack Christie, Task Group Coordinator of Directional Measurement Materials was absent, but work is progressing in the selection of materials.

In the absence of Dave Alman, who resigned, Danny Rich presented Dave's report on Fluorescent Materials. Besides three of the original materials studied previously, three more were added and exposure tests conducted. One or more of these materials will be selected and procedures for using them developed. Also, unconventional materials, such as fluorescent glass,

will be studied. This project is a joint effort with Committee 18 on Fluorescence and it was announced that Cindy Ashton has accepted the chairmanship of this Task Group.

Ron Bostick, Task Group Coordinator Translucent Materials, reported that some of the materials studied look promising and expects to have more results by the next meeting. Fred Billmeyer indicated that he has a set of these samples and his measurements will also be included.

Concerning Retroreflecting Materials, Jack Hsia has seven materials under study. Cal McCamy, on Terminology, recommended that all terms used for materials for instrument calibration and procedures be coordinated with the CIE, ASTM E284 and FSCT glossaries.

Henry Hemmendinger gave an analysis of the MCCA report and indicated that the precision could be at least an order of magnitudes better if the correct procedures were followed, and this is especially true with the latest generation of instruments.

The average color difference from the average values would then approach 0.1 CIELAB units. A round robin to demonstrate that this precision can be attained was discussed, but it was the consensus of the group that this effort would be better spent on studying the precision of measuring metameric samples, since studies have already shown that this precision is obtainable when the proper procedures are followed.

The fact that the CIE does not offer guidelines on the use of integration constants for 5, 10 and 20 nm intervals was discussed. This could result in significant errors in the tristimulus values. It was agreed that the CIE should be requested to establish guidelines.

A questionnaire was circulated urging members and guests to indicate the areas of interest in which they want to participate.

## REPORT OF PROJECT COMMITTEE 25D STRENGTH OF COLORANTS — DYES LEONARD A. WEINER, CHAIRMAN

The following were subjects of the April meeting:

1. Statistical material developed on reflectance measurements in a round-robin involving the laboratories of fifteen companies will be assembled for publication.
2. Statistical information gathered to determine repeatability using a single instrument for reflectance measurement is being submitted to the committee.
3. Task force is being formed to define and recommend limits of color differences that will be acceptable by both manufacturers and users of colorants.
4. Problems encountered in the spectrophotometric measurement of light-sensitive solutions of dyestuffs will be attacked.

## REPORT OF PROJECT COMMITTEE 25F STRENGTH OF COLORANTS — PIGMENTED FIBERS SECTION GEORGE SONN, CHAIRMAN

A summary of measurement results, comparing fibers and plastic plaques prepared from identical color compounds, has been taken from the round robin conducted during 1980-81.

Participants in preparing specimens for measurement were Ampacet Corp. (Pressings reduced with TiO<sub>2</sub>), Color Formulators (Pressings reduced with TiO<sub>2</sub>), Hercules Fibers (Full-strength fiber spinnings), Phillips Fibers (Color compounds),

and PMS Consolidated (Full-strength injection-molded chips).

Participants in color measurement were Ampacet Corp. (Brian West), Color Formulators\* (Robert Frei), Hercules Fibers (Sy Commanday), PMS Consolidated (Norman Staubly), PPG Industries (Barbara Plunkett), Sandoz Colors and Chemicals (Robert Tausenfreund), and Tektronix, Inc.\* (Paul McManus).

\*Measurement data not included in this summary.

1. *Preparation of Specimens* — A series of standard compounds was prepared, which were labelled as follows: 0.5% Control — Sample D, 0.5% Reduced 10% — Sample A, 2.0% Control — Sample C, and 2.0% Reduced 10% — Sample B. The compounds were prepared with a single batch of Pigment Red 144 concentrate, let down with polypropylene as required, and run through a compounding extruder until uniform. Full strength specimens were prepared "as is;" Hercules prepared fiber spinnings while PMS made injection-molded chips directly from the compounds. The TiO<sub>2</sub> reductions were adjusted to a "standard depth" in the case of Ampacet, bringing the color level of the 0.5% sets and the 2.0% sets to the same depth, while Color Formulators adjusted to a uniform compound/TiO<sub>2</sub> ratio. Formulations are given in Table I.

	Ampacet		Color Formulators	
	0.5% set	2.0% set	0.5% set	2.0% set
0.5% Concentrate	200.0	—	20.0	—
2.0% Concentrate	—	50.0	—	20.0
25.0% TiO <sub>2</sub> Concentrate	—	—	10.0	10.0
50.0% TiO <sub>2</sub> Concentrate	9.5	9.5	—	—
Clear Polypropylene	40.5	190.5	70.0	70.0
	250.0	250.0	100.0	100.0

2. *Measurements* — Table II gives the relative strength of the reduced samples vs. the controls. The control is assumed to be 100%, and the reduced sample is expressed in "percent of 100," e.g. a sample that is 8% weak is given as "92%." Color difference in all cases is given in FMC-2 units, and is reported before adjustments to equal strength. All measurements were made at 520 nm.

Table II — Ampacet Pressings

Company and Instrument	A vs. D		B vs. C	
	Strength	ΔE	Strength	ΔE
1. Ampacet KCS-18	94%	4.3	85%	9.7
2. Sandoz Spectro Sensor — SIN	96%	4.5	84%	9.5
3. PPG				
GE-SEX	94%	4.6	86%	9.1
GE-SIN	92%	5.7	83%	11.8
Diano Shromascan-SEX	96%	3.6	85%	10.0

### Color Formulators Pressings

Sandoz Spectro Sensor-SIN	90%	6.5	87%	1.5
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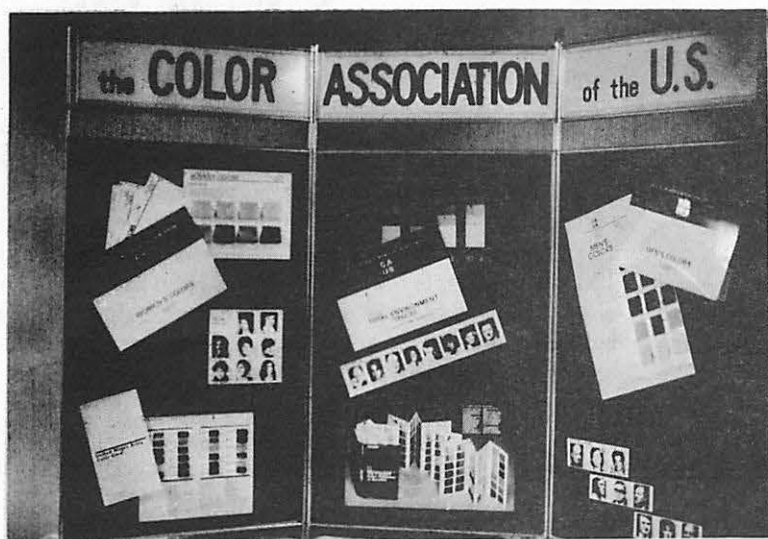
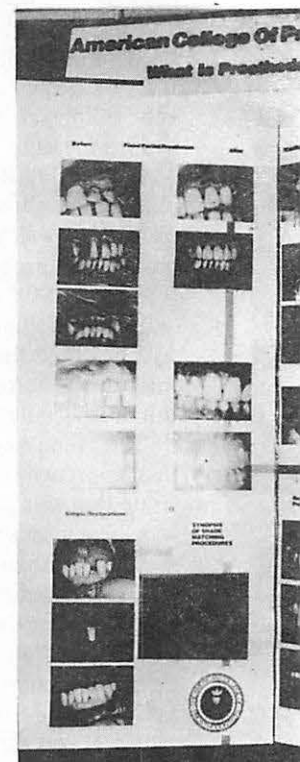
Note — Multiple measurements were repeated as averages.

### Hercules Fiber Spinnings

1. Hercules-Averaged Data	90%	7.2	87%	N.R.
Diano Match Scan-SIN				
Hercules Repeat	91%	5.7	86%	7.6
2. Sandoz-Averaged Data	91%	6.5	87%	5.7
Spectro Sensor-SEX				
3. PPG-Vertical Measure				
a. GE-SEX	89%	7.5	89%	5.3
GE-SIN	90%	6.5	91%	4.7
Diano Chromascan-SIN	87%	8.3	93%	3.8
PPG-Horizontal Measure				
a. GE-SEX	92%	5.4	85%	8.7
b. GE-SIN	94%	3.9	84%	9.7
c. Diano Chromascan-SIN	91%	6.4	91%	4.2

# SCENES FROM THE FIFTIETH

Ms. Teresa  
Commerford  
Prof. Nancy Jo  
Shoemaker  
Joyce S. Davenport  
Mrs. Ruth Johnston  
Feller  
Mrs. Anna Campbell  
Bliss



Dr. Robert B.

RIGHT:  
Dr. William D.  
Schaeffer (Pres.  
ISCC)  
Prof. W. D. Wright  
Ms. Jacqueline  
Welker

CENTER:  
Dr. Lorenzo Plaza  
Dr. Thomas Webber



ACKNOWLEDGE

I would like to express my deep appreciation to Sally (Mrs. Ed) Cairns and Dr. Stephen  
Joyce S. Davenport

Editors note: Photographs contributed

# ANNIVERSARY MEETING



Prof. Fred Simon  
Dr. Lorenzo  
Plaza  
Dr. Thomas Webber  
Ms. Joyce Davenport  
Mr. Baba Vichare



Boynton



Dr. Peter Kaiser Presenting Godlove Award to Dr. Robert Boynton



OGMENT  
en Bergen for the wonderful photographs they took during the annual meeting.

uted by Joyce Davenport.



Ms. Dorothy  
Nickerson  
Mr. Edward Cairns

## Notes -

1. *Hercules* data were derived by preparing three sets of spinnings for each color level, measuring each card winding front and back, and averaging the six measurements obtained for each depth of spinning. Hercules "Repeat" is a second set of spinnings and windings, prepared to obtain required color difference values.
2. *Sandoz* data were derived by measuring all three sets for each depth, vertical and horizontal, and averaging the six measurements.
3. *PPG* data were derived by measuring vertical and horizontal, reported separately without averaging.

## PMS Injection Molded Chips

1. PMS Consolidated - "Gloss"	98%	3.0	100%	3.1
Macbeth MS-2000				
2. Sandoz Spectro Sensor				
a. "Gloss"-SIN	97%	4.0	100%	1.6
"Gloss"-SEX	115%	4.8	89%	3.1
b. Textured Coarse Grain				
SIN	96%	2.7	101%	1.2
c. Textured Fine Grain				
SIN	98%	2.5	102%	1.9
3. PPG Industries				
a. GE-SEX				
"Gloss"	104%	1.6	97%	0.8
Coarse Texture	94%	4.7	101%	1.5
Fine Texture	99%	1.3	102%	1.2
b. GE-SIN				
"Gloss"	98%	0.9	104%	1.4
Coarse Texture	100%	3.7	102%	0.8
Fine Texture	100%	0.4	96%	2.4
c. Diano Chromascan-SIN				
"Gloss"	98%	0.6	100%	1.7
Coarse Texture	98%	1.0	101%	1.6
Fine Texture	98%	1.3	103%	2.7

## REPORT OF PROJECT COMMITTEE 25P STRENGTH OF COLORANTS - PIGMENTS JOYCE S. DAVENPORT AND JACKIE WELKER, COCHAIRMAN

The April 27, 1981 meeting commenced with a brief statement of the project goals and then proceeded to cover the work which had been accomplished to date. Detailed information regarding methods, material, and equipment was presented. The testing of two invariant pigment samples under extremely tight control was conducted by the following subcommittee members: Al Keay, Harmon Pigments; Ed Cairns, DuPont Co.; Joyce Davenport, DeSoto Inc.; and Jackie Welker, PPG Industries. Four sets of sprayed panels on primed and unprimed substrates were instrumentally measured at four locations and the data correlated on punched cards for statistical analysis. The results were the main topic of discussion.

Mr. Ed Cairns has devoted considerable time and effort to the statistical portion of the project for which we are deeply indebted. Unfortunately he has been reassigned within his company and will no longer be available to us. It is hoped we will have a replacement shortly.

## REPORT OF PROJECT COMMITTEE 27 INDICES OF METAMERISM RALPH BESNOY AND ALLAN RODRIGUES, COCHAIRMAN

Collection of observation data continues with the goal of analyzing metamerism-related phenomena. The experiments require observers to rank metameric samples according to (a) color difference from a standard under different lights and (b) metamerism.

A paper "What is Metamerism" was published in *COLOR*

*research and application* (Winter 1980) discussing some of the industrial problems related to metamerism. The committee continues to catalog these problems, precisely defining them so that an appropriate nomenclature can be developed together with the technical tools necessary to deal with them in industrial practice.

## REPORT OF PROJECT COMMITTEE 30 COLOR IN THE BUILDING INDUSTRY

Upon the death of Mr. Waldron Faulkner, Chairman, this Committee was placed on standby basis until a new chairman can be located.

## REPORT OF PROJECT COMMITTEE 32 IMAGE TECHNOLOGY LEROY DeMARSH, CHAIRMAN

No report has been received.

## REPORT OF PROJECT COMMITTEE 33 HUMAN RESPONSE TO COLOR ALEXANDER F. STYNE, CHAIRMAN

My friends:

With this letter I wish to resign from the chair of Project Committee 33: Human Response To Color, at the end of the Annual meeting in April, 1981.

It will be recalled that I organized and chaired the first formative meeting in November 1972 by an Ad-Hoc committee initiated by Raymond Spilman and myself in 1968. This first meeting was attended by some outstanding men, many not members of ISCC. The scope for and name of the committee formulated in that meeting and endorsed by the Council still stand today.

Although our hopes to initiate and organize research into our area of interest never materialized to this time, the committee became a forum for many who addressed interested audiences every year. It became focus and stimulus for many activities outside the Council in context with our specific area: The workshops on Color in Healthcare Facilities, held under the auspices of NBS and NIH in 1976 and 1977, the symposium on a related topic at the Annual Conference of AAAS in 1978, a radio talk show at American University with ISCC members as principal speakers, a Color Workshop for environmental designers at the Maryland Institute College of Art are a few examples that need to be mentioned.

A distinct high point in the committee programs was reached in 1980 when three widely known researchers addressed us: Drs. Corth and Thornton from Westinghouse and Dr. Hayward from the University of Massachusetts. Unfortunately, Prof. John Flynn, AIA/FIES, who had intended to speak despite knowledge of his failing health, could not come. He had addressed the committee some years ago and was interested to discuss his latest work. My personal debt to this great man for his support of our committee and my personal loss at his death needs to be expressed here.

My decision to resign from the chair stems largely from two reasons: I need to cut back my obligations in time and expenses: I wish to see new ideas and directions and success in reaching the ultimate goal of this committee pursued by some one else, perhaps more capable or vigorous than I proved to be. This goal can be simply expressed:

To pursue research in the objective causality and etiology of



color stimuli (i.e. direct and reflected radiation) on human behavior and performance.

To establish eventually useful guidelines for designers and architects for the use of color in the environment and on products.

Whoever my successor may be, I wish him luck and may he have enough change in his pocket to cover his mailings, phone bills, registration fees for speakers and other associated pleasures. He may call on me for counsel and advice.

Very sincerely, Alexander F. Styne

## MINUTES OF THE 1981 MEETING OF PROJECT COMMITTEE 33: HUMAN RESPONSE TO COLOR

Alexander F. Styne, IDSA/FIES, Chairman, brought the session to order and reported on the Rochester meeting which many present had not been able to attend. He also expressed his personal loss for the late John E. Flynn who had long supported the goals of the committee and who had been scheduled to speak in Rochester on current research.

He mentioned publication later this year of a major work on Healthcare Facilities by Dr. William Beck, president of the Donald Guthrie Foundation for Medical Research and a participant in the work of this committee.

Mr. Styne also outlined his own extensive schedule of lectures, publications and workshops and announced his resignation as chairman. He has pursued with distinction the goals of the committee to pursue research on the effect of color stimuli on human behavior and performance and to establish useful guidelines for designers and architects.

Dr. Jose Raul Bernardo, an environmental psychologist and practicing architect, spoke on "Color as Status Symbol." Much has been written about color but there are no reliable findings on the influence of a particular color. However in his work, color provides important clues to the psychology of his client and the nature of his emotional dilemma. How these clues are read, as with body language and a single gesture, must be considered within a pattern of behavior.

The colors a person wears may be quite different from what he likes due to fashionable or sophisticated connotations. An upwardly mobile person may feel important using them. In previous ages wars were fought for rare and valued dyes. Purple, for example, was an expensive dye and a color worn by royalty. When it became affordable by all, the color was no longer a symbol of wealth or status.

Architect Gerald Allen, who was scheduled to speak on "Color Use in Architectural Practice" was unable to attend.

Regina Baraban of *Restaurant Design* made some comments on the design scene from her experience as editor. She noted the current interest of so called Post-Modern architects in pastels and the general timidity of architects in their use of color in buildings. Two restaurants were cited for interesting use of color: Woods 2 and the Frog in Philadelphia. Both hospitals and airports are building types seriously needing adequate study for the effect of color on the environments created and to help provide direction and orientation. (Mr. Styne added jails as areas needing investigation.)

Ms. Baraban suggested ways to document the findings of the committee and members of the Press to keep informed for publication. Mailings should be directed to Deans of Art and Architecture Schools, Design magazines such as *Woman's Wear Daily*, fashion, house and home magazines and the *N. Y. Times*.

The incoming chairman must seek funds for mailings from the Board and other sources. A discussion followed among participants.

Anna Campbell Bliss

## REPORT OF PROJECT COMMITTEE 34 COLOR DIFFERENCE PROBLEMS

This year's meeting was attended by forty-one persons. Since Dr. Ruth Rich is in the process of having a baby, a new chairman was appointed — Mr. Sy Commanday of Hercules Fibers.

A series of samples of polypropylene fiber was presented to the group by Mr. Commanday for consideration as materials for the group's evaluation. There were two groups of eight each, one of smooth, untextured fiber and the other comprised of the same yarn that had been bulked into a textured yarn. It was proposed that these samples be grouped visually, measured, and evaluated by the recommended color difference formulas (CIELAB and CIELUV). The grouping would be in terms of "match" and "no match."

The discussion that followed this presentation centered on the validity of such samples as compared with the more "desirable" samples that could be obtained through carefully prepared paint drawdowns. It was decided to separate the committee into two task forces, one to consider the problem (of color difference evaluation of physical samples) from a theoretical standpoint utilizing carefully prepared samples under idealized conditions, and the other to consider samples such as had been presented by Mr. Commanday. Dan Rich is to head the first group (theory) and Bob Hoban is head of the second (practical). Each group leader was charged with the responsibility for setting up an experiment to evaluate groups of samples appropriate to its means and report their findings and desires to the chairman by September 1, 1981.

## REPORT OF PROJECT COMMITTEE 35 COLOR OF LIVING TISSUE STEPHEN F. BERGEN, CHAIRMAN

On Monday, April 27th 1981, Project Committee 35 convened with 21 individuals present, including representatives of the dental profession and color-science fields. Various projects that are underway under the auspices of the American College of Prosthodontists, the sponsoring Member Body, were delineated.

1. The reorganization of shade guides, a project undertaken by the Color Matching Committee of the College, is almost complete. All results of the work of the committee members were submitted to the Chairman for evaluation. The information will be available by the summer of 1981.

2. The Ney porcelain and shade guide system was discussed. Jack Yerkes of the Ney Company gave a brief update. The porcelain is available. The original and second versions of the shade guide, organized in a logical fashion, were not well accepted by the dental profession and are under evaluation for future redistribution. At present, the porcelain is keyed to the more accepted (unorganized) Vita Lumen and Bioform systems.

3. The status of Sterndent's Chromascan was discussed. At present the instrument is in a "HOLD" position.

4. The Partitive Color Systems was discussed by Dr. Robert Sproull. The research that is being conducted at the New York Veterans Administration Medical Center on this system as it applies to dentistry was reviewed. An example of a porcelain

chip, stained with metallic oxide "stain" was shown. Further scanning electron microscopic examination still needs to be completed. At next years' I.S.C.C. meeting the complete results will be demonstrated.

5. The results of the American College of Prosthodontists sponsored slide version of the Dvorine Pseudoisochromatic color-vision plates will be presented at the International Colour Association meeting to be held in Berlin, Germany, in September 1981 by the Chairman of the Color Committee.

6. The problems of maxillofacial prosthetics in respect to colorants and materials was demonstrated. Dr. Bergen visited various make-up artists in Los Angeles, California, in April of 1981 and received input from them as to which make-up materials can be used successfully with our silicone materials.

7. Dr. Wayne Wozniak of the American Dental Association briefly reviewed and updated the issue of fluorescence in natural teeth and restorative materials. He published an article on his work in the Journal of Dental Research in the Fall of 1980. Members of the I.S.C.C. are familiar with the fluorescence problem and can easily relate to teeth and their fluorescent properties. Another item discussed and demonstrated with a slide was that of matching composite materials to tooth structure. The problems encountered are those of material stability, strength, translucency, bonding, etc. The membership of the I.S.C.C. is predominantly non-dental and was very interested in our problems and their relationship to them. The role of the A.D.A. as an educator was mentioned. Dr. Wozniak published an article on color matching in a recent 1981 A.D.A. Journal.

#### **REPORT OF PROJECT COMMITTEE 36 EXAMPLES OF INDUSTRIAL COLOR- DIFFERENCE ACCEPTABILITY ANTHONY J. PENTZ, CHAIRMAN**

Project Committee 36 has the task of determining the limits of color acceptability at two levels, "tight" and "commercial." This work is being accomplished by asking a large number of persons to visually judge sets of color samples and analyzing the results. The samples used in the work have been donated by industry. Ultimately, when acceptability has been defined for areas of color space, sets of samples will be prepared to illustrate these limits. It is hoped that these samples will be useful, for example, in dialogue between seller and buyer to illustrate the variation the buyer can expect from lot to lot in the product.

At the present time work is under way with a set of forty pastel green paint chips donated by Munsell. Each chip was measured before submission for visual judgment by the generous cooperation of Sandoz Colors and Chemicals. The samples vary in all directions from the centroid with magnitudes from  $\frac{1}{2}$  to 12 FMC2 units.

Mr. Rick Mathew of Americhem reported at the annual meeting that he has collected data on the visual judgments of sixty persons. Analysis of the data shows most persons either rated the samples as "tight" or "rejected." Few persons rated any samples as "commercial." Persons trained in color judgment and untrained persons were included in the exercise. All had normal color vision.

Some members of the committee thought the exercise would be improved if a definition of the terms "tight" and "commercial" would be included in the exercise instructions. A suitable definition is needed along with examples from commerce to give the participant a clearer understanding of the

differences between these two levels of acceptability.

The exercise will be repeated, asking the participants to first remove from the set those samples which are obviously rejected. The participants will be asked to sort the set a second time, separating samples which are close from those which are farther removed. We will experiment with obtaining two levels of acceptability in this way.

All members of the committee have been invited to participate in the visual judgment exercise and to share samples from their area of color interest, whether it be ceramics, inks, paints, plastics, or textiles, to name a few. This same invitation is extended to others who may not presently be members of the committee. Additional samples are awaiting preparation for measurement and should be ready for circulation to members and others during the remainder of 1981.

#### **REPORT OF PROJECT COMMITTEE 37 ARTIST MATERIALS JOY TURNER LUKE, CHAIRMAN**

The ISCC Project Committee on Artists' Materials has worked closely again this year with ASTM Subcommittee D01.57 which is writing a new standard for artists' paints. Seven different test methods are needed for the standard and most are nearing completion. Information collected by the Committee on Artists' Materials has been used in developing these test methods.

At the annual meeting in New York in April a new chairman, Mark Gottsegen, was unanimously elected. He teaches painting and drawing classes, and a class on art materials, at the University of North Carolina at Greensboro. Mark is also currently writing a comprehensive book on art materials. He is one of the Artists Equity Association's delegates to the ISCC and has already made outstanding contributions to the work of this project committee.

The following reports and discussions were taken up at the meeting which lasted all afternoon and was chaired by the retiring chairman Joy Turner Luke.

Dr. Fred Billmeyer, Jr. and Dr. Romesh Kumar summarized the work done for Dr. Kumar's doctorate thesis "Organic Pigment Identification using Solution Spectrophotometry." This paper presents a method for separating and identifying the organic pigments presently used in artists' paints. The paper and computer reference library of the pigment curves are now available from Rensselaer Polytechnic Institute at a cost of about \$250. Work will continue on organic analysis at RPI, being done by graduate students Ellen Gerrity and Judy O'Brien. To date, about 700 different paints have been analyzed for organic or inorganic pigments.

An interim report by Henry W. Levison entitled "Light-fastness Tests on Pigments in Oil and Acrylic Vehicles" was circulated. This report gives the data obtained thus far from the lightfastness tests conducted at various exposures. Sun exposures to 50,000 langley's have been completed at two locations. Indoor exposures are past the 40% exposure point, and Fade-Ometer exposure has been completed at 50°C, 50% relative humidity, with irradiance of 1.50 W/m<sup>2</sup> at 420 nm. Fade-Ometer exposures at 62°C and 62% relative humidity will be run. All pigments tested were diluted with standard white paint to 40% reflectance at maximum absorption.

Levison brought some of the paint samples before and after exposure to show how drastically some pigments in use in artists' paints had faded. On the other hand a natural madder

lake pigment has withstood exposure better than had been expected, although the amount of fading was greater than for the quinacridones.

J. T. Luke made a presentation on the possibility of putting together some of the information generated by the committee in the form of a general booklet on artists' paints. The booklet would contain information on the name of the manufacturer, colors available, Colour Index name and number of the pigments, lightfastness rating, opacity, ASTM designation, etc. This booklet could be used by the artists, as well as the teacher, to obtain in-depth information on paints and possibly other materials that are available to the artist.

Funding and possible ways to get the booklet printed and published were discussed. Then a motion was made and passed to reactivate the Task Group on Publication, and let them make a recommendation on their involvement on such a project.

J. T. Luke also proposed that the committee consider preparing some teaching aids which would describe fundamental information which is not presently available. As an example she pointed out that the artist needs to be educated on how certain pigments will tint and intermix, and a knowledge of the spectrophotometric reflectance curves of pigments will aid in this. She showed charts as examples of this and of how the Munsell system can aid artists in choosing an efficient palette of colors.

Joy Luke thanked the group for their continuing efforts and said it had been an honor to serve as chairwoman since the project committee was formed in 1977.

Also in connection with the ISCC Annual Meeting two light booths were made available by Evelyn Stephens at the Fashion Institute of Technology in an attempt to get a consensus as to what constitutes a significant visual difference in colors. Henry Levison had prepared nine groups of color swatches, with each group having 1ΔE color difference between the six members of the group. Interested people visually examined each group and were asked to report on significant visual color change among the swatches. The results will be used in rating the fading of pigments exposed in the current lightfastness tests.

#### **REPORT OF PROJECT COMMITTEE 38 PHILATELIC COLOR DESIGNATIONS DONALD L. MacPEEK, CHAIRMAN**

The Project Committee on Philatelic Color Designations continued its efforts since the last report with the same personnel listed previously. A major milestone was achieved with the approval for publication by the ISCC Board of a "Manual for Determining Color Designations of Stamp Colors" by Committee members Kenneth L. Kelly and Fred W. Billmeyer, Jr. This work has been submitted for publication in the "American Philatelist," the journal of the sponsoring organization, the American Philatelic Society. The work is in the final stage of editing and will appear shortly.

The Project Committee made a formal presentation concerning the status of its activities at the Spring, 1981, meeting of the American Philatelic Society (APS) in State College, Pennsylvania in April. The origin and scope of the project were reviewed for those unfamiliar with our work. The Committee recommendation that the Munsell Color System be adopted as the basic color-order system for use in designation of stamp colors was supported by a practical description of its use along with the use of the ISCC-NBS Universal Color Language as a

basis for naming. Other collections of color samples of philatelic origin for which Munsell notations have been obtained, and therefrom, the Universal Color Language names, were described. It is planned to compile and publish such information as an ongoing activity of the Committee. The presentation went on to elaborate on the importance of illumination and viewing conditions and deficiencies in human vision in the color-matching activities contemplated by the Committee. As a pilot project, the colors of the early stamp issues of one Latin American nation were determined using the procedures outlined in the "Manual" described above. Among the conclusions of the study are: 1) No particular difficulties were encountered in using the recommended procedures, 2) The color names listed in the major philatelic catalogues for the issues studied are not consistent from one catalogue to another, 3) The Universal Color Language names developed in the study were entirely understandable and compatible with the existing philatelic literature, 4) Use of the techniques proposed by the Committee provided a basis for greater specialization and identification of varieties attributable to additional printings of possible historical importance, and 5) The information generated by application of the color-naming techniques to such stamp issues should result in publications which can form the basis for consistency in the treatment of color in philately.

The presentation by Committee members Kelly and MacPeek was very well received by the APS Board of Directors. The Committee was encouraged to prepare a list of specific materials and equipment for acquisition to establish a color determination and naming capability at APS headquarters in State College, Pa. The applicability of the color-names determination techniques developed by the Committee to expertization or confirmation of issue identity was recognized by the APS Board. A brief review of Committee activities was invited at a meeting of the APS Board of Experts, including representatives from the American Stamp Dealers Association, a few days later. The Committee is most encouraged by the reception afforded its proposals. We will now undertake the preparation of publications illustrating the application of the procedures we have recommended. It is hoped that these efforts will facilitate the extension of the project to other areas of philately and secure the collaboration of other philatelists in the program.

#### **REPORTS FROM MEMBER-BODY DELEGATIONS JOYCE S. DAVENPORT, LIAISON**

##### **REPORT FROM THE AMERICAN ARTISTS PROFESSIONAL LEAGUE DELEGATES ANGELO JOHN GRADO, CHAIRMAN**

No report has been received.

##### **REPORT FROM THE AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS DELEGATES ROLAND CONNELLY, CHAIRMAN**

During the past year, the AATCC has been very active in the color-related areas. These areas include national and international test methods through the research committees, and color education.

Test-method work includes extensive work on new uniform international methods of lightfastness evaluation, color-measurement methods, and development of instrumental

means of specification of equal depth of shade.

In education, two color workshops were held. These workshops dealt with the basics of color measurements for transmission and reflectance. The students are instructed in basic laboratory procedures and are given hands-on practice. The transmission procedures published by the ISCC are taught during these workshops.

Plans for the coming year include continued work on test methods, attendance at the ISO meeting in June, and additional workshops.

We were most pleased to be able to have a display at the 50th Anniversary Meeting of the ISCC, especially being one of the charter member bodies.

## **REPORT FROM THE AMERICAN CERAMIC SOCIETY DELEGATES**

**F. JOSEPH VON TURY, CHAIRMAN**

No report has been received.

## **REPORT FROM THE AMERICAN CHEMICAL SOCIETY DELEGATES**

**LAWRENCE R. LERNER, CHAIRMAN**

The efforts of our delegation for the past two years culminated in a joint American Chemical Society — Inter-Society Color Council symposium entitled "Advances in Color Technology." The symposium was originally scheduled to be given at the annual ACS meeting on August 27, 1980 in San Francisco, however due to a hotel employee's strike in San Francisco the meeting was moved at the last moment to Las Vegas. This move held down attendance somewhat but all papers were well received. The papers from the symposium will not be published in a single volume, but Mr. Rolf Kuehni's paper "Color Difference Evaluation" has been accepted for publication in *COLOR research and application*, and Dr. James Feeman's paper on "Recent Advances in Dye Chemistry" has been published in *American Dyestuff Reporter*, Vol. 69, No. 12, p. 19, 1980. Other papers are being considered for publication as well.

Listed below are the papers which were given.

Introduction — "The Function of the ISCC, CIE & AIC in Color Research," Prof. Fred Billmeyer

"What is Color? — An Introduction to Colorimetry," Dr. Gunter Wyszecki

"Specification of Color Appearance," Dr. Stanley Kishner

"Instrumentation for Color Measurement," Mr. Danny Rich

"Color Difference Evaluation," Mr. Rolf Kuehni

"Calculations for Colorant Formulation," Dr. Robert Marcus

"Solution Measurements," Mr. Charles Garland

Lunch — "Instant Color Film," Dr. Robert Tuite

"Chemical Origins of Color," Sister M. V. Orna

"Light Induced Color Changes," Prof. H. C. A. Van Beek

"Color and Liquid Crystals," Dr. Glenn H. Brown

"Recent Advances in Inorganic Pigments," Dr. Kenneth Batzar

"Recent Advances in Organic Pigments," Dr. Lawrence R. Lerner

"Recent Advances in Dyes," Dr. James F. Feeman

In 1981 Dr. Charles Matkovich will take over the chairmanship of our delegation.

## **REPORT FROM THE AMERICAN COLLEGE OF PROSTHODONTISTS DELEGATES**

**STEPHEN F. BERGEN, CHAIRMAN**

One of the Highlights of this years' 50th anniversary I.S.C.C. meeting was a Poster Session. The American College of Prosthodontists sponsored a 48" X 70" poster entitled, "What is

Prosthodontics." It reviewed the various fields with which our specialty serves the profession and the public. Examples of simple restorations, as well as fixed, removable and complete dentures were shown. A section dealing with maxillofacial prosthetics demonstrated the complete realm in which our specialty becomes involved in the total restoration of a human life. The pamphlets produced by the College for distribution to the general public, "What is Prosthodontics" were distributed, so that a greater appreciation of our profession may be realized. A slide demonstration on a Synopsis of Shade Matching Procedures was dramatically incorporated into this poster display through a framed window cut out.

On Tuesday, April 23rd, the I.S.C.C. devoted its lecture symposium to various aspects of color and its relationship to history, Member Body involvement, and outlook for the future. I (Dr. Bergen) presented a paper entitled "Color in Prosthodontics." It was a multiprojector presentation showing the involvement of the Art and Science of Prosthodontics with the Art and Science of Color. It aimed to show the I.S.C.C. membership how prosthodontics must deal with color on a daily basis to provide quality dental care to the public. Besides demonstrating the fields of prosthodontics, the lecture outlined a suggested curriculum for teaching color science to dental students. Although the presentation was brief, it provided the I.S.C.C. membership greater insight into our profession.

Dr. Robert Sproull was honored at the Annual Banquet of the I.S.C.C. for his service as the Chairman of Subcommittee 35 from 1973-1978. A Certificate of Appreciation was also given to Dr. Stephen Bergen for his work as a Director of the I.S.C.C. His 3 year term on the Board was completed with this session.

Dr. Nancy Jo Shoemaker from the Philadelphia College of Textiles and Science made a presentation on the need for adequate graphics and video taped materials on the education of color for students in all fields. This need is also emphasized in our profession. As an initial contribution to her work, I have sent a copy of the A.C.P. sponsored Slide Color Vision Test for her to use and evaluate. The hope is that this Member Body, as well as other Member Bodies, will support Dr. Shoemaker to develop and achieve her goals.

## **REPORT FROM THE AMERICAN INSTITUTE OF ARCHITECTS DELEGATES**

This delegation has been on a standby basis pending the appointment of a new chairman after the death of Waldron Faulkner. Any members of the AIA interested in the activities of this member body related to color are encouraged to contact Joyce Davenport or any member of the ISCC Board of Directors.

## **REPORT FROM THE AMERICAN PHILATELIC SOCIETY DELEGATES**

**DONALD L. MacPEEK, CHAIRMAN**

The report from this delegation is the same as and is combined with the report from the ISCC Committee on Philatelic Color Designations found earlier in this issue.

## **REPORT FROM THE AMERICAN PSYCHOLOGICAL ASSOCIATION DELEGATES**

**EDWARD H. RINALDUCCI, CHAIRMAN**

No report has been received.

**REPORT FROM THE AMERICAN SOCIETY FOR  
TESTING AND MATERIALS DELEGATES  
HARRY K. HAMMOND, III, CHAIRMAN**

No report has been received, though it can be said that ASTM interest in color-related methods and practices continues at a high level in several ASTM Committees.

**REPORT FROM THE AMERICAN SOCIETY OF  
INTERIOR DESIGNERS DELEGATION  
ANNA CAMPBELL BLISS, CHAIRMAN**

The ASID delegation has been absorbed in preparations for the ISCC 50th Anniversary Meeting in which President Jack Lowery, FASID and Anna Campbell Bliss, ASID participated.

President Lowery reaffirmed ASID involvement with ISCC and is giving support for earlier proposals to reorganize our delegation for productive research.

We are honored to have Barbara Schirmeister, ASID elected to ISCC Board membership. Barbara has been very active this year guiding the N. Y. Decorators Club and will bring her lively wit and designer's viewpoint to Board proceedings.

Mary Buckley Parriott has pursued an active teaching schedule at Pratt Institute and brought many of her advanced students of color to the ISCC meeting. She continues exhibiting her paintings in NYC and active involvement with the Margaret Gate Institute and the Manhattan Psychiatric Center.

Anna Campbell Bliss, ASID, spoke at the CMG annual meeting in Nashville on color and light for hospitals entitled "Bed-side Color." For the CMG regional meeting in Las Vegas her presentation included color and design for hotels and restaurants with the title, "The Design of Fantasy." She also gave a workshop seminar on "Color in the Context of Interiors" for the regional meeting of ASID in Salt Lake City.

Exhibitions of her color experimentation in prints and paintings took place in Salt Lake City, Ohio State University, the San Diego Museum of Art and the Stuttgart Design Center, Germany, where she participated in the International Color/Design Competition 1980-81.

For ASID nationally it has been a year of appraisal and commitment to guiding the membership through future challenges. ASID will celebrate 50 years at the annual conference in St. Louis, Missouri, July 23-27.

National Headquarters for ASID will move July 1, 1981 to a new space: 1430 Broadway, New York, NY 10018.

**REPORT FROM THE AMERICAN SOCIETY OF  
PHOTOGRAMMETRY DELEGATES  
E.T. CONNOR, TREASURER**

Dear Mr. Connor:

Enclosed is the ASP check for our 1980 dues for membership in the Inter-Society Color Council.

Sorry for the delay in responding. ASP has had a problem in the past several years because we have not been able to find a suitable representative. We will try once again, but this explains why there has been little contact between ASP and ISCC.

If you have any suggestion, please let me know.

Sincerely, William D. French, Executive Director

**REPORT FROM THE ARTISTS EQUITY  
ASSOCIATION DELEGATES  
LINDA LEWIS TAYLOR, CHAIRMAN**

Artists Equity Association, Incorporated, the national organization for professionals working in the visual arts, continues to give its full support to the ISCC Project Committee on Artists Materials.

On April 30, 1981, Artists Equity Association announced in Washington, D.C. the first all-risk fine art insurance program for visual artists in the United States. To be known as "The Artists Equity Fine Art Insurance Program," the coverage is underwritten by the St. Paul and administered by Huntington T. Block Insurance. The insurance will cover the artist's own work while it is in the studio and in transit to and from exhibitions, etc.

Before this program it had been difficult, if not impossible, for artists to find an insurer who would cover their own work, and if they did find one, the premiums quoted were often prohibitively expensive. Artists are denied payment on claims submitted on a homeowners policy, because their own works are treated as "goods held for sale" by the insurance companies; and artists cannot list their own works on a personal articles "floater" policy as collectors do, since the artist's own work is classified as business property, not personal property.

"As in so many other situations," Artists Equity President Michael Gast stated, "the professional artist had been expected to 'eat' all losses or go out of business. Artists organized for collective action through Artists Equity have now been able to obtain for themselves the kind of shared risk that insurance offers to other professions. Surveys taken by Artists Equity indicate that there is a high demand for this kind of coverage at affordable rates, and a well administered program will give artists the track record they need to establish confidence in their professionalism.

**REPORT FROM THE COLOR ASSOCIATION OF  
THE UNITED STATES DELEGATES  
DOLORES WARE, CHAIRMAN**

It is a pleasure to welcome Ms. Ware as CAUS Delegation Chairman and liaison. However, no further delegation appointments and no report have been received. The CAUS did participate in the poster session at the 50th Anniversary annual meeting with a beautiful display.

**REPORT FROM THE COLOR MARKETING GROUP  
DELEGATES  
ANN DILLON, CHAIRMAN**

The Color Marketing Group held two very successful and well attended national meetings in 1980. The Spring meeting, May 5-7, put "Colors on Parade" in Philadelphia.

As always, our main focus of this meeting was on Color Directions Workshops. These, for members only, evaluate color information from all the different markets represented by CMG. Out of this emerges our color palette for future directions in the marketing of color.

We had many excellent speakers, on a wide variety of subjects: rotogravure, lighting, color in packaging, marketing approaches, color in education, design resources, gravure inks, and color fidelity. Conference participants evaluated the meeting to be one of the most successful we have had. For that, credit and thanks must go to Program Chairman, Joyce Daven-



port (Desoto, Inc.), and Murray Smith (Westinghouse Electric Corp.), and to all the CMG members who served as speakers and panel participants: Dan Cannady (Westinghouse Electric Corp.); Phyllis Farrell (Pantasote Inc.); Bill Griffeth (Armotek Inc.) John Hagen (Mead Specialty Paper Div.); Ann Jacobson (Newco Inc.) Al Milwid (Mannington Mills, Inc.), Leslie Anne Mogul (Leslie Mogul Inc.); Norman Shapiro (M.S. Chambers Engraving Co.) and Dorothy Tricarico (Fashion Institute of Technology).

Also, our thanks and special appreciation to non-members who took part in the program: Allesandro DeGregori, (Carnegie-Mellon Univ.); Mike Dunn (H. Kohnstamm Co.); Bob Hillman (Sears, Roebuck & Co.); and Fred Fortress, (Philadelphia College of Textile and Science.)

We added a new Directions Committee on Design, to our already formed Technical, Educational, and Marketing Directions. Co-chairmen for this committee are John Rinderman (Burlington Inc.), and Nadine Gross (Color & Design Forecast).

During October 5-7 our Fall meeting took place in Nashville. There, at the Opryland Hotel, we "Tuned up our Colors." Our Color Directions palette was presented, and evaluated in workshops. We also paused to look at our predictions for 1979, for better perspective towards future work.

Again, there were many interesting speakers and panels: Murray Smith (Westinghouse Electric Corp.) moderated a panel discussion on Manufactured Housing and Recreational Vehicles. The panelists were: John W. Turner (Redman Homes, Inc.), Jo Miller (Commodore Homes), Alice Lindsey (Tidwell Inc.), and Susan Ginther (Midas International).

Lou Kapuscinski (Liller-Neal-Wilton Advertising Agency) spoke on "Color in Advertising."

Randy Cook (Color Communications) and Darlene Kinning (Colwell General) spoke to the Educational Directions Committee on "Fitting the Munsell System into Design Programs."

Anna Campbell Bliss (Bliss and Campbell) spoke to the Technical Directions Committee about "Mannerism in Bedside Color."

The Marketing Directions Committee was told about Laws Hall and Associates — a student run advertising program at Miami Univ. by Professor Joseph Cox, III.

The Design Directions Committee held an organizational meeting.

New Officers have been elected for 1981. They are:

President: Mr. William Capehart, Tenneco Chemical, Inc.  
V. Pres.: Mr. William Marley, GAF Corporation  
Secretary: Ms. Carol Forbes, Carol Forbes Designs  
Treasurer: Ms. Joyce Davenport, Desoto, Inc.  
Three members have been named to the Board of Directors: Ms. Sharon Clarke-Fodor (L.E. Carpenter and Sanitas)  
Mr. Tom Holloway (Bennett's)  
Ms. Marie Mornell (Proctor-Silex)

At this meeting, it was decided to reinstate the Forest L. Dimmick award. Ms. Betty Jennings (Champion Building Products) has been named Chairman of the selection committee.

Our thanks to all the wonderful speakers — and especially to Bill Capehart and Carol Forbes, our program chairmen, for making it all possible.

CMG has also held several regional meetings throughout the year, each filled with information on diverse aspects of the marketing of color.

## **REPORT FROM THE DRY COLOR MANUFACTURERS ASSOCIATION DELEGATES AL M. KEAY, CHAIRMAN**

No report has been received.

## **REPORT FROM THE ENTOMOLOGICAL SOCIETY OF AMERICA DELEGATES J. HOWARD FRANK, CHAIRMAN**

The Entomological Society of America Special Committee on Color Standards continues to work on development of a prototype color standard for biologists in collaboration with the Committee on Color Standards of the Mycological Society of America. This color standard, when published, is intended to serve the needs for color designation and nomenclature of biologists internationally.

The current President of the ESA is Dr. Carl Huffaker of the University of California at Albany, CA.

## **REPORT FROM THE FEDERATION OF SOCIETIES FOR COATINGS TECHNOLOGY DELEGATES DENNIS OSMER, CHAIRMAN**

The major project of the ISCC delegation was the Symposium on Color and Appearance Instrumentation (SCAI) held March 24 through 26th in Louisville, Kentucky. The planning, organizing and arranging for this meeting has been a major concern for the delegation for the past two years, primarily spearheaded by Kocis, Marcus, Osmer and Sotorrio. This was indeed a very successful event although the attendance turn-out was not as large as originally expected. Our most impressive speaker was Dr. David Wright who talked about the experimental origins of the 1931 CIE system.

This Symposium followed a similar format to the 1978 SCAI held in Cleveland. A questionnaire will be sent out to all participants providing us with feedback so that a third SCAI, to be held in 2-3 years, might be even more successful in meeting the needs of our industry.

Part of the registration for SCAI package was a glossary of color terms which was separated from the Federation's coatings dictionary.

At this point, there are no major projects currently contemplated by the committee, only the wrap-up of papers presented at SCAI for publication in the *Journal of Coatings Technology*.

Attached is a list of papers and presentations which may be of interest to ISCC members.

### **Papers Relating to Color Presented at The Federation of Societies for Coatings Technology Annual Meeting, October, 1980 — Atlanta, Georgia**

1. "Color Measurement of Wet Paint" — Don W. Parker, Tromac Ink Incorporated, Michigan, Indiana

2. "Computer Assisted Design of Coatings Formulas" — Edwin J. Howery, Precision Paint Corporation, Atlanta, Georgia

3. "Computerized Color Control" — Robert T. Marcus, Obey Chemical Company, Pittsburgh, PA

## Articles of Interest to ISCC Members, Journal of Coatings Technology

1. "Stability Problems in Gloss Measurements — Wolfgang Budde and C.X. Dode, June, 1980, Page 44.
2. "Pigment Synergism and Pigment Antagonism in Automotive Pigmentation" — Saul Pannish, July, 1980, Pg. 50
3. "Three Unsolved Color Perception Problems Fundamental to Achieving Better Results in Industrial Applications of Color Science" — Rolf G. Kuehni, July, 1980, Pg. 83

## Papers Presented at the Symposium on Color and Appearance Instrumentation, March 24-26, 1981, Louisville, KY

1. "Color Marketing and Consumerism" — Joyce Davenport
2. "The Experimental Origins of the 1981 CIE System of Colorimetry" — W. D. Wright
3. "Color Communications" — James Davidson
4. "Black, White and Everything in Between" — Robert Hillman
5. "Evaluation of Coating Appearance — an Overview" — H.K. Hammond
6. "Precision, Accuracy, and Standardization Requirements of Color Measuring Instruments" — Charles J. Sherman
7. "Collaborative Reference Programs for Color and Appearance Measurements: An Eight Year Performance Report" — Charles G. Leete
8. "Difficult Samples to Measure" — Richard Harris
9. "Use and Misuse of Computers in Color Control" — Hugh R. Davidson
10. "High Speed, On-Line Color Measurement" — Jerry Alford
11. "Color Measurement of Wet Paint" — Don W. Parker
12. "Pitfalls of Pigment Strength Assessment" — Reinhold William Bartsch
13. "Color Difference Assessment" — Danny C. Rich
14. "Testing for Color — An Analytical Procedure" — A.M. Keay
15. "Education in the Instrumentation Measurement of Color and Appearance" — Margaret E. Burns

## REPORT FROM THE FOUNDATION FOR ANALYTICAL RESEARCH IN THE ARTS, LTD., DELEGATES ROY H. WHITE, CHAIRMAN

The Chairman of the FARA delegation has advised the Secretary that a report will be made at a later date.  
F.W.B.

## REPORT FROM THE GEMOLOGICAL INSTITUTE OF AMERICA DELEGATES VINCENT MANSON, CHAIRMAN

No report has been received.

## REPORT FROM THE GRAPHIC ARTS TECHNICAL FOUNDATION DELEGATES RICHARD D. WARNER, CHAIRMAN

As previously reported in the 1980 ISCC Annual Report, our major efforts have revolved around the establishment and functional operation of the new GATF Color Reproduction Center. Currently, within the Color Center there are two electronic color scanners, an overhead process color camera, three auto-

matic film processors, and a color proofing and viewing area containing six commercially available prepress proofing systems and the necessary standard color-viewing equipment. In the area of instrumentation and measurement, the Color Center contains eight transmission/reflection color densitometers, a spectrophotometer with an associated software package for color matching, and an electronic planimeter which is used for reflection and transmission dot area measurements.

During 1980 we have developed three new GATF workshops which include: Introduction to Electronic Scanning for Managers, Introduction to Electronic Scanning for Prepress Supervisors, and Direct-Screen Color Separation. As the Color Center continues to grow and mature, we will develop more advanced hands-on the lecture-type workshops for the craftsman and management-level personnel in the areas of electronic color scanning, prepress proofing, and conventional color-separation techniques.

Other activities in color at GATF include our input to the Web Offset Standards Review Committee for advertising materials for web offset publications. The Color Center is also actively involved in producing a series of technical reports relating to electronic color scanning and prepress color proofing and our major research effort at this time centers around the redesign of the Munsell-Foss Color Chart.

## REPORT FROM THE GRAVURE TECHNICAL ASSOCIATION DELEGATES FRANK BENHAM, CHAIRMAN

The latest in GTA's series of audio-visual educational modules, (including script and slides), Input Copy Requirements for Gravure Reproduction represents four years of intensive study by the GTA Input Copy Requirements Committee. It presents highlights of the committee's findings through 1980, based on tests performed within the gravure industry. The tests were based on a specific set of circumstances felt to represent the "state of the art" in copy preparation of color gravure publication work. The audio-visual program may be purchased or rented from GTA headquarters.

The *GTA Gravure Color Charts* are the standard communicating tool for advertising agencies, gravure engravers, gravure printers, and publishers for providing color reproductions, specifications, reviewing gravure positives and checking gravure proofs and press sheets. They are also an essential document for manufacturers of gravure inks, papers, equipment and materials.

The 1981 Gravure Color Charts were printed for the Gravure Technical Association by World Color Press in Salem, Illinois March 17-18, 1981. The positives were produced, the cylinders were engraved, and the printing was performed under the supervision of representatives of the Gravure Standards Committee, and in strict observance of GTA, paper, ink density, and viewing standards.

The new Gravure Color Charts become the official charts of the gravure industry June 1, 1981. Between June 1 and July 31, 1981, however, the 1981 Charts and the present GTA Charts will be accepted as meeting the standards. After July 31, 1981, the charts previously used will not be applicable and should be discarded.

There are four 1981 Color Charts. Two are printed with GTA Group I Standard Inks — one on 30 lb. Roto News Stock and one on 30 lb. Super Calendered Stock. Two are printed with GTA Group V Standard Inks — one on 34 lb. Machine

Coated Stock and one on 34 lb. Super Calendered Stock. Thus, the Color Charts are printed on stock which is representative of the stocks in current use in gravure proofing and final printing.

The new Gravure Color Charts are available for purchase through the Gravure Technical Association.

## **REPORT FROM THE HOUSE & GARDEN COLOR PROGRAM DELEGATES** **NADINE BERTIN, CHAIRMAN**

The House & Garden Color Program continues expanding its work, its research, and its reach. More and more home-product Manufacturers are taking advantage of its unique position within this market, giving it access to specialized information from the USA and abroad not correlated anywhere else. In addition to Manufacturers, many Professionals in the field of Product Design, Industrial Design, Architecture, and other related fields continue to join the Program.

In addition to publishing its well-known annual Research Report: **ECONOMIC TRENDS IN COLOR** early this year, the House & Garden Color Program has started publication of **SPECTRUM**, a newsletter which will appear several times a year to report on design and color trends, markets, and other subjects of interest to its Members. The first number also listed all the important Trade shows throughout the country for the year 1981, as well as key Museum and Art Gallery expositions which would be of interest to its Members.

After 5 years of holding its very popular **COLOR & DESIGN CONFERENCE** in public places such as Lincoln Center Library for The Performing Arts, The Cooper-Hewitt Museum of Design, the Fashion Institute of Technology, and, in 1980, at the Guggenheim Museum, this year the format changes and a **SPECIAL COLOR & DESIGN SEMINAR** will be presented the week of September 15 on a repeating basis for three days, Tues-Thurs., September 15, 16, & 17 in the Executive Conference Room and the Color & Design Center at House & Garden, 350 Madison Avenue, New York City. This is being done to accommodate the many people who wish to see the important presentations but could not in the past make the one specific day set aside for it.

House & Garden's Color Program Director, Nadine Bertin, serves as a Delegate to the ISCC on the Delegation of the IDSA (Industrial Designers' Society of America) and recently provided color slides to this Delegation's Chairman, Mr. Raymond Spillman, for his interesting presentation on Industrial Design at the Annual ISCC Meeting at the Roosevelt Hotel in New York City.

Nadine Bertin will also be making a Color & Design Audio/Visual Presentation at the biennial ICSID (International Industrial Designers) meeting in Helsinki, Finland in August, presenting to this august international group an overview of the particular need and desire for color in products exhibited by the American Public, which is overwhelmingly more than that of any other country. A fascinating sociological study. The 1981 House & Garden Color Palette is being kept pretty much intact for 1982, given the fact that such substantial changes were made from the 1980 color palette to form this one. It has also been found that a great many professionals are using these colors as well as the additional 14 "forecast" colors in the House & Garden Professional Palette when styling lines or putting together suggested palettes. This was particularly in evidence at the recent meeting of the Color Marketing Group

in Florida in May.

Inasmuch as House & Garden feels that our first responsibility is to *simplify* color determination for the designer and manufacturer, and color choice for the consumer, it is most heartening to see these carefully thought-out and edited colors being used so widely by all concerned. We look forward to more of this type of general cooperation in years to come.

## **REPORT FROM THE ILLUMINATING ENGINEERING SOCIETY DELEGATES** **W. A. THORNTON, CHAIRMAN**

Most of IES work directly in color is at present done by the Color Committee. The IES Color Committee members serve as the IES delegation to the ISCC. Most of the activities of an illuminating engineer, and of the IES itself, of course involve color, some basically and some peripherally, yet, at least so far, actual work on basic and applied color problems is left to the Color Committee. A new IES Lighting Handbook was published this year, and contains a revised section (No. 5 in the Reference Volume) on applications, basic concepts, color rendering, colorimetry, and use of color. At some of the 1981 Regional Meetings of the IES, a half-day workshop on color is being offered by the Color Committee, on the latter subjects. The Color Committee is accumulating a set of typical spectral power distributions of the many available commercial lamps, to be made available to all, it is attempting to get a grasp of the phenomenon "visual clarity," which is more pronounced in some illumination than in others, it is continually working on the problem of color rendering of light sources — how to measure it, how to improve it, how best to apply it. The Illuminating Engineering Society, or any of its members, would be happy to trade discussion on color matters with ISCC members.

## **REPORT FROM THE INDIVIDUAL MEMBER GROUP VOTING DELEGATES** **BONNIE K. SWENHOLT, CHAIRMAN**

No report has been received.

## **REPORT FROM THE INDUSTRIAL DESIGNERS SOCIETY OF AMERICA DELEGATES** **RAYMOND SPILMAN, CHAIRMAN**

There were three important developments occurring in the IDSA sponsored Project 33, "Human Response to Color:"

1. Alex Styne, after 8 years a chairman and chief structural designer of the Project 33 study program has resigned. Alex received the ISCC Service Certificate for his efforts at the Annual Meeting.

The Project 33 research effort was oriented toward color, color control, and effects on patients and care taken in hospital and nursing environments. Alex brought to this study learned scholars from all professional disciplines who have interest in or contribute to knowledge of the color and light of these environmental requirements, possibilities, etc.

A tremendous job has been done by Alex Styne and all in our ISCC Delegation and IDSA can be professionally proud of the high color-research standards he has set for us to follow.

I have asked Alex to list, as near as possible, the speakers and their subjects over his tenure as Chairman. Such a list would form an outstanding resource for those of us seriously interested in the environmental use of color.

There have been two major suggestions for future color

study about Human Response to Color:

2. The establishment of a hospital room and hospital environment for studying the actual application of color under test conditions. To be effective, such a study would have to include the study of light and temperature in association with color. It might well include a segregation of the intensity and types of illness being treated.

3. A second study, perhaps a task force of the same committee, would concentrate on studying the effects of color, light and texture on objects (appliances, tools, automobiles, yard machines, industrial machines, etc.). Initially, one might think this study to be a human-factors study (as indeed it is), but human-factors students are not color oriented nor, up to now, do they understand or use color effectively in their human-factors studies of controlled environments. Neither do most architects nor do too many industrial designers. Serious study of color on objects should be beneficial to all of us for a variety of different reasons. Ultimately the prime benefit would be to the consumer who would have objects to use more safely, less fatiguing, and even more happily than now.

#### **REPORT FROM THE INSTITUTE OF FOOD TECHNOLOGISTS DELEGATES**

Following the resignation of the Chairman, this Delegation is without a leader. Any IFT members interested in the color of foods in relation to the ISCC are encouraged to contact Joyce Davenport or any member of the ISCC Board of Directors.

#### **REPORT FROM THE MANUFACTURERS COUNCIL ON COLOR AND APPEARANCE DELEGATES**

**JAMES G. DAVIDSON, CHAIRMAN**

The Collaborative Reference Program (CRP) has over 200 participants both domestic and foreign. The CRP program has successfully completed the first year of offering large color difference pairs. Thus instruments used to monitor lightfastness changes are now included in the CRP.

The MCCA sponsored a successful workshop program at the FSCT/ISSC/MCCA Symposium on Color and Appearance instrumentation in Louisville, Kentucky, March 24-26, 1981. The Symposium featured workshops and "hands-on" color clinics in Color Formulation, Color Measurement, Appearance Measurement and Sample Preparation and Presentation.

The MCCA Advisory Committee has been reactivated.

#### **REPORT FROM THE MYCOLOGICAL SOCIETY OF AMERICA DELEGATES**

**KENT H. MCKNIGHT, CHAIRMAN**

No report has been received.

#### **REPORT FROM THE NATIONAL ASSOCIATION OF PRINTING INK MANUFACTURERS DELEGATES**

**ALFRED DIBERNARDO, CHAIRMAN**

NAPIM has formed a Color Book Technical Committee which has the task of consulting with companies producing color books on technical matters of concern to the ink industry. In 1980, with the assistance of the NAPIM Newsink Committee, NAPIM provided inputs to Pantone, Inc. which resulted in the publication of a significantly improved PANTONE Color Selector/Newsprint Book. The Committee has been notified

that Pantone intends to publish a new edition of its basic Pantone Matching System Book and has asked for suggestions from the ink industry. The Committee is surveying ink manufacturers in order to prepare substantive recommendations to Pantone for modifications in the new edition.

As it has done in the past several years, the NAPIM Color Standards Committee continues its liaison with the AAAA/MPA Committee in its work on the SWOP Color Standards for Web Offset Production.

#### **REPORT FROM THE NATIONAL PAINT AND COATINGS ASSOCIATION DELEGATES** **EVERETT R. CALL, CHAIRMAN**

In accord with its desire to support the ISCC as an observer Member-Body, the NPCA delegation has submitted no report.

#### **REPORT FROM THE OPTICAL SOCIETY OF AMERICA DELEGATES** **FRANC GRUM, CHAIRMAN**

##### **Annual Meeting**

The 1980 Annual Meeting of the Optical Society of America was held in Chicago, Illinois. In the areas of color vision and related areas, there were six sessions with three invited papers and 53 contributed papers.

The 1981 Annual Meeting will be held in Kissimmee, Florida October 25-30, 1981.

##### **Awards**

The 1980 OSA award winners are Aden B. Meinel, 1980 Fredrick Ives Medal; Anthony E. Siegman, 1980 R. W. Wood Prize; David M. Bloom, 1980 Adolph Lomb Medal; William T. Plummer and Richard F. Weeks, 1980 David Richardson Medal; J. G. Conway, 1980 William F. Meggers Award; Fergus W. Campbell, 1980 Edgar D. Tillyer Award.

##### **Publications**

Appended is a listing of the papers published in the Journal of the Optical Society of America in 1980 in the field of color.

##### **Volume 70, 1980**

###### **COLOR**

Visual impression of whiteness and its colorimetric definition. II. 411

###### **COLORIMETRY**

Relations between inter- and intra-individual variability of color-matching functions. Experimental results, 1476

Visual impression of whiteness and its colorimetric definition. II. 411

###### **COLOR, MEASUREMENT**

Large color differences and the geometry of Munsell color space (L), 243

Pair comparisons of adjacent colors in the OSA uniform color scales (errata), 353

Relations between inter- and intra-individual availability of color-matching functions. Experimental results, 1476

Vector model for normal and dichromatic color vision, 197

## COLOR VISION

Influence of the target size on the detection threshold for luminance and chromaticity contrast, 1116

Large-field substitution Rayleigh matches of dichromats, 778

Loss of color vision and Stiles'  $\pi_1$  mechanism in a patient with cerebral infraction, 1301

Relations between inter- and intra-individual variability of color-matching functions. Experimental results, 1476

Spectral sensitivity in the far peripheral retina, 959

Variation in density of macular pigmentation and in short-wave cone sensitivity with eccentricity, 706

Vector model for normal and dichromatic color vision, 197

## COLOR VISION, DISCRIMINATION

Contrast threshold response of the human eye based on an analysis of the Tiffany data (L), 246

Equations for chromatic discrimination models, 1471

Influence of the target size on the detection threshold for luminance and chromaticity contrast, 1116

Large color differences and the geometry of Munsell color space (L), 243

## COLOR VISION, PHYSIOLOGY

Extrafoveal spectral sensitivity during dark adaptation, 81

Pupil responses to foveal exchange of monochromatic lights, 697

Stiles's  $\pi_5$  color mechanism: tests of field displacement and field additivity properties, 71

## COLOR VISION, PSYCHOPHYSICS

Equations for chromatic discrimination models, 1471

Extrafoveal spectral sensitivity during dark adaptation, 81

Influence of size, shape, retinal locus, and field structure on perceived color (errata), 353

Large-field substitution Rayleigh matches of dichromats, 778

Variation in density of macular pigmentation and in short-wave cone sensitivity with eccentricity, 706

Vector magnitude operation in color vision models: derivation from signal detection theory (L), 870

## REPORT FROM THE PHILATELIC FOUNDATION DELEGATES

**RICHARD E. BERESFORD, CHAIRMAN**

No report has been received.

## REPORT FROM THE SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS DELEGATES

**ROLAND J. ZAVADA, CHAIRMAN**

"Past, Present and Future" was the unifying theme of the Society's 122nd Technical Conference at the New York Hilton, November 9-14, 1980. Highlighting the week was a personal appearance by the Father of Television, Dr. Vladimir K. Zworykin.

Many papers were specifically addressed to color technology:

The Evolution of Eastman Color Motion Picture Films

Higher Speed Fujicolor Negative Film and Improved Fujicolor Positive Film

Relation Between the Effective Exposure Latitude Color Negative Film and the Lighting Parameters

The Forces at Work Behind the NTSC Standards

Predictive Coding of Composite NTSC Color Television Signals

PIL Tubes: The Modern Approach to Color Monitor Design

Test Materials for the Alignment of Telecine Colorimetry

Motion Picture Image Stability

Flying-Spot Scanning on 525-Line NTSC Standards

The Super Color Master Processor for Interchangeable 35/16-mm Films

NTSC Color Field Identification

The Society's Herbert T. Kalmus Memorial Award, which honors the recipient for outstanding contributions in the development of color films, processing, techniques or equipment useful in making color motion pictures for theater or television use, was presented to Alan M. Gundelfinger in recognition of his substantial contributions over fifty years as both chemist and chemical engineer to the development of color films and also his work as an optical engineer applying computer technology to lens design useful in making color motion pictures.

Appended is a list of papers on color published in the SMPTE Journal during 1980.

**CHILDS, IAN and SANDERS, J. RICHARD.** Color operation of a line-array CCD telecine. No. 2, Feb., pp. 100-106.

**PRITCHARD, D. H. and GIBSON, J. J.** Worldwide color television standards — similarities and differences. No. 2, Feb., pp. 111-120.

**BARD, C. C.** Recovery and reuse of color developing agents. No. 4, Apr., pp. 225-228.

**HANSON, W. T., JR.** The evolution of motion pictures in color. No. 7, July, pp. 528-530.

**QUICK, R. F., JR.** A method for exactly decodable PCM color television. No. 8, Aug., pp. 570-573.

**HORIGUCHI, TAKASHI.** New 16-mm Fujicolor reversal films RT500 and RT125. No. 9, Sept., pp. 645-649.

**VERVOORT, A. and STAPPAERTS, H.** A new Gevacolor negative film type 682. No. 9, Sept., pp. 650-652.

**ASAMIZUYA, NOBORU and FUTAI, TATUO.** Color graphics and graphic animation by minicomputer, No. 10, Oct., pp. 721-724.

**HONJYO, KAZUO; SHIMADA, TAMOTSU and SAEKI, YUKIMI.** A reference monitor for white balance adjustment. No. 10, Oct., pp. 727-730.

**ROBERTSON, A. R.** Color error formulas. No. 12, Dec., p. 947.

**ROBIN, MICHAEL.** Addendum to "worldwide color television standards — similarities and differences." No. 12, Dec., pp. 948-949.

## REPORT FROM THE SOCIETY OF PHOTOGRAPHIC SCIENTISTS & ENGINEERS DELEGATES

**RUSSELL H. GRAY, CHAIRMAN**

No report has been received.

## REPORT FROM THE SOCIETY OF PLASTICS ENGINEERS, COLOR AND APPEARANCE DIVISION DELEGATES

**ANTHONY J. PENTZ, CHAIRMAN**

No report has been received.



## REPORT FROM THE TECHNICAL ASSOCIATION OF THE GRAPHIC ARTS DELEGATES CHARLES E. RINEHART, CHAIRMAN

Again the Color Workshop on May 5, 1981, as part of the annual TAGA Conference program offering was the major color activity for TAGA this year.

Color Workshop sessions are a tradition with TAGA, offering those attending an opportunity to identify areas of concern and discuss various viewpoints related to those concerns in an informal, unstructured manner. The focus is color reproduction by photomechanical or electromechanical means.

Five concerns were identified for this year's discussion:

I. Narrow band reflection densitometry, II. Color proofing, III. Effects on separation of various color original dye systems, IV. Differences in video color "soft proofing" and ink-on-paper printed results, and V. Changes in color reproduction quality.

I. Narrow-band reflection densitometry has been introduced to the printing industry by equipment manufacturers. This introduction has received mixed reviews. Two general areas of reflection densitometry application were identified: A. Printing condition analysis using data to define color gamut, hue error, trap efficiency, and masking requirements for the separation function. B. Process control of the production printing press through ink film measurements, trap efficiency, dot gain, and distortion.

Broad-band densitometry using Wratten 25, 58, and 47 filters has been the traditional method of implementing printing condition analysis. Since broad-band response comes closer to human-observer response than narrow (20 nanometer band width) band, a significant loss of analytical capability is expected if narrow-band is adopted and used for this application.

On the other hand, wide-band densitometry for process-control functions has significant limitations, and would be better served with narrow-band equipment.

One participant characterized our problem as mixing physical and psychophysical measurements, an attempt to make them the same. We need to better define our rules of application of reflection densitometry in the mechanical color-reproduction process.

The American National Standards Institute is still working toward a standard spectral response for densitometry in graphic-arts applications. Milt Pearson (RIT) is on this committee. He, alone, represents graphic-arts industry interests on this important committee.

II. The color-proofing discussion was remarkably low key by past standards. Two divergent proofing objectives are at work in the industry: A. A proof that captures dot-for-dot values present in the supplied separation films. B. A proof that simulates the influence of the production press in the reproduction cycle, i.e., a proof that matches the production press-run end product.

At present, these two viewpoints represent an unresolved issue. If both issues are to be answered by any one proofing method, it would call for considerable flexibility in the method. This, in itself, raises a further complexity — can a highly flexible method be predictable and repeatable as well?

A special need for continuous-tone proofing that would apply to screenless printing was raised. This applies primarily to map reproductions. Suggestions were made to try high frequency screen intermediates such as the "Cromalin" gravure proofing technique uses.

One observation concerned the goal of a "perfect" proofing

system. The question was asked, is this a valid objective to pursue, particularly when proofing cost is a major consideration?

III. Effects on separation of various color-original dye systems. This is the classic case of metamerism, where the spectral energy distributions of two like-appearing samples are different. The reproduction of these two samples, if separated together, will be surprisingly different. If separated individually, the separation system can usually be "tuned" to give an acceptable reproduction.

The basis issue is that our instruments do not "see" the original the same way our eyes see it. Therefore, the separator must be able to identify different color-material types so that the appropriate separation-system adjustments can be made prior to separating. Attention was directed to a paper that would be given that afternoon on the subject.

IV. Differences in video-color "soft" proofing and ink-on-paper press-sheet results were discussed. The video color gamut exceeds the SWOP ink gamut. The image contrast potential of each color is also higher than that in ink on paper. Color-gamma adjustment is a critical issue. This requires extensive visual or photometric calibration of the system.

V. Changes in color-reproduction quality within the past decade were summarized in two statements: A. The best color-reproduction quality has not changed to any significant degree. B. The spread of printing quality has narrowed.

In the past, trial-and-error methods to achieve high-quality results were acceptable and even a mark of pride called "craftsmanship." Today's economic limits place the emphasis on predictable quality levels. However, the Japanese level of quality seems to exceed the U.S. average according to one observer. The changing emphasis on craftsmanship, from an artistic focus to a manufacturing-process focus, is a major restraining force in the U.S. industry. This restraint can be seen in early efforts at implementing the new electronic data-based systems. Implementation time, including learning curves, is extended beyond expectations.

General consensus recognizes the major contribution of the color scanner to the significant increase in color printing over the past decade.

## REPORT FROM THE TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY DELEGATES S. J. POPSON, CHAIRMAN

The TAPPI Optical Methods Committee is primarily involved in the development of test methods which will eventually be adopted by TAPPI as official methods. Methods which were approved and published during the last year are:

Spectral Reflectance Factor, Transmittance, and Color of Paper and Pulp (Polychromatic Illumination)

Opacity of Paper

TAPPI Standard Practice for Identification of Instrumental Methods of Color or Color Difference Measurement of Paper, Paperboard and their Ingredients.

Transparency of Paper.

Among the test methods currently under consideration, the following may be of interest to ISCC members:

Color of Paper and Paperboard in CIE Y, x, y, or Y, Dominant Wavelength and Excitation Purity.

Calibration of Reflectance Standards for Hemispherical Geometry.

Diffuse Blue Reflectance Factor of Pulp, Paper, and  
Paperboard.

The next meeting of the TAPPI Optical Methods Committee will be held October 14th in Appleton, Wisconsin. Interested visitors are welcome.

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END - ANNUAL REPORT

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THIS SPACE RESERVED FOR MISSING REPORTS



## NEWS ITEMS OF INTEREST

### GCA ANNOUNCES "SPECTRUM '81"

The Graphic Communications Association of Printing Industries of America, Inc., announces the fourth annual "Spectrum" symposium, Spectrum '81, to be held September 21-23, 1981, at the Registry resort, Scottsdale, Arizona.

Spectrum '81 program chairman and moderator Frank E. Benham, Vice President of Marketing, American Color Press, Phoenix, Arizona, has announced that the theme of this year's symposium will be quality in color reproduction — how to define it and how to obtain it. Quality will be explored from the customer's standpoint and from the producer's standpoint — in both cases, measurement is the key to achieving excellence in color reproduction.

The keynote address on "The Importance of Quality" will be delivered by Jess M. Johns, Chairman and Chief Executive Officer of Eisaman, Johns and Laws, a large, Western based agency with offices in Los Angeles, New York, Chicago and Houston.

The yearly Spectrum symposia are an important element in GCA's effort to improve the level of color reproduction throughout the printing and publishing industries. The Spectrum conferences are unique in that they bring together all the links in the color reproduction chain: the ad agencies and their clients, the separation houses, the publishers, the printers and the suppliers. The industry-wide cooperation fostered by Spectrum has already yielded significant results in the quality of full-color reproduction.

These are among the topics to be covered at Spectrum '81: the customer's perception of quality; the definition of requirements for producers; the editorial attitude toward quality; the printer's deterrents; an update on the GCA proofing paper tests; the Specifications for Web Offset Publications and their possible extension; and a comparison of pre-press preparatory processes.

Spectrum is an unusually effective program. It provides an opportunity for all the links in the color reproduction process to discuss — and *solve* — their common problems in order to achieve a common goal: uniform, high-quality color reproduction.

For further information, please contact Norman W. Scharpf, President, Graphic Communications Association, 1730 North Lynn Street/Suite 604, Arlington, VA 22209. Or call 703/841-8160.

### DETROIT COLOUR COUNCIL

The Detroit Colour Council will present a panel discussion, "Color Measurement for Automotive Applications," in Dearborn, Michigan on September 24, 1981. The panel will explore the usefulness of measured data for developing formulations and assuring compatibility of matched parts. Serving on the panel will be Wes Coppock of ACS, Dr. James Davidson of Macbeth, William Balloon of E. I. duPont Fabrics and Finishes and Donald Hays of Fisher Body Division, General Motors. For information contact the panel moderator, William Longley, Ford Motor Company Design Center, 313-323-3826.

## CALENDAR

### ISCC Annual Meetings

1982: April 19-20 — Charlotte, N.C.

### Williamsburg Conferences

1982: February 7-10                      1985: February 9-13  
1983: February 6-9                      1986: February 7-12  
1984: February 12-15

### Federation of Societies for Coatings Technology

1981: Cobo Hall, Detroit, MI, October 28-30

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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636 Massachusetts Ave., N.E.  
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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 of 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.