

Inter-Society Color Council *News*

ANNUAL MEETING REPORT

REPORT OF THE PRESIDENT FRANC GRUM

This is my first annual report to you, my fellow color enthusiasts, as President of our Council. I am grateful to all of you who have donated time and expertise to the aims and purposes of the Council.

This past year has been a busy one, particularly for the officers and board members. The Board of Directors met three times and dealt with a number of issues. Among the most important issues dealt with were:

1. Changes and/or amendments to the By-Laws and to the standing rules that led to the establishment of the "Student Membership" and to minimal "Student Registration Fee" at annual meetings,

2. One new Member Body and one sustaining Member Group were approved,

3. The Board approved the recommendation of the Study Group for issuance of ISCC Technical Reports. Two such reports were issued in the past year, one emanating from the work of the Project Committee 18 and the other one from Project Committee 22. These reports present valuable information on a given problem, but because of their length, are not suitable for a journal article,

4. The former problems subcommittees have been renamed to more closely reflect their missions.

Our annual meetings and conferences have had a great deal of substance. I am sure that you all agree with me that we had a fine annual meeting in Washington in 1978 and another one just now. We should mention that your experiment to rotate the place of the annual meeting has shown a beneficial effect.

Last February, thanks to R. Kuehni and his associates, we had a fine Judd Memorial Conference on Color Metrics with many experts of international reputation in attendance. We are looking forward to next year's Williamsburg Conference entitled "Helson Memorial Symposium on Chromatic Adaptation." Our plans are well advanced for our meetings and conferences, including an appropriate commemoration of the Golden Anniversary of the Council's founding. This planning is in concurrence with the Study Group's recommendation saying: "Meetings and conferences should be well prepared."

Thanks to our "liaison officer" Ms. Joyce Davenport, the communication and interaction with our Member Bodies is at a commendable level.

Two new standing committees have been established for optimum operation of the Council. One of these is the Arrangements Committee responsible for the technical part of our meetings. This committee is now essential due to the rotation of annual meetings. We are in the process of establishing a Publicity Committee responsible for general publicity on behalf of the Council and for liaison with our Member-Bodies.

Projects committees have been encouraged to select their

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projects carefully and to divide the program into manageable phases. Good progress is noted in most of our projects committees, the details of which we shall hear in the report from the Problems Committee chairman.

Each member of the Board of Directors has been assigned a specific function as director/observer with a standing committee. The purpose of these assignments is to have each board member, at the board meeting, lead a discussion and formulate ideas for advancement and improvement in specific areas of the Council's activity.

More weight and long overdue recognition has been given to the IMG group. Starting today, we will have two IMG representatives serving on the Board of Directors.

I shall conclude this report first of all with a thanks to those of you who have contributed to the Council's vitality and second with an open invitation to all of you to please join in bringing forward your ideas for all the Council's affairs. Only then will the Council reflect the wishes of the membership.

Respectfully submitted,
Franc Grum, President

REPORT OF THE PRESIDENT-ELECT WILLIAM D. SCHAEFFER

No report.

REPORT OF THE SECRETARY FRED W. BILLMEYER, JR.

In January, 1979, the Council elected as Director for the 1979-1982 term Faber Birren, IMG, James G. Davidson, IMG, MCAA/C, OSA, and Bonnie K. Swenholt, IMG/C. It was noteworthy that for the first time Individual Members of the Council were elected to the position as Director, in accord with the 1977 changes in the By-Laws.

In April, Dr. Davidson submitted his resignation as incoming Director and as Chairman of the Arrangements Committee, as a result of the pressure of other activities. In accord with the By-Laws, the Board of Directors elected Robert F. Hoban, AATCC, TAPPI, to fill the remainder of Dr. Davidson's term, which is in fact the entire 1979-1982 term.

Retiring Directors Joyce S. Davenport, Calvin S. McCamy, and Frederick T. Simon were commended by the Board of Directors for their loyal service.

The Council welcomed its thirty-sixth Member Body, the Entomological Society of America, during the year. In addition, the European Gemological Society joined the Council as a Sustaining Member.

At its meeting on April 22, 1979, the Board elected Waldron Faulkner, AIA, as Honorary Member of the Council.

The Board also confirmed the appointments by President Franc Grum of several new Chairmen of Standing Committees: Arrangements, Bonnie K. Swenholt; Membership, Bonnie Bender; Publicity, Joyce S. Davenport.

Further changes in the By-Laws were made during the year to create a category of Student Members and to change the title Problems Subcommittee to Project Committee. These changes and all others made since the latest printing of the By-Laws in 1976 were summarized in a leaflet sent to the membership with a recent Newsletter. Extra copies, as well as copies of the By-Laws, are available from the Secretary's Office.

A new type of report from the Problems Committee, denoted an ISCC Technical Report, was authorized to facilitate publication of Project Committee reports that are too long or otherwise unsuitable for journal publication. ISCC Technical Reports will be reproduced by photocopy and sold through the Secretary's Office. Two such reports were issued during the past year. Publication in a technical journal of a summary of an ISCC Technical Report is encouraged.

A certificate of Appreciation for service to the Council was authorized by the Board of Directors, and appropriate certificates were prepared. Several have been awarded.

The Council reaffirmed its endorsement of the journal *Color Research and Application*. The journal continues to publish outstanding papers, but ISCC members are encouraged to enter their subscriptions at a special member rate.

Members are advised that the 1980 Annual Meeting of the Council will be held at the (downtown) Holiday Inn in Rochester, New York, on April 20-22, 1980. The next Technical Conference at Williamsburg, Virginia, will be the Helson Memorial Symposium on Chromatic Adaptation, February 3-6, 1980. The Board of Directors will next meet on September 16, 1979, February 3, 1980, and April 19, 1980.

It is with deep regret that I report the passing of many loyal Council members and warm friends during the year. Those known to my office are listed in alphabetic order: Franklin R. Bruns, APS; Waldron Faulkner, for many years AIA/C, HON, and Chairman of the Project Committee on Color in the Building Industry; Howard T. Fisher, IMGR; Kasson S. Gibson, HON; Albert Halse, AIA; Harry Helson, resigned at the time of his death, recipient of the Godlove Award 1969; Norman Macbeth, IES, IMG, Treasurer of the Council 1940-1970, President of The Munsell Color Foundation, recipient of the Godlove Award 1971; Sidney M. Newhall, HON; and Emil Wich, DCMA. May they rest in peace, and may our memories of their friendship not fade.

REPORT OF THE TREASURER S. LEONARD DAVIDSON

Last year I reported that it might be necessary to increase dues because the budget that was adopted by the Board of Directors indicated that our expenses would exceed our income by \$3,500. I must report that the budgeted expenses exceeded our income by \$1,500. The interest we received on the money in savings accounts was \$1,055. If this amount is added to our income, the total difference is \$450. Accordingly, when the budget for 1979 was prepared and subsequently approved by the Board of Directors, no increase in dues for 1979 was proposed.

The comparison of income and expenses shows that expenses exceeded income by almost \$6,000. This was due to

the purchase of covers for the Newsletter for five years and the cost of printing the membership list. We are amortizing this cost over a five year period so the remaining \$4,092 is shown as an asset. The membership list will not be reprinted for another year.

With the 4 year supply of Newsletter covers listed as an asset, we have a decrease in assets of the Council of \$240.

We have attached the Income and Expenses Reports of the Williamsburg Conference and the Annual Meeting. It was very pleasing to show that Income exceeded Expenses by almost \$2,000. It appears that there was no reason to concern the Council by holding the Annual Meeting outside of New York City.

It is also pleasing to note that there was no loss from the Williamsburg Conference.

The \$551.61 shown is income from Color '77 held at R.P.I. All bills have been paid and the \$551.61 is what remained.

The dues accounts for 1978 and 1979 show that we had 589 IMG members, 18 retired members, 5 student members, 1 sustaining member and 36 memberbodies as of February 1, 1979 when the dues statements were sent out.

Although we lose some of our IMG members, most of them are replaced by new ones so our membership has not changed appreciably.

The last report in this package is the Budget for 1979. If our projected income is received and we stay within budget, an excess of income over expenses of \$77 will ensue. Income budgeted for 1979 has been the amounts we received in 1978 except for the '79 Williamsburg Conference, because the Colonial Williamsburg bill is still outstanding.

There is a new account. This is for Project Committee 37 and is the result of contributions by several of its members to cover incidental costs of the Committee.

To sum up, we held our own financially in 1978 and are projecting that we can report the same for 1979. If inflation does not affect us, we should still hold the line on dues for 1980.

I want to thank the members of the Finance Committee for their guidance and assistance during 1978. So, to make it official, thank you Mr. George Gardner, Mr. Robert Hoban, Mr. Warren Reese, and Miss Midge Wilson.

I am taking this opportunity to thank my fellow officers, the Board of Directors and all the members of the Inter-Society Color Council for their cooperation during 1978 and for giving me the honor of serving as your Treasurer.

Respectfully submitted,

S. Leonard Davidson

Treasurer and Chairman of the Finance Committee

ASSETS AND LIABILITIES DECEMBER 31, 1978

Assets

Cash in bank — Regular Checking Account	\$10,213.38	
Cash in bank — Regular Savings Account	4,439.61	\$14,652.99
Certificates of Deposit		12,018.70
Prepaid Insurance		97.33
News Letter Covers		4,092.00

Unpaid Dues — Billed 1978	1,277.00
Total Assets	\$32,138.02
Liabilities	
I.H. Godlove Fund (in Checking Account)	62.20
Project Committee 37 (in Checking Account)	350.00
Prepaid Registrations 1979 Williamsburg Conference (Net)	10,228.60
Total Liabilities	\$10,640.80
Difference	21,497.22
Balance I.H. Godlove Fund	895.66
Project Committee 37	350.00
Total Assets	\$22,742.88

	1977 ¹	1978 ²
Total Assets	\$22,983.46	\$22,742.88

¹Includes \$1,232.00 in Unpaid IMG and Memberbody Dues

²Includes \$1,277.00 in Unpaid IMG and Memberbody Dues

1978 GENERAL FUND

Income

Dues — IMG and Memberbodies		\$11,471.50
Publication Sales		
Newsletter and Reprints	\$ 742.50	
Royalties	<u>128.51</u>	871.01
Annual Meeting		
Registration, Reception and Luncheon	7,120.00	
Meeting Expenses	<u>(5,141.01)</u>	1,978.99
Williamsburg Conference 1978		
Registration (includes 1977 Income)	15,389.15	
Colonial Williamsburg and Printing	<u>(15,094.72)</u>	294.73
Color '77 (From Savings Account)		551.61
Total Income		\$15,176.84

Expenses

President's Office	\$ 118.90
Secretary's Office	3,071.75
Treasurer's Office	569.21
Board of Directors	809.29
Newsletter	8,574.27
Bank Charges	43.74
Newsletter Covers (5 years)	5,115.00
Printing Membership List	1,461.50
Seal Embosser	194.25
AIC Dues	50.00
Logo Design	24.50
Audit — 1976	400.00
Audit — 1977	400.00
Miscellaneous	<u>332.05</u>
Total Expenses	\$21,164.46
Excess of Income over Expenses	(\$ 5,996.62)

Interest

Savings Account	\$ 216.62	
Certificates of Deposit	<u>839.33</u>	\$ 1,055.95
Total Excess of Income over Expenses		(\$ 4,940.67)

DUES AND SUBSCRIPTIONS BILLED — 1979

Number	Rate Per Year	Amount	Total
IMG 1979			
526 Active	\$15	\$ 7,890	
62 Active	20	1,260	
17 Retired	7	119	
1 Retired	12	12	
5 Students	7	<u>35</u>	\$ 9,316
612			

Memberbodies 1979

36	75	2,700
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Sustaining Members 1979

1	75	<u>75</u>
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Total Billed 1979 **\$12,091**

CARRIED FORWARD — 1978

IMG 1978			
64 Active	15	960	
8 Active	20	160	
1 Retired	7	<u>7</u>	1,127

Memberbodies 1978

2	75	<u>150</u>
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TOTAL 1978 **\$ 1,277**

TOTAL BILLED **\$13,368**

I.H. GODLOVE AWARD FUND

Income

Interest Savings Account	\$ 49.17
Total Income	49.17

Expenses

None	<u>0.00</u>
Total Expenses	0.00
Excess of Income over Expenses	\$ 49.17

Fund Balance

Balance Dec. 31, 1977	\$ 846.49
Excess of Income Over Expenses	<u>49.17</u>
Balance Dec. 31, 1978	\$ 895.66

Assets

Savings Account	\$ 833.46	
Due From General Fund	<u>62.20</u>	
TOTAL		\$ 895.66

PROJECT COMMITTEE 37 FUND

Income

Contributions	\$ <u>350.00</u>	
Total Income		\$ 350.00

Expenses

None	<u>0.00</u>	
Excess of Income over Expenses		\$ 350.00

1978 ANNUAL MEETING

Income

Registrations 188 @ \$20.00	\$ 3,760.00	
Registrations 4 @ N.C.	0.00	
Lunches 130 @ \$15.00	1,950.00	
Lunches 2 @ N.C.	0.00	
Reception 141 - \$10.00	<u>1,410.00</u>	
Total Income		\$ 7,120.00

Expenses

Printing and Mailing	\$ 262.93	
Meeting Rooms	250.00	
Lunches	1,684.25	
Projection Equipment	420.38	
Smithsonian Institute	24.00	
Marriott - Reception	942.80	
Gratuities	400.00	
Program Committee Expense	884.98	
Miscellaneous	<u>271.67</u>	
Total Expenses		\$ 5,141.01
Excess of Income over Expenses		\$ 1,978.99

**WILLIAMSBURG CONFERENCE
FEBRUARY 5-8, 1978**

Income

Registrations less refunds	\$15,389.15	
Total Income		\$15,389.15

Expenses

Colonial Williamsburg	13,992.23	
Printing and Mailing	533.24	
Folders	319.25	
Miscellaneous	<u>250.00</u>	
Total Expenses		\$15,094.72
Excess of Income over Expenses		\$ 294.43

1978 DUES ACCOUNT

	<i>Billed</i>	<i>Received</i>
Memberbodies	\$ 2,775	\$ 2,550
IMG (Individual Member Group)	<u>11,850</u>	<u>8,922</u>
Total	\$14,625	\$11,472
TOTAL BILLED	\$14,625	
WRITTEN OFF	(1,832)	
RECEIVED 1/1/78 -		
12/31/78	(11,472)	
BANK CHARGES	(44)	
CARRIED FORWARD		\$ 1,277

**REPORT OF THE FINANCE COMMITTEE
S. LEONARD DAVIDSON, CHAIRMAN**

1979 Budget

	<i>1979 Budget</i>	<i>Budget</i>	<i>1978 Actual</i>
Income			
Memberbody Dues	\$ 2,700	\$ 2,325	\$ 2,550.00
IMG Dues	9,000	9,300	8,921.50
Annual Meeting (Net)	1,800	700	1,978.99
Williamsburg '79 (Net)	1,500		
Williamsburg '78 (Net)		300	294.73
Color '77			551.61
Other	<u>700</u>	<u>500</u>	<u>871.01</u>
Total Income	\$15,700	\$13,125	\$15,167.84
Expenses			
President's Office	\$ 200	\$ 200	\$ 118.90
Secretary's Office	3,200	3,000	3,071.75
Treasurer's Office	600	500	569.21
Board of Directors	500	500	809.29
Newsletter	9,000	9,000	8,574.27
Audit	400	400	400.00
Project Committee	150	150	0.00
Printing Membership List		1,400	1,461.50
Newsletter Covers-			
Amortization	1,023	930	1,023.00
Miscellaneous	<u>500</u>	<u>500</u>	<u>585.80</u>
Total Expenses	\$15,623	\$16,630	\$16,663.72
Excess of Income over Expenses	\$ 77	(\$ 3,505)	(\$ 1,495.88)

**FINANCIAL REPORT
DEANE B. JUDD MEMORIAL CONFERENCE
FEBRUARY 12-14, 1979
WILLIAMSBURG, VIRGINIA**

Income

Registrations (Less Refunds)	\$22,959.00
Total Income	\$22,959.00

Expenses

Colonial Williamsburg Foundation	18,213.48	
Printing and Mailing	975.52	
Luncheon Speaker — Fee	300.00	
Luncheon Speaker — Expenses	106.00	
Gratuities	200.25	
Bank Charges	55.20	
Total Expenses		19,850.55
Excess of Income over Expenses		\$ 3,108.55

The preceding report is a comparison of the income received with the money expended for the Deane B. Judd Memorial Conference held February 12-14, 1979 in Williamsburg, Virginia.

It was anticipated that the rates charged by the Colonial Williamsburg Foundation would be 5% higher than was billed. Further, there were no expenses for the Souvenir Folder and the Program. The costs of these items were borne by Verona Dyestuff Division, Mobay Chemical Company. If these charges are deducted from the difference in income and expenses, approximately \$1,200, we would have approached the \$1,800 we have shown in our 1979 budget.

REPORT OF THE MEMBERSHIP COMMITTEE CALVIN S. McCAMY, CHAIRMAN

No report.

REPORT OF THE PUBLICATIONS COMMITTEE WILLIAM BENSON, CHAIRMAN

In order to improve the match between the needs of ISCC members and the content of the newsletter, a survey of the members was conducted by Edward L. Cairns, a member of the committee. A brief report of the findings of the study appeared in the January-February issue (No. 258). Plans are being made to seek items that will make the newsletter more interesting and useful to members. As always, we encourage your contributions.

REPORT OF THE 1979 ANNUAL MEETING

The 48th Annual Meeting of the ISCC was held in the Roosevelt Hotel, New York City, on April 22-24, 1979. The meeting opened with a Sunday evening reception at the Showroom of the noted designer, Jack Lenor Larsen. The felicitous event was hosted by the Metropolitan Chapter of the American Society of Interior Designers, and was enjoyed by more than a hundred attendees. Special thanks are due to Barbara Schirmeister, ASID, for arranging this reception.

On Monday, April 23, the Project Committees of the ISCC Problems Committee held their traditional open meetings. This year fifteen committees met for either 1½ or 3 hours each, in five simultaneous meeting locations. The usual complaints over the need for so many overlapping meetings were anticipated and received, but the members must realize that to eliminate them would require a full three 10-hour days devoted solely to this feature of the Annual Meeting. The Board of Directors, caught between the proverbial rock and hard place, feels that this alternative would be less satisfactory than the present one, but is still seeking the best compromise. Mini-symposia presented by the Project Committees have be-

come steadily more popular, and those presented this year, by the Committees on Human Response to Color, Color in the Building Industry, Artists Materials, and the Colorimetry of Fluorescent Materials, were well organized and popular.

The program on Monday concluded with a special motion picture and slide presentation prepared by Ms. Lillian Schwartz, Resident Visitor, Bell Telephone Laboratories and a member of the Advisory Committee of the Mason and Gross School of Performing Arts at Rutgers University. Her program was entitled "Computer-Controlled Film and Video — Adapting New Technology for Art." The application of computer technology as a medium for art was explored in terms of a number of films that were created with computer techniques. Each film was chosen to illustrate different features of the medium.

On Tuesday morning, a Symposium on "Color in Motion Pictures and Television" was held in the Grand Ballroom of the hotel beginning at 8:30 a.m. This symposium was sponsored by the Society of Motion Picture and Television Engineers and chaired by Richard Bauer. With Daan M. Zwick substituting at the last minute for Earl W. Kage, whose illness prevented his presenting his paper "Was the Dress that Color?," the program was the following:

"Color Reproduction in Motion Pictures and Television"—LeRoy E. DeMarsh

"Viewing Films Intended for Television"—Daan M. Zwick

"Television: Does Color Make the Jokes Funnier?"—E.

Carlton Winckler

"Excess Color Temperature Shifts in Motion Picture Screen Images, or Why is it Green on the Silver Screen?"—Glenn M. Berggren

"The Wheres and Whyfors of Film Color Variability"—Frederick C. Franzwa

After a brief recess, the Annual Meeting Luncheon was convened in the adjacent Oval Room, with Mr. Franc Grum, President, presiding. After the luncheon, the 1979 Godlove Award was presented to Dr. Gunter Wyszecki. The Award Citation found elsewhere in this issue was read by Dr. Alan R. Robertson. Dr. Wyszecki then spoke briefly on "Color as Seen by a Scientist."

Immediately after the luncheon Mr. Grum convened the Annual Business Meeting of the Council in the Grand Ballroom. The Minutes of the meeting follow this report.

The final event of the 48th Annual Meeting followed at the close of the business meeting: a Symposium chaired by Mr. Jon Hall, IMG, on "Selecting Colors for Automobiles." The following brief presentations were made:

"An Overview of Automotive Color Design at General Motors"—Walter Walker, General Motors Corp.

"Mastering: Making Color Work in Production"—John Hertliz, Chrysler Corp.

"Color: Why We Do What We Do"—Vincent Gerati, American Motors Corp.

A lively question-and-answer period followed these beautifully illustrated talks. The sizeable audience, evidently enjoying the discussion, stayed to the end, with the Annual Meeting adjourning at 4:30 p.m.

Responses from ISCC members since the Annual Meeting indicate that General Chairman Calvin S. McCamy and his committee produced one of the most popular and well received ISCC Annual Meetings in recent years.

Fred W. Billmeyer, Jr.

MINUTES OF THE ANNUAL BUSINESS MEETING

The 1979 Annual Business Meeting of the Inter-Society Color Council was called to order by President Franc Grum at 2:10 p.m., Tuesday, April 24, 1979, in the ballroom of the Roosevelt Hotel, New York City.

Reports were given by Mr. Grum, President; Dr. William D. Schaeffer, President-Elect; Dr. Fred W. Billmeyer, Jr., Secretary; and Mr. S. Leonard Davidson, both as Treasurer and (to present the 1979-1980 budget) as Chairman of the Finance Committee. As required by the By-Laws, the report of the Finance Committee was approved by majorities of the Voting Delegates present.

Reports were then presented by the Chairmen of the following Standing and ad-hoc Committees: Dr. William Benson, Publications; Dr. William D. Schaeffer, Problems; and Miss Joyce S. Davenport, Member-Body Liaison. Because of recent changes in the chairmanship of the Arrangements and Membership Committees, there were no reports from these groups.

Written reports corresponding to most of the above oral reports will be found elsewhere in this issue of the Newsletter.

There being no further business, Mr. Grum declared the meeting adjourned at 2:45 p.m.

Respectfully Submitted,
Fred W. Billmeyer, Jr.
Secretary

REPORT FOR THE BOARD OF DIRECTORS

Actions taken at the April 16, 1978 meeting:

Approval was given to add the Philatelic Foundation and the American Philatelic Society as member bodies.

The recommendations of the Study Group were accepted and the Standing Committee Chairmen were instructed to proceed with the recommendations. The recommendations are to improve the format and quality of the Annual Meetings, to reconstruct and/or rename the Problems "Subcommittee," to alternate the Annual Meeting place between New York City and other cities and to initiate long range planning for more effective conferences.

The secretary, Fred Billmeyer, announced his hope to resign as secretary as soon as a suitable replacement can be found and an orderly transition made.

An amendment to the Standing Rules was made: "Article SR IV-Board of Directors, Section I. If a member of the Board of Directors is absent from three consecutive meetings of the Board without prior written notices to the President or Secretary, his office will be considered vacant."

The topic of the 1980 Annual Meeting in Rochester, New York was selected to be "Art, Science and Industry in Color Imaging."

The Board made some clarifications regarding Subcommittee 36, Color Acceptability Standards, asking a change of title and scope to make it clear that neither the Subcommittee nor the ISCC was making any effort to set standards.

The Board accepted the concept of publishing ISCC technical reports and authorized the publication of reports from the Problems Subcommittees that are too long or otherwise unsuitable for journal publication.

Approval was given to set the registration fee for full-time students at any Annual Meeting at the nominal rate of \$1.00.

Actions taken at the October 22, 1978 meeting:

Certificates of Appreciation designed and produced to be issued to people for services rendered to the ISCC were issued to Mr. Jerome, Dr. Hemmendinger, Mr. Spilman, Mr. Styne and approved for Mr. Proctor as the designer of the certificate.

The secretary agreed to periodically submit delegation changes to the Newsletter for publication.

The Board requested Dr. Schaeffer and Mr. Davidson to meet with Mrs. J. T. Luke, Chairman of the Committee on Artists Materials to clarify the position of the ISCC with regard to work on labeling of cadmium pigments, and the attendant legal aspects, government regulations and adversary positions with other organizations regarding the toxicology aspects of artists materials.

Group IV of the Problems Committee, Pictorial Reproduction Projects, was dissolved and the one committee in it, Image Technology, was moved to Group III, Color Science Projects.

Dr. Gunter Wyszecski was nominated by the Godlove Award Committee for the 1979 Godlove Award and the nomination was adopted.

Dr. Billmeyer was authorized by the Board to act on behalf of the ISCC to request funding from the NSF for the 1980 Helson Memorial Symposium on Chromatic Adaptation.

The Board approved a motion that the fall Board Meeting be held at the site of the following Annual Meeting, except when the latter is at a familiar location and that they be held in September to facilitate the annual election of officers.

Mr. Grum announced the position of Director/Observer "to bring to the attention of the Executive Committee and/or Board problems that may have arisen so that we can work together for the solution of such problems and hence strengthen the overall activity of the Council."

Mr. Grum noted that in some cases the scopes and objectives of the Standing Committees appeared in the By-Laws, but in other cases they are buried in the archival records. He asked each committee chairman to look up or formulate, in writing, the goals of his committee before the next Board Meeting.

Actions taken at the February 11, 1979 meeting:

The European Gemological Laboratory was approved as a Sustaining Member.

Mr. Grum, President of ISCC, was given authority to establish a Standing Committee on Publicity.

Mr. Grum requested that the Secretary make a practice of going through the minutes to identify all matters needing action before the next Board Meeting and list them at the end of the meeting minutes.

The Board approved the establishment of an ISCC Committee on Philatelic Color Designations sponsored by the American Philatelic Society with Dr. Donald MacPeck, APS/C, as Chairman.

—Submitted by Franc Grum

Meeting of the ISCC Board of Directors, April 22, 1979

The Board met prior to the Annual Meeting of ISCC, held this year at the Roosevelt Hotel, New York City. Among the several guests present at the meeting by invitation of President, Franc Grum, was Mr. Warren B. Reese. Mr. Reese was requested to present a brief memorial to Mr. Norman Macbeth, Treasurer of

the Council for 30 years, who died in Rio de Janeiro on March 14, 1979.

New assignments have been given to the following Board members by the President:

F. Birren – liaison director to the Art and Design Group of Project Committees.

T. Commerford – liaison director to the Science and Measurement Group of Project Committees.

B. Swenholt – Chairman of the Arrangements Committee.

B. Bender – Chairman of the Membership Committee.

The Study Group under the chairmanship of Dr. Alan Robertson, has been renamed the "Planning Group." The Group's first report made several recommendations for increasing member interest in the Council and its Annual Meeting. These recommendations are now under study for implementation. The Group is currently planning special programs and events for celebration of the Council's 50th anniversary in 1981.

F. Grum, the ISCC appointed Special Trustee, reported the election of Mr. W. B. Reese as President and Trustee of the Munsell Color Foundation. Newly elected Trustees include C. S. McCamy, M. V. Orna and G. Wyszecki, with B. R. Bellamy and D. Nickerson elected Trustees Emeritus.

Dr. William Schaeffer, Chairman of the Problems Committee, reported a new title and scope were approved for Project 22, formerly Material Standards for Accurate Color Measurement. The new title for this project is, "ISCC Committee on Materials for Instrument Calibration." The scope is as follows:

To study and recommend suitable reference optical materials, procedures for their use, and other pertinent techniques for the calibration of color measuring instruments. To promote improved precision and accuracy in industrial color measurement through proper calibration and use of instruments.

The Board unanimously approved the nomination of Mr. Waldron Faulkner as an Honorary Member of the Council. Mr. Faulkner has served the Council well for many years as a member, as Chairman of the Delegation from the American Institute of Architects and as Chairman of Project Committee 30, Color in the Building Industry.

The Board regretfully accepted the resignation of Dr. James Davidson as a Director. ISCC By-Laws specify that the Board elect a Director for the unexpired term (three years in this case). The Chairman of the By-Laws Committee, Mr. S. L. Davidson, stated that nominations for Director be made in writing and moved that nominations be closed in 30 days, and the election be completed in 60 days from the date of the Board meeting. The motion carried.

President Grum expressed his thanks and those of the Board of Directors to the three retiring Directors, Joyce Davenport, Cal McCamy and Fred Simon. Incoming Directors are Bonnie Swenholt and Faber Birren.

–Submitted by Therese R. Commerford

REPORT OF THE GODLOVE AWARD COMMITTEE NORMAN MACBETH, CHAIRMAN

Godlove Award Citation – A.R. Robertson

Mr. President,

Ladies and gentlemen, it is my very great pleasure to introduce to you today the recipient of the 1979 Godlove Award of

the Inter-Society Color Council, Dr. Gunter Wyszecki of the National Research Council of Canada.

The Godlove Award was established in 1956 by Mrs. Margaret N. Godlove in memory of her husband, Dr. I.H. Godlove. The Award is given for outstanding contributions to the subject of color judged in the light of the Aims and Purposes of the Inter-Society Color Council as given in its Constitution. The contribution may be direct, it may be in the active practical stimulation of the application of color, or it may be an outstanding dissemination of knowledge in color by writing or lecturing.

Gunter Wyszecki received his university training in mathematics at the Technical University of Berlin, culminating in a Dr.-Ing. degree in 1953. The subject of his doctoral thesis was normal and anomalous trichromacy. He received a Fulbright Scholarship to work with Dr. Deane Judd at the National Bureau of Standards in Washington from 1953 to 1954, and then from 1954 to 1955 returned to Berlin to work in Dr. Manfred Richter's colorimetry laboratory at the Bundesanstalt für Materialprüfung.

Since 1955 Dr. Wyszecki has worked at the National Research Council in Ottawa, where he is now a Principal Research Officer and Head of the Optics Section of the Physics Division. Under his leadership and direction during this time, the Optics Section of NRC has become one of the world's leading groups in colorimetry, color vision, photometry, radiometry, and related fields.

He is, perhaps, best known for his leadership of the Colorimetry Committee of the Commission Internationale de l'Eclairage (International Commission on Illumination), usually known simply as "the CIE." Dr. Wyszecki was Chairman of this Committee from 1963 to 1975. During this time the Committee developed many important recommendations in colorimetry, including 1 nm tables of the color-matching functions of the 1931 and 1964 Standard Observers, 1 nm tables of Standard Illuminants A and D65, the addition of integrating-sphere geometries to the recommended geometries for color measurement, the change from smoked magnesium oxide to the perfect diffuser as the primary standard for reflectance factor measurements, the 1964 ($U^*V^*W^*$) uniform color space and color difference formula, the 1976 CIELUV and CIELAB uniform color spaces and color-difference formulae, and the Special Metamerism Index for changes in the relative spectral composition of illuminants. The Committee also conducted important studies of standard daylight sources, chromatic adaptation, whiteness evaluation, and color terminology, all of which are continuing and are expected to lead to further new recommendations.

Dr. Wyszecki is now Vice-President of the CIE and Chairman of its Action Committee, which is responsible for initiating and coordinating the work of all the CIE Technical Committees and Study Groups. He is also a member of the Executive Research Committee of the Illuminating Engineering Research Institute, a past Director of the ISCC, and a Fellow of both the Optical Society of America and the Illuminating Engineering Society of North America. He played an active role in the establishment of our sister society, the Canadian Society for Color in Art, Industry and Science and, in 1972, became its first President. In 1975 he received the Merit Award of the Society.

He is the author or co-author of over eighty publications whose major concentration is on metamerism, color matching,

heterochromatic brightness and lightness matching and color discrimination. These publications range from highly theoretical mathematical treatises such as his 1968 paper (with W.S. Stiles) on "Intersections of the spectral reflectance curves of metameric object colors" to reports of extensive and elaborate experimental studies such as his 1971 papers (with G.H. Fielder) on "New color-matching ellipses" and on "Color-difference matches."

Two of his three books have become standard texts in the field, and there can be few color scientists around the world who do not have copies of both of them on their shelves. He co-authored (with Dr. D. B. Judd) the second and third editions of "Color in Business, Science and Industry." This text has proved so important that it has now been translated and republished in both Japanese and Russian. Dr. Wyszecki's other major book "Color Science: Concepts and Methods, Quantitative Data and Formulas," co-authored with Dr. W.S. Stiles of the National Physical Laboratory of the United Kingdom, was first published in 1967 and has become an equally valuable source of information to color scientists.

In addition to his activities in International and National Committees and Societies and his numerous publications, many of us know Dr. Wyszecki for his incisive questioning and commentary at conferences and colloquia on color. He has uncanny ability to get to the heart of a matter by penetrating through the often confused and irrelevant words of others, less gifted, so that the prime and central issue is exposed and clearly expressed. This, surely, is one of the secrets of his success as a leader in our field.

Finally, if I may be permitted to add a personal note, I would like to mention my gratitude for Dr. Wyszecki's advice and guidance during my thirteen years at the National Research Council. I have benefitted immensely from his ability to sort the wheat from the chaff and to point out which lines of work were likely to be fruitful and which would be a waste of time.

Mr. President, I am very pleased indeed to present to you, on behalf of the 1979 Godlove Award Committee (the late Norman Macbeth, Jr. [Chairman], Hugh Davidson, Joy Turner Luke, Bonnie Swenholt, and Linda Taylor) our unanimous recommendation that the 1979 Godlove Award be presented to Dr. Gunter Wyszecki for his exceptionally important contributions to color research and color science.

COLOR AS SEEN BY A SCIENTIST GUNTER WYSZECKI

Mr. President, Ladies, and Gentlemen:

When our President, Mr. Franc Grum, approached me a few months ago with regard to giving an after-lunch speech at this annual meeting of the Inter-Society Color Council it became clear to me very quickly that refusing his request would be difficult, if not impossible. Obviously a free lunch was at stake, and moreover, the moral obligation created by the presentation of the Godlove Award was simply too great to be ignored. In all fairness to Franc I must emphasize that he did not resort, this time, to undue pressure, or blackmail, or any other kind of arm-twisting-methods; but nonetheless his persuasive power was quite evident and, as you have already guessed, I succumbed by saying that I was greatly honored and would do my best to give an after-lunch speech hopefully to his satisfaction and to those who care to listen.

Then came the choice of topic. That, I recall, was surprisingly easy, and, in retrospect, proves my ignorance in matters of after-lunch speeches. It had to be something light, entertaining, yet informative, and, of course, related to color in some way. Therefore, what other topic is there than the one dealing with the question of "What is Color?" Obviously, everybody knows that nobody knows what color really is. Yet this universal ignorance serves as a remarkably strong bond and creates an irresistible urge to communicate with others on this inexplicable and mysterious phenomenon we have agreed to call "color."

The universal ignorance regarding color is clearly evidenced by the very existence of the Inter-Society Color Council, the Canadian Society for Color, the British Colour Group and several other societies in other countries around the world which have been formed to seek the answer to the question "What is Color?" as it is written, not in the sky, but in the mind of everyone of us.

Fortunately, this is not a "life and death" question and the ultimate answer is not required today or tomorrow. In fact, I am hopeful that the answer will never be found. Just consider the consequences, if the answer would be found today. Our wonderful Inter-Society Color Council and all those other wonderful other Societies around the world, including the Association Internationale de la Couleur, would all cease to exist. They would have to disband their activities, for their very purpose of existence would have evaporated. Color would have become "old hat." Everybody would know that everybody knows what color is and thus there would be no need to discuss the matter further.

After having said all that we can happily proceed – without risk of finding the answer to "What is Color?" – and review the obvious dilemma, which has brought us together in the past, which has brought us together today, and which will bring us together again in the future.

The fact that everybody knows that nobody knows what color really is becomes a "law of nature." And, as I have implied earlier, it is a good law of nature, which guarantees our existence and our livelihood and which ensures that all of us can derive a great deal of fun and pleasure from our relentless pursuit of color.

Of particular interest then, is the way we pursue and explore color.

Clearly there are two main ways to do it, and these are the *way of the artist* and the *way of the scientist*. A number of variants exist, such as the *way of the designer* and the *way of the psychologist*. But these variants commonly overlap with the way of the artist and/or the way of the scientist, and today we shall not pursue these variants in any detail.

Now then – what is the way of the artist, and what is the way of the scientist? How does the artist see color, how does the artist pursue color, and how does it differ from the way of the scientist?

This is by no means an easy question but, I believe, an interesting one and one which is particularly relevant to a group of "color worshippers" such as we all are.

I had to make a considerable effort of research to collect evidence suitable for arriving at a useful answer to that question. Needless to say, my scientific background, however limited it may be, has helped me greatly in my research and it gives me some pleasure to report to you my findings.

In a truly scientific approach, I first tried to discover anatomical differences between the artist and the scientist which might offer any clues as to the differences that exist between their respective ways of seeing color. The eye is the obvious organ to start such a search. *Slide 1* shows an example. After having looked at and into many eyes of artists as well as scientists around the world – sometime this was not without taking great personal risk – I had to conclude with considerable regret that there was no discernible difference between the eye of an artist and that of a scientist. Even extracted eyeballs, carefully subjected to comparative measurements offered no clues. For either eye, that of the artist and that of the scientist, I discovered that all the ocular media had, in the average, identical properties. Shapes, sizes, refractive indices, dioptic powers of the various surfaces, and location of focal points were the same for the two eyes. Also, when I probed the retina on which colored objects are imaged, I found no clues. Both eyes had identical retinæ, composed of the same number of cones and rods and a network of cells and nerves intricately interwoven to generate, code, and transmit signals concerning the image of the colored object imposed on the retina.

These results were obviously disappointing to say the least. Despite the effort and the tremendous sacrifice on the part of all those many artists and scientists who “lost” an eye in the course of this investigation, I was unable to distinguish between the two ways of seeing colors. Fortunately, we were able to refit the donors of eyes with new “bionic eyes” and thus you will not notice any traces of my investigation of any of my subjects, though quite a few are here today in the audience.

A distinguished colleague of mine, who wishes to remain anonymous, suggested that I should have used a “control group” of eyes to ensure that my comparative measurements were indeed valid. This was valid criticism and I repeated my measurements on extracted eyes of people who, beyond any doubt, have no professional interest in color, and in any event are generally considered to have only a very limited aptitude in art and science. Politicians proved to be an excellent and most appropriate “control group.” But, again, I regret to report to you that the comparative measurements yielded identical results. The only difference I discovered in the eyes of the politicians, was a relatively high incidence of myopia (short-sightedness), the kind that cannot be corrected by glasses or contact lenses.

The negative results of my investigation of the eyeball did not stop me from pursuing the matter further. The obvious next step was a study of the optic nerve and its end station in the cortex, that important part of the brain known to be the processing center of all those signals coming from the retina in the eyeball.

Here I encountered difficulties of a different kind. It was easy to get at the cortex of an artist or a scientist, even easier to get at the cortex of a politician. A good chisel, saw and hammer sufficed. However, my probing tools were quite clearly of insufficient technological sophistication to be useful. Science and technology simply have not developed far enough to permit detailed comparative measurements to be made in the brain. The neural network in the brain is so complex and delicate that any attempts to unravel its structure have failed so far.

That meant that I had to analyze the responses of the brain, as they reveal themselves in the spoken and written words as

well as in works produced by the artist and by the scientist.

As all of you will agree, there is a wealth of material to be analyzed. I have listened to many artists, I have read some of their books, and I have looked at a great number of their works, particularly their paintings. Similarly, I have listened to lectures by scientists, have read their papers and books, and have seen the laboratories in which they work. My studies and my close associations with artists and scientists have given me an insight into the way the artist sees color and into the way the scientist sees color.

In the short time available to me at this after-lunch speech, it is, of course, impossible to give you a comprehensive display of examples which demonstrate the artist’s way and the scientist’s way. However, I have chosen a few examples which, I believe, will bring across the point I wish to make.

Let’s look at a few pictures, almost randomly selected from the many thousands of pictures that we could choose from:

Slide 2 A bouquet of flowers by J. Brueghel

Slide 3 A color composition (without title) by J.-P. Riopelle (1952)

Slide 4 A flower – an iris – by V. van Gogh

Slide 5 A tri-violet mutation by G. Molinari (1966)

Slide 6 A still life by O. Leduc (1893)

Slide 7 A composition by P. Mondrian (1936-42)

Slide 8 A sunset by T. Thomson (1955)

All these pictures speak to us, like poetry and music, and it is not surprising that we find in the literature well-formulated descriptions of color and its role in art. And I quote from Johannes Itten:

“The word and its sound, form and its color, are vessels of a transcendental essence that we dimly surmise. As sounds lend sparkling color to the spoken word, so color lends psychically resolved tone to form.”

“The primeval essence of color is a phantasmagoric resonance, light become music.”

This is all very exciting, but to a scientist not entirely satisfactory, because it does not offer any concrete clues as to how the artist sees color and how the artist chooses color in his (or her) pursuit to create a painting such as those we just saw. Can we extract such clues from the evidence, can we analyze the evidence further?

I have given the matter some thought and I consulted artists on it. Not infrequently, I was told that my curiosity and my scientific approach were inappropriate and indeed futile because –

“at the moment when scientific thought, scientific concept and analysis, touch upon color, its spell is broken, and we hold in our hands a corpse.”

I hate corpses! Yet I cannot accept the notion that color in art is taboo to the scientific mind.

Fortunately, I am not entirely alone with my view, and there are also artists I have met who share my view that color in art and the artist’s way to color can indeed withstand a closer examination without danger of collapsing and becoming a corpse.

I believe that the artist’s aim is to create “aesthetic color effects” which address our visual sense, and through it our mental and spiritual response systems. Quite clearly, color as utilized by the artist affects our emotions.

If we accept this as our basis for further study we readily appreciate that the languages of color used by artists are complex and difficult to interpret. Indeed they often defy logic.

Here are some examples about hues:

"Yellow is the most light-giving of all hues. It pertains symbolically to understanding and knowledge. Just as there is but one truth, so there is only one yellow. Adulterated truth is vitiated truth, untruth. So the expressions of diluted yellow are envy, betrayal, falseness, doubt, distrust and unreason."

"Red, when it is neither yellowish nor bluish, is of irresistible radiancy and yet extraordinarily flexible, bordering on diverse characters. Passionate physical love glows forth in red-orange; blue-red purple connotes spiritual love."

"Blue is a power like that of nature in winter, when all germination and growth is hidden in darkness and silence. Blue is always shadowy, and tends in its greatest glory to darkness. It is an intangible nothing, and yet present as the transparent atmosphere. Blue beckons our spirit with the vibrations of faith into the infinite distances of spirit. When blue is dimmed, it falls into superstition, fear, grief and perdition, but always it points to the realm of the transcendental."

And about hue contrast:

"Hue contrast involves the interplay of primeval luminous forces. The undiluted primaries (red, yellow, and blue) and the secondaries (orange, green, and violet) always have a character of aboriginal cosmic splendor as well as of concrete actuality."

And what about the scientist? How does the scientist fit into color? A number of illustrations will help us to get at the root of the scientist's way.

Slide 9 This is the scientist's abstraction of what he believes is responsible for color. The main ingredients are the light source, the object, and, of course, the observer.

Slide 10 To the scientist, the light source means a "spectral power distribution" as this one shown here applies to "daylight." Radiant power versus wavelength defines the light source.

Slide 11 The test object is defined by the way it reflects the light from the light source, wavelength by wavelength. In this slide we see a typical "green" object.

Slide 12 Here we see what the scientist thinks constitutes the "observer," you and I and even the politician. The three curves are closely related to the sensitivities of the eye's receptor mechanisms, the cones, believed to be responsible for our color vision.

What does the scientist do with all that information? As all scientists in any field of science, the color scientist applies mathematics, computers, and graphs to arrive at numbers which characterize whatever is to be characterized. Thus it does not surprise us to see things like those shown in the next slides:

Slide 13 Formulas which specify colors in terms of "tristimulus values" and "chromaticity coordinate."

Slide 14 Formulas which specify colors in terms of "dominant wavelength" and "excitation purity."

Slide 15 Formulas which specify the sizes of color differences.

Slide 16 And finally formulas which are used to calculate recipes of mixtures of colorants, that is paints and the like.

All these illustrations clearly demonstrate the way one group of color scientists see color. It obviously has to do with measuring color and applying it to the needs of industry.

However, there are other color scientists at work who pursue color in a different way. There are some who study the perceptual processes, believed to be going on in the brain.

These scientists identify and specify colors which show certain perceptual characteristics they have in common. For example, these scientists carefully order colors in accordance with hue, chroma, and lightness. They are building so-called color-order systems, such as the Munsell Color System, or more recently, the Uniform Color System of the Optical Society of America. Arrays of colors are developed such as those shown in my last two slides:

Slide 17 The color-order systems, though not primarily and developed with the artist in mind, have found

Slide 18 some uses in the artist's studio. They readily provide demonstration material for color harmonies, and a host of color contrasts of importance to the artist. Contrast of hue, light-dark contrast, cold-warm contrast, simultaneous contrast and contrast of extension are examples.

And that is where we stand. The way of the artist and the way of the scientist are clearly different from one another. The scientist sees color as a physical stimulus of the visual system generating nerve pulses to be interpreted by the brain in terms of numbers of perceptual quantities such as hue, chroma, and lightness. The scientist aims at understanding nature and its laws. Finding the universal formula which predicts nature in all its life cycles and motions, would be the ultimate triumph of the scientist. The artist, on the other hand, sees color as a means of expressing his emotions and those of others. Through the paintings of the artist we experience the world inside us.

Yet, despite the fundamental differences that exist and distinguish the artist from the scientist, I can see color as a common ground for mutually beneficial discussions. Both the artist and the scientist are creators of ideas and thought, and collectively, over the centuries, have made important contributions to human knowledge. Bringing them together and keeping them together and interested in one another will never fail to bring about an even better understanding of color, no matter how we may wish to define it.

REPORT OF THE PROBLEMS COMMITTEE WILLIAM D. SCHAEFFER, CHAIRMAN

No report.

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

No report.

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 BONNIE K. SWENHOLT, CHAIRMAN

No report.

**REPORT OF PROJECT COMMITTEE 18
COLORIMETRY OF FLUORESCENT MATERIALS
THOMAS E. CULLEN, CHAIRMAN**

No report.

**REPORT OF PROJECT COMMITTEE 22
MATERIALS FOR INSTRUMENT CALIBRATION
ELLEN C. CARTER AND CHARLES J. SHERMAN,
COCHAIRMAN**

The ISCC Problem Subcommittee for Procedures and Material Standards for Accurate Color Measurement is now the ISCC Project Committee on Materials for Instrument Calibration. In addition to the new name, a revised scope and the addition of a cochairman were approved by the Board of Directors. Charles Sherman of the Sherwin Williams Company will serve as co-chairman with Ellen Carter.

The previous committee project was completed this year by the issuing of ISCC Technical Report 78-2, "Guide to Material Standards and Their Use in Color Measurement." Also a condensation of the body of this technical report has been submitted to *Color Research and Application* for publication. The guide is general and introductory. In order to expand the work of the committee to more specific and complex measurement problems, several special interest groups were formed.

Three types of materials have been selected for special study by this committee. Dave Alman is coordinating a search for fluorescent materials that would be suitable to use for instrumental calibrations and performance checks. This project is being developed jointly by this committee and the committee on fluorescence. A work group of those involved with the problems of directional measurements is being coordinated by Jack Christie. And finally Ron Bostick will coordinate activities involving translucent materials.

The annual meeting of this committee was held Monday, April 23, 1979 during the ISCC Annual Meeting at the Roosevelt Hotel in New York City. Approximately 45 members and guests attended the meeting. After a brief review of the past year's work, four reports were given. Henry Hemmendinger discussed the degree of interlaboratory agreement that can be achieved with instrumental measurements. He also showed some data he had produced over a four year period on the stability of Halon. Ron Bostick gave a brief report of some of the unusual measurements and data variations produced by translucent materials. Bob Marcus reported on the reorganization of the Council for Optical Radiation Measurements (CORM) and the absorption of the Spectrophotometry Applications Group (CORMSAG) into the main body. Jack Hsai reported on the present activities and manpower assignments at the National Bureau of Standards.

In the remaining time at the meeting the special interest groups were discussed. The possibility of other groups (than those listed above) involving retroreflecting measurements, micromasurements, terminology, and a procedures guide were discussed. A list was circulated so that those present could select these or any other areas in which they wanted to work.

The chairman ended the meeting with a special thanks to Harry Hammond, who has agreed to continue as committee secretary.

**REPORT OF PROJECT COMMITTEE 25D
STRENGTH OF COLORANTS – DYES
CHARLES D. SWEENEY, CHAIRMAN**

No report. As of the close of the Annual Meeting, Leonard A. Weiner replaced Mr. Sweeney as chairman.

**REPORT OF PROJECT COMMITTEE 25F
STRENGTH OF COLORANTS – PIGMENTED
FIBERS
GEORGE SONN, CHAIRMAN**

Minutes of the Meeting

The initial discussion was based on Mr. Ralph Dinsmore's (Phillips) contribution during 1978. His work concerned spinning, winding, and measuring colored polypropylene filament.

A series of four sets of nine samples each were compared to a mathematical average standard and reported. This series was selected as the basis for further evaluation by other qualified specialists. The purpose is to agree upon a method of measurement. Once this is complete, Mr. Dinsmore will prepare a new set of spinnings at varying concentrations. The "let down" resins for each concentration level will be retained in quantity sufficient for alternative test trials. This "let down" resin will be sent to those capable of making reproducible plastic chips. The method of making the chip shall be specified. The windings and the chips will then be submitted to four measuring laboratories who will measure the strength differences. It is hoped that some correlation will be found between the fiber and the chips strength differences.

Successful results will result in writing a tentative test method to the central committee. Unsuccessful results will result in a review and continuations of the search.

Proposals for 1979 Committee Work

In order to simplify the system of measurement the committee has proposed a set of guide lines which it is asking the participants to follow. This in no way precludes any alternative routes that the participants might wish to explore and contribute separately along with the requested data.

The Dinsmore series will be sent to four laboratories. We ask that care be exercised in sample transport and other aspects of handling to maintain validity. They should be examined in the following manner:

1. Presentation

The samples are windings and shall be measured twice in the vertical positions (once left center, once right center) and twice in the horizontal position. Please take care to use some reliable mechanical means of assuring that the windings are presented as near "true" vertical and horizontal as possible. (T-square or carpenters square).

2. Measurements shall be made both specular included and specular excluded.

2a. Measurements shall be collected as X-Y-Z with K/S at maximum absorption.

3. Instrument – please specify name and model of your test equipment.

4. Use illuminant C or D-65 – please specify which when reporting.

5. Calibration shall be Barium Sulphate calculated to perfect diffusion.

6. Standard will always be sample number one in the series. Test the side opposite the labels.

7. Return tabulated results and any comments or conclusions to Mr. George Sonn, Indol Chemical.

All test results will be made available to respective contributors and participants. When you review these please suggest a standard simplified reporting form. This form can be discussed at the 1980 meeting in Rochester.

REPORT OF PROJECT COMMITTEE 25P STRENGTH OF COLORANTS – PIGMENTS JOYCE S. DAVENPORT, CHAIRMAN

The meeting was called to order at 10:33 A.M., Monday, April 23, 1979 by the Chairman. Thirty seven members attended the meeting.

A brief discussion was held to recap the original testing of an organic and inorganic pigment and the outcome of that round robin which eventually established ground rules for the current project.

The project now in progress, is to duplicate testing methods and procedures at four separate locations in the testing of a resin and then let-down in an automotive finish. The finish is sprayed at 2.0 mils on primed and unprimed panels. The panels are read instrumentally at four different areas of the panel. The method being used is at maximum absorption and tristimulus both specular component included and excluded, and the film thickness recorded at each area of reading.

The Chairman said the four active members, Ed Cairns (DuPont), Al Keay (Harmon), Jacqueline Welker (P.P.G.) and herself had been working on a project to duplicate each others work and document all information where they had differed in preparation and application of the wet sample.

Ms. Welker, asked to comment, said,

"It had been their hope to present comparison data, but at this time there had been considerable data generated but no time for serious evaluation. The attendees would receive more information as the program proceeded and at a later date be asked to participate in the project. All those seriously interested were asked to sign up on a circulating list."

Ms. Welker elaborated on various aspects of the test procedures that she had initiated.

In preparation for the testing, the four participants had read several published papers regarding methods of reading and recording tinting strength to incorporate into the testing. They also intended to record their own methods. Comments were solicited from attendees to express their point of view. Ruth Johnson-Feller gave guidance in this area.

Max Saltzman gave his comments on the pitfalls of using only "cap Y" to evaluate tinting strength of organic pigments. He felt that data using only cap Y could be misleading and that some published papers on this subject are, in fact, misleading. Further, Max mentioned that he has both data and visual exhibits that provide examples.

Ed Cairns and Al Keay also discussed areas of interest pertaining to the round robin.

Robert Zeller (Pfizer, Inc.) had previously asked for the floor, he was invited to take the podium to express his point of view.

There were hearty discussions which lend to an interesting meeting. Several members commented on the stimulating meeting which adjourned at 11:52 A.M.

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

During the past year, the committee designed and ran pilot experiments to characterize chromatic adaptation and degree of metamerism. Based on this experience, we finalized our observation test procedures at the New York meeting. The experiments will use three series of metamers (beige, green, and blue) with about ten samples per series. The experiments consist of rank ordering for observed color difference separately under D65 and horizon light followed by magnitude estimation. The scales generated for the three series are related to each other by estimating magnitude for designated pairs relative to a grey pair. One additional experiment consists of rank ordering for metamerism observed under the same two lights. A group of committee members will meet shortly to agree upon statistical techniques to analyze the data. Round-robin observation tests will then be started. Sufficient experimental data should be available by the Rochester meeting.

The committee is also working towards understanding and properly defining phenomena commonly referred to as metamerism but not conforming to the CIE definition. We will shortly submit a publication aimed at fostering a discussion among the technical community towards this end. Members of the ISCC are requested to send us their thoughts on this subject, in particular telling us what problems of "metamerism" are their greatest concern.

REPORT OF PROJECT COMMITTEE 30 COLOR IN THE BUILDING INDUSTRY WALDRON FAULKNER, CHAIRMAN

Due to the serious illness of the chairman, no report was received. A new chairman to succeed Mr. Faulkner, whose untimely death occurred shortly after the Annual Meeting, had not been appointed at this writing.

REPORT OF PROJECT COMMITTEE 32 IMAGE TECHNOLOGY LEROY DeMARSH, CHAIRMAN

At its 1978 meeting, the members of this subcommittee agreed to focus attention on the interaction of light sources with image technologies. The primary interactions are in the recording of images in photography and television and the viewing of images in printing and photography.

This topic is important in this energy conscious age as the illumination industry strives to develop more energy efficient sources of illumination. Often, these more efficient sources turn out to be spectral line emitters consisting of three or more spectral lines and essentially no continuous spectrum. Future imaging systems may have to cope with these discontinuous sources as well as continuous sources such as sunlight and tungsten light.

Most photographic films have spectral responses which give poor color rendition under some spectrally selective sources. Also, the color images on a printed page or a color film image are produced by spectrally selective colorants. Thus, there are potential problems of a metamerism sort, i.e. an image looks O.K. under daylight but not so good under a spectrally selective artificial source. Thus, there is a general need to develop



tools for evaluating the effect of these new illuminants on imaging systems.

At our 1979 meeting, the current CIE work (CIE TC-3.2 subcommittee on illumination for color reproduction) was reviewed. Also, the inconsistencies in current national and international viewing standards for photography and printing was discussed. However, no specific program of activity was agreed on.

The attendance at our 1979 meeting was small and the response to an April mailing to committee members was negligible. Thus, our greatest need at this point is for more representatives of the image technology industries to become active and support this work. Is there a need for ISCC activity on this or other problems relating to color and the Imaging Technologies? Anyone interested in this work should contact the chairman.

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

All papers invited for presentation at the AAAS Symposium on: "The Relationship Between the Healthcare Environment and Human Behavior," during the February 1978 Conference of AAAS in Washington, D.C., arranged by Dr. Devra Davis, are being considered for publication by the AIA Research Corporation.

A report on my paper, co-authored with Suzanne Klesh, CSI, titled "Recent Innovations in Design and Lighting for the Health Care Environment" was presented also at the annual meeting of the Canadian Society for Color at York University in May, 1978. The paper was published in article form by Contract in February, 1979. Correspondence is in progress with Professor Simão Goldman of Brazil regarding an International Study Group on *Color in Hospitals*. I hope to have the opportunity to discuss this suggestion informally at the Mid-Term AIC meeting in Tokyo in August.

In September, 1978 the National Bureau of Standards published as monograph the proceedings of the first Workshop on "Color in the Health Care Environment," which had been held at NBS November 16, 1976. (NBS Special Publication 516 available from the Superintendent of Documents).

There was no workshop on "Color in Health Care Facilities" in 1978 at the Bureau of Standards. I could not become involved because I had to interrupt my normal pace of activities for awhile. Unless I can find a volunteer between now and the summer, another year will be missed because I shall be abroad for three months in the fall.

Following the outstanding program developed by Raymond Spilman, chairman of the Industrial Designers Society of America, for the 1978 meeting of my committee, to which he had invited an outstanding roster of industrial designers to discuss various aspects of "Response to Color on Objects," I thought it of interest to the committee to hear representatives of another designers' organization. Upon my invitation, Mrs. Barbara Schirmeister, a delegate from the American Society of Interior Designers, developed a program for this session. The program was announced in ISCC Newsletter No. 258, January - February 1979. Mr. Michael Rabin, reported on his experience in "Color Selection in Health Care Facilities," gave pertinent examples of the misuse of colors, and reported on the Effects of Reflections from Surface Color on Rendition of

Skin Color of Patients. The change in appearance of skin color is used as warning signal of impending conditions, such as jaundice, necrosis, and other pathological states. He reminded the audience that designers today are facing their color decision on intuition and empirical knowledge and pointed out the need for research and availability of information. Professor Mary Buckley spoke on the personal experience of color changes and resulting attitudinal conditions in individual situations as well as in her experience in health care facilities, such as the Margaret Gate Institute in which she has been heavily involved. Her modification of architectural horrors, the deliberate use of simultaneous contrast for variety and stimulation and other useful aspects in color application were well explained.

Dr. Jose Raul Bernardo, AIA, reported from his practice as psychologist and his use of color by his artist patients as a diagnostic tool. As practicing architect and designer, he reported also on his own work, which gave insight into the integrated application of his multi-disciplinary background.

Everett Brown, FASID, spoke on his use of "Color and Color Decisions" based on the principle of the Color Key system claimed useful to determine personal color preference. It is based on the theory that people with "pink" or "peachy" complexions regularly express preferences for specific ranges of colors. The system is marketed by Ameritone Paint Corp. and mostly in use in the western half of the United States. He claims that infallibly people will select their "own color key" according to their complexion and hair coloration for their clothes and for their interiors. The system has been in existence and used by interior designers and fashion people for many years. Photographs of his own work showed the unquestionable accomplishment of an experienced interior designer who decorates with works of art and high quality furnishings in a consistently conservative style — using opulent color schemes in impeccable taste. His talk had little to offer in new knowledge, but proved again his well-known success in the rarefied atmosphere of his corporate clients.

The mixed bag of speakers provided a great deal of interest and stimulated many comments from the audience.

REPORT OF PROJECT COMMITTEE 34 COLOR DIFFERENCE PROBLEMS RUTH M. RICH, CHAIRMAN

This year's meeting was short and well attended. Ruth Rich reported on the February Williamsburg Conference, summarizing the papers and discussion for the people who were not able to attend.

Alan Robertson reported on the progress of the subcommittee of CIE TC 1.3 on color differences. He outlined the guidelines for future work and mentioned some work in progress.

Ruth Rich recorded the disappointing lack of advancement of our own experiment but noted that a set of samples has been secured and measured. The colorimetric data are expected shortly and a one-observer pilot experiment will be completed soon. If this phase is successful, requests for further sets of samples will be made.

REPORT OF PROJECT COMMITTEE 35 COLOR OF LIVING TISSUE ROBERT C. SPROULL, CHAIRMAN

Project Committee 35 met on Monday, April 23 during the Inter-Society Color Council's annual meeting to review the past year's activities and plan for the coming year. A broad

spectrum of membership representing all phases of dentistry – industry, laboratory, private practice, ADA and research contributed to an interesting exchange of information.

Steve Bergen presented the slide version of the Dvorine pseudo isochromatic test for anomalous color vision and summarized the positive results of this research effort. No individuals with anomalous vision were *not* picked up on the slide test. A small percentage of those without anomalous vision failed the slide test but passed the regular test.

The problem of incorrect color terminology in dental literature was again discussed. Positive responses from dental journals to requests for the opportunity to review articles before publication and positive responses from several dental manufacturers to suggestions to rewrite their color manuals were encouraging.

The article by Jack Preston, Leo Ward and Mitchell Bobrick *Light and Lighting in the Dental Office* which was published in the July 1978 Dental Clinics of North America (W. B. Saunders Company) has been recognized as the most definitive and informative article yet published in this crucial area. Jack Preston briefly discussed the complexities and problems relating to another area of investigation, the spectrophotometric measurement of tooth colors intra-orally.

Dr. Henry Frajder of Paris, France has continued his excellent work of translating American color articles into French by translating Steve Bergen's articles for the French Prosthodontic Journal. Henry was a surprise and very welcome member of this year's meeting.

Ron Goldstein, while president of the American Academy of Esthetic Dentistry addressed the problem of poor color rendition for intra-oral slides using presently available film. Franc Grum and the Kodak Company have been most helpful in this area, but problems still exist. Any suggestions or words of wisdom will be most welcome and can be sent to:

Dr. Ronald E. Goldstein, 1218 W. Paces Ferry Road, Atlanta, Georgia 30327.

The Council on Dental Education of the American Dental Association denied a request to specify areas of color education for dental students this past year as they also did in 1968. On a more positive note, Wayne Wozniak of the Division of Biophysics of the ADA reported that the editorial staff of the Journal of the American Dental Association is favorably inclined toward publishing a series of articles on color in dentistry. A request for financial support for color reproductions from the Munsell Foundation received unanimous support from Project Committee 35 membership.

Ian Bloor, a committee member from the British Ceramic Research Association has forwarded several publications by F.J.J. Clarke, of the National Physical Laboratory, that are directly applicable to our goals. "Colour and Fluorescence of Teeth" discusses the importance of and the difficulties inherent in accurately measuring the fluorescence of teeth and Clarke's method of measuring vital teeth in the head with a Cary 14 spectrophotometer. "Problems of Spectrofluorimetric Standards for Reflection and Colorimetric Use" by Clarke (NPL Report MOM 12 August, 1975) is a much longer technical report explaining the shortcomings of the spectrophotometer for such measurements and the need for developing a spectrofluorimeter. It is replete with equations, concepts, terms, and theories that should delight those working in this field.

An article by Dick McPhee of the University of Michigan School of Dentistry was published in the Journal of the Michi-

gan Dental Association in November, 1978 and was reprinted in the March, 1979 Texas Dental Journal. It is an excellent review of *Light and Color in Dentistry*.

The past years as chairman of this committee have been exciting and rewarding years and I wish to thank all of those dedicated persons who have made it such an enjoyable experience. I have requested that a replacement be chosen but look forward to continued association with all of you as a member of the ISCC and Project Committee 35.

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

The fourth annual meeting of Project Committee 36 was held on April 23, 1979. A need is thought to exist in industry for visual guides representing color tolerances at two levels, "tight" and "commercial." These visual guides would help, for example, in defining color tolerances in discussions between a supplier and his customer. The Design Task Group completed work earlier that indicates persons of diverse backgrounds can generally agree on acceptable color differences.

The second phase of this work is under way, the collection of sets of samples representing acceptable industrial color tolerances. Rick Mathew of Americhem is diligently collecting plastics samples and forwarding them to the chairman. To date, the chairman has received twenty-six sets of samples. These represent plastics materials in use in the following industries: automotive, building products, general purpose extruded sheet, housewares, packaging, recreational vehicles, signs, and wire and cable. There are about four panels representing shippable material in each set. It will be several more months before Rick can collect enough additional panels in a few of the sets to begin the third phase.

In the third phase, after fifteen to twenty panels are available in a set, the set of panels will be circulated to committee members to be judged for acceptability. Once this data are available, the work can begin on the preparation of the actual visual guides.

Attendance at the meeting of Project Committee 36 was down this year. Only twenty-two people attended, of whom about six are the interested faithful who return every year. Hopefully this drop in attendance does not indicate a loss of interest. The main concern of the chairman at this time is to maintain the interest of the committee during this time-consuming sample collection step.

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

The third annual meeting of the Committee on Artists' Materials was convened by Chairman J.T. Luke at the Roosevelt Hotel during the ISCC Annual Meeting in New York. There were 35 people present.

An important announcement concerning the National Bureau of Standards (NBS) was made. The funding of the NBS branch which is concerned with the revision of the standard for artists' paints, will be cut off effective January, 1980. Since Committee 37 is working in conjunction with the American Society for Testing and Materials (ASTM) Subcommittee D01.57 and NBS, a decision of how to proceed will have to be made.

A change in some of the committee officers was announced. Mark Gottsegen will become chairman of Task Group 6 to work on the publication of subcommittee reports and, at a later date, possible publication of a handbook. It is the policy of ISCC that the chairmen of committees be periodically changed, and everyone was asked to make recommendations for a new chairman. Also, a qualified person is needed to take the task group on Tinting Strength since Levison has completed the first part of the necessary work and heads four task groups at the present time. Al Spizzo is the new chairman of the ASTM task group on relevant paint properties.

Two guest speakers gave reports and comments of interest to the committee.

Dr. Fred W. Billmeyer, Jr., head of The Rensselaer Color Measurement Laboratory at Rensselaer Polytechnic Institute and Romesh Kumar, a graduate student working on a doctorate thesis, presented information on a method for identifying organic pigments in artists' paints. A grant from the National Museum Act, administered by the Smithsonian, is funding the work. About 50 random tubes of artists' paints were analyzed for the type of pigment present.

Using a solvent extraction technique developed by American Cyanamid Inc. and by Max Saltzman working at Harmon Colors in the 1940's, the organic pigment content of the paints were dissolved in suitable solvents and the transmittance curve of the solution was obtained using a spectrophotometer. This curve was then compared to reference curves for identification.

Although the method is not new it had been used only within the company until recently. In the public interest, it has been released for general use and several representatives of Harmon Colors were present to hear the results of the progress at Rensselaer in refining the method and accumulating the data necessary to make it useable for anyone needing to identify organic pigments. The technique can be used to determine if the pigment contained in an artists' color is the same as the one named on the label. The method will also be useful to the conservator.

Billmeyer pointed out that only one millionth of an ounce of paint is needed for identification because the plotted log density curve is independent of the amount of coloring agent. A reference file of curves is being accumulated and the information gathered is stored in digital form at RPI and will be made available. The fact that the information is digital means the data can be stretched or contracted to match data from another instrument thus making it useable for organizations with different instrumentation.

The color of the pigment, or its fluorescence, sometimes varies in different solvents. If a match is found in both cases when a pigment is dissolved in two solvents, the identification is that much more secure. There are differences in solubility between pigments which also aid in identification.

Even though a number of the randomly selected paints submitted contained several pigments, it was possible to identify all but one or two of the organic pigments and those are ones for which The Rensselaer Color Measurement Laboratory does not yet have reference curves. There should be no difficulty in identifying organic pigments in any media (oil, acrylic emulsion, watercolor, ink) once a reference file of curves is complete.

Among the 50 paints a number were incompletely or inaccurately labeled as to pigment content.

Ruth Johnston-Feller from her long experience with paints offered some suggestions to the committee. Due to the inherent difficulties, she suggested that pigments be classified into only three divisions in each of three categories: light stability, transparency, and tinting strength in mixtures with white. Lightfastness could be rated as excellent, good, and fugitive; transparency rated in terms of highly transparent, moderately transparent, or opaque; tinting strength expressed as very strong, moderate, or weak.

Tinting strength in white mixtures was discussed by Johnston-Feller as a function of the absorption characteristic of the pigment, and she pointed out that it says nothing about how the pigments will behave in pigment intermixtures. Other characteristics of pigments include scattering of light. What you see when you look at the mass tone of a single colorant is the ratio of absorption to the scattering. When colors are mixed you get a mixture of absorbant strength and scattering strength. Also a change in gloss can account for color differences of approximately 30 CIELAB units.

Reports were made by the Task Groups with a question period following each report:

Task Group 01 – Pigment Identification, Dr. Treva Pamer.

Copies of her report, "Modern Blue Pigments" were passed out as was an addendum to this report. Additional samples were reported on. The only pigment which caused a problem with the test method used was indanthrone blue and it was possible to adapt the method so that the presence of this blue would not affect the results.

The report, with the major part of it being in circulation for over a year, was submitted for vote to become a committee report. Since one person asked for additional time to study the new data, the vote will be conducted by letter ballot.

Task Group 05 – Preparation of Samples, Henry W. Levison.

Copies of his report "Preparation of Samples for Colorimetric Determination" were distributed. This report summarizes the round robin conducted to determine if a standard drawdown procedure will give results within tolerance among different participants. The purpose of a standard method for preparing samples is so that all paints can be evaluated in the same manner.

The report was discussed and then submitted to a vote to become a subcommittee report. There were nine votes for acceptance and no negatives so the report will be submitted to the ISCC Board for approval as an ISCC Technical Report.

Task Group 03 – Vehicle Identification, Sr. Mary Virginia Orna.

This group is presently working on a simple method to differentiate between different types of oils used in artists' paints and mediums. The test method of Schullery and Johnston using nuclear magnetic resonance is being used. Good correlation has been found between the degree of polymerization of linseed oil and the data, however, an overlap in identifiable components may make it impossible to clearly differentiate between the kinds of oils which might be found in artists' paints.

Task Group 04 – Tinting Strength, Henry W. Levison.

A report entitled, "ASTM D01.57.03 Tinting Strength Stand-

ard Project" was circulated. The report contained data obtained in an effort to determine what tinting strength could be reliably seen by the human eye and to decide how many standards would be needed to cover the color gamut of the cadmium paints.

In the report, it was found that a cadmium-barium red light tint made according to the CS 98-62 method was virtually indistinguishable at 10% difference in concentration. A 20% deficiency in pigment strength was necessary to visually determine difference.

Responses by 14 participants indicated that standards for 8 cadmiums, including 3 yellows, 2 oranges and 3 red standards, are needed to insure accurate tinting strength judgments.

Task Group 06 – Publication, Mark Gottsegen.

A report entitled, "Responses to Questionnaire on Pigment List for TS 205" was passed out by Joy Luke. The report summarized the comments already received to the questionnaire circulated in January to decide which pigments should be reapproved for inclusion in TS 205, the revised form of CS 98-62. This list covered only about half the pigments to be considered. Mrs. Luke would like comments and additional responses to the questionnaire.

Report from ASTM D01.57.06 – Definition of Terms, Thomas Vonderbrink.

A report was circulated listing terms and definitions that have been planned for the standard. Additional terms and comments were requested by Mr. Vonderbrink. Color names and pigment composition will be added to this list.

Task Group 02 – Lightfastness of Pigments, Henry W. Levison.

A report was circulated on the results of testing of eighteen new pigments. Eight were found to have very good lightfastness properties. Hansa 10G, PY 3, seems to fade at a more uniform rate than does alizarine crimson and could possibly be used as the reference pigment in the new standard.

Panels are now being prepared for lightfastness testing for 50,000 langley's or at least 100 years indoor exposure. A request was made by Mr. Levison for the suggestion of newer organic pigments to include in this test.

Task Group 08 – Vehicles, Physical Properties – Henry Levison.

Information was given on the proposed test on flexibility and yellowing of painting mediums and varnishes. Various mediums and varnishes drawn down over non-yellowing white alkyd basis will be tested both for change in color and any type of deterioration.

A discussion was then held as to whether some toxicity labeling should be included in the proposed new standard. Mr. John Dickenson and Dr. David Heiser, representing the Dry Color Manufacturers Association, were present to address the group and offer comments and report on some of the testing that has been done on cadmium pigments.

Dr. Heiser cited the relatively low risk of toxicity in cadmium pigments and warned that one had to distinguish between soluble and insoluble cadmium compounds. Cadmium pigments, being relatively insoluble, have a low order of toxic-

city. Cadmium oxide and cadmium chloride, being very soluble, have a high order of toxicity. A report, "Health Reassessment for Cadmium Pigments" was circulated by Dr. Heiser.

Dr. Heiser and the DCMA Cadmium Pigment Subcommittee did leave open the question of cautionary labeling for cadmium artists' paints. He believes a statement calling for reasonable caution would be sensible and responsible. The phrasing of a satisfactory cautionary label could be worked out by a cooperative effort by the DCMA and ISCC subcommittees working jointly. Some examples of such cautionary statements were given.

Mrs. Luke told the group that a letter from Dr. Catherine Jenkins on the subject of possible toxicity of cadmium paints had been received just prior to the meeting and would be circulated. She also said that Dr. Leonard Goldwater, toxicologist for the Crayon, Watercolor and Craft Institute, and two other toxicologists would temporarily act as consultants for our group. They are not too concerned about the cadmium question being an acute problem requiring immediate action.

Ms. Gail Barazani, representing the University of Illinois School of Public Health, addressed the group on her concern for communication and education between artists and manufacturers. She believes, other than solvents, that the problem in painting is not inherent toxicity, but education and that people are not properly educated on the correct uses of their materials. We have an educated public asking for more information. A long-term, on-going educational process is needed.

She suggested, if a product is hazardous, that some sort of toxicity rating system could be developed and printed on the label of these products. Products with high toxicity rating could not be used in schools.

It is possible for an artist to convert a non-toxic product to a product with a very high degree of toxicity. An example of this could be when an artist uses a hot torch or an acid to destroy the binder in a cadmium paint. In this case, the cadmium could be converted to a fume or to a very soluble toxic form. This is the type of practice that an artist should be warned not to do.

Knowing that the committee will require additional meeting time, it was decided to schedule a full extra day of meetings at the next ASTM meeting in Washington. The committee will plan to have an all day meeting on June 10, 1979 in addition to the scheduled meeting from 2-6 p.m. on June 11 at the Shoreham-Americana Hotel.

The meeting was adjourned after two sessions lasting from 9 a.m. - 12n and again from 4:30 p.m. - 7 p.m.

REPORT OF PROJECT COMMITTEE 38 PHILATELIC COLOR DESIGNATIONS DONALD L. MACPEEK, CHAIRMAN

Staffing of the Subcommittee in addition to the Chairman, indicated above, includes Fred W. Billmeyer, Jr., Rensselaer Polytechnic Institute; James T DeVoss, Executive Secretary, American Philatelic Society; John E. Foxworth, Jr., President, American Philatelic Society; Kenneth L. Kelly, National Bureau of Standards and Richard L. Maley. The untimely death of former member Franklin R. Bruns, Curator of Postal History, The Smithsonian Institution; brought a loss to us as our efforts were at a vital early stage.

During the year, we reached agreement on the Scope of the Project, which is sponsored by the American Philatelic Society, as a member-body of the Inter-Society Color Council. A copy

of the Scope and a brief abstract are an addendum to this report.

A working session was held on April 22, 1979 in New York, on the evening before the annual meeting of the Inter-Society Color Council. Attending were project committee members Billmeyer, DeVoss, Kelly, and MacPeck. S. Leonard Davidson, Treasurer of the Inter-Society Color Council was a welcome visitor. Responsibilities of committee members and tentative plans for future meetings were reviewed. It was suggested that the next meeting be held in conjunction with the annual meeting of the American Philatelic Society in August, 1979, in Boston, Massachusetts. With the assistance of members Kelly and Billmeyer, a draft of a "Manual for Determining color Designations for Stamp Color" was prepared and distributed to the membership of the committee. This draft is currently under review. A major responsibility the committee faces is the selection of specific reference material and illumination systems for use in determining stamp colors. Such recommendations are anticipated prior to the August meeting.

On the following day, April 23, 1979, at the ISCC meeting in New York, the committee chairman made a presentation to a small but welcome group of delegates. The discussion included a description of how the project was conceived, its current objectives, and how a recognized scientific approach will be employed, using reference material not yet completely evaluated, in determining consistent and accurate names for the colors of postage stamps. There followed a spirited discussion involving most of the audience which led to the conclusion that the basis for the project was sound and that there was a genuine need for its results. Pending review of an expected important reference work on color in philately, the ISCC-APS Project Committee will adopt specific procedures for color determination, using recommended reference standards and illumination. We contemplate the publication of these procedures in an effort to solicit the participation of skilled philatelists in the program. Such involvement is considered necessary, in view of the breadth of philately, if the project is to be successful.

Scope

1. Assign ISCC-NBS color names and Munsell designations to the important postal issues of each major country.
2. Prepare a philatelic color names dictionary, listing the stamp catalogue names corresponding to each ISCC-NBS name and Munsell designation and vice-versa.
3. Compile and publish the above information.

Amplification of Scope

Since the beginning of the hobby of stamp collecting, identifying and describing the colors of postage stamps has been a major unsolved problem for collectors at all degrees of sophistication. Large differences in monetary value of some stamps depending on nuances of color has often compounded the difficulty. Most collectors have had no recourse other than to use names assigned to color varieties by the publishers of stamp catalogs as the means of assigning color names to various issues. Unfortunately, these names are all too often inconsistent and nondescriptive.

The objective of this Committee is to develop and arrange for the publication of a body of information identifying stamp colors in terms of the Universal Color Language (UCL). Preliminary studies suggest that the ISCC-NBS Color Names sys-

tem, level 3 of the UCL, may be adequate for the average collector but is not fine enough for critical differentiation. Level 4, the Munsell designation system, or its subdivision by visual interpolation in level 5, should suffice. The following method of procedure is suggested for developing the desired information:

1. Using the ISCC-NBS Centroid Colors (level 3 of the UCL) and the Munsell Book of Color (level 4), or other standardized collections keyed to ISCC-NBS color names and Munsell designations; and utilizing standardized illuminating and viewing conditions and observers tested for normal color vision; individual collectors specializing in the stamps of various countries will determine the ISCC-NBS color names and Munsell designations of the important postal issues of those countries.

2. A philatelic color names dictionary for each country studied will be prepared as follows: For each UCL color designation assigned in step 1, a list will be prepared of the names used for the issues of that color in the general and specialized stamp catalogs. For ease of compilation, this information will be tabulated and sorted (by computer if possible) to provide lists of all the catalog color names used for a given UCL color designation and all the UCL color designations corresponding to a given catalog name. The ISCC-NBS Dictionary of Color Names will serve as the pattern.

3. The compiled information for each country will be published in one or more articles in a major philatelic journal, such as *The American Philatelist*.

4. When a sufficient number of countries has been so studied, the data will be pooled to provide a catalog of Universal Color Language designations of stamp colors. This in turn will be published, in a manner yet to be decided.

A first step to implement this procedure will be to prepare documents for the philatelists describing the UCL and providing instructions for its use. It will then be necessary to train collectors to assign UCL designations accurately by visual methods, as required in the first step of the above procedure.

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

REPORT OF THE ANNUAL MEETING OF DELEGATION CHAIRMEN

The annual meeting of the Delegation Chairmen was called to order by Joyce S. Davenport liaison officer in the Park Room at 5:23 P.M.

Each chairman was asked to stand and introduce himself and the society he represented.

The liaison officer, Joyce Davenport, asked if the letters sent to each chairman, covering the activities of the ISCC board of directors and the council, fully covered all topics adequately. Were there other possible subjects to be brought to their attention? Ray Spilman, IDSA, replied the letters were very good and excellent communication had been established, other attendees agreed.

Joyce also asked chairman to cooperate by sending more information regarding their societies' activities, exhibits, and symposiums, along with annual meeting dates. She also expressed an idea of communicating with the chairman by telephone periodically, especially to those unable to attend the council meetings.

Announcement was made of the absence of Waldron Faulkner, A.I.A., due to serious illness.

President Franc Grum, OSA, solicited comments and complaints from people regarding accommodations and arrangements.

Alec Styne complained of the room he had been assigned for his project No. 33, "Human Response to Color" given in the East Room. Alec complained of poor acoustics making it difficult to hear and also large supporting pillars blocking people's view. Joyce replied she had been in the back of the room behind the projector and heard and saw well but that however was just one person's experience.

Joyce reminded everyone to send in his annual report to Dr. Billmeyer by May 15th as well as his candidate for nomination for the Macbeth Award, which must be sent to Dr. C. J. Bartleson before June 1, 1979.

Ray Spilman asked for a prospectus from ISCC to be mailed to their members. Fred Billmeyer replied the ISCC Story is being rewritten, but they may consider the suggestion that the ISCC should make available a list of the areas of expertise of its members which could be circulated to all members-bodies free, and consider selling the list to non-members. Fred Billmeyer mentioned IRS requirements. It was noted the Canadian Society were implementing a similar program as was the Color Marketing Group.

The ISCC mailing list is available at cost to members and non-profit organizations. There have been some modest sales to commercial firms.

A plea was made to support *Color Research and Application*, see if other areas of your societies subscribe, and try to stimulate interest in and contributions to the journal.

It was noted there would be an American Chemical Society Symposium on color in San Francisco, August, 1980. All felt it would be appropriate for ISCC to participate.

The Council's 50th Anniversary will be in 1981. The location will be New York and program suggestions are welcome and desired; also suggestions and participation from the member-bodies.

Fred Billmeyer urged chairmen and voting delegates to please vote; at times, the response is not as good as needed and, at times, it is close to not having a quorum. Franc Grum (OSA) said that nominations were not limited to those of the nominating committee. Fred Billmeyer will issue a letter qualifying the nominating and voting procedure for the member bodies. R. J. Zavada (SMPTE) asked if reports on delegation voting could be returned to the delegation's chairman. Fred Billmeyer attempts to use blind ballots with only the outside of the envelope signed. Bob Marcus suggested pre-labeling the outside of the envelope to reduce the number of unidentified ballots.

Joyce Davenport thanked all attendees and the meeting was adjourned at 5:47 P.M.

—Robert T. Marcus



REPORT FROM THE AMERICAN ARTISTS PROFESSIONAL LEAGUE DELEGATES FRANK C. WRIGHT, CHAIRMAN

No report. Mr. Wright has been succeeded as chairman by Angelo John Grado, 641 46th Street, Brooklyn, New York 11220.

REPORT FROM THE AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS DELEGATES THERESE R. COMMERFORD, CHAIRMAN

Research Committee RA36, Color Measurement Test Methods, is the group within AATCC responsible for handling problems in color. The Committee held three meetings in 1978; the February and November meetings being in New York City and the April meeting at Headquarters, Research Triangle Park, N.C.

After much delay, the anthology "Color Technology in the Textile Industry" appears certain of publication midyear 1979. This book is a Committee effort, although two members are mainly responsible for its existence: R.G. Kuehni, who originated the idea and planned the contents, and G. Celikiz who is editing it for publication. Recently published papers, together with papers written specifically for the anthology, will cover most aspects of color technology of importance to the textile industry.

RA36 is sponsoring its first symposium on color entitled, "Color Science in the Textile Industry" which will be held on May 7-8, 1979 in Charlotte, N.C. Papers on color science, instrumentation and color measurement will be presented.

The test procedure, "Color Measurements of Textiles: Instrumental," was approved for publication in the 1978 Technical Manual of the American Association of Textile Chemists and Colorists by the Committee RA36 and the Technical Committee on Research. It has been designated AATCC Test Method 153-1978 and describes the procedure to be used in preparing textile materials for presentation to an instrument for color measurement and in acquiring the proper data for the determination of color difference.

Proposed revisions to AATCC Evaluation Procedures 1 and 2, Gray Scale for Color Change and the Gray Scale for Staining, were submitted to Committee Letter Ballot and unanimously approved. The revisions involve replacement of the AN (40) color difference equation by the CIE 1976 ($L^*a^*b^*$) or CIELAB, formula in determining the precise colorimetric specifications of the standard gray colors and color differences of the Scale. The proposed change in no way constitutes an endorsement of the CIELAB formula by Committee RA36 but rather a recommendation to the textile and allied industries that the CIELAB formula be used for the calculation of color differences in the interest of uniformity of usage, and until an improved color difference formula can be devised. The revisions are currently awaiting TCR approval.

At the 1977 meeting of ISO TC 38/SCI in Ottawa, Canada, a recommendation was made to include the specular component in the reflectance measurement of textile samples. A subsequent objection to this recommendation was made by one delegation, which claimed inclusion of the specular component would "swamp" color differences of dark textile samples. The Committee decided to conduct a round-robin study to investigate this point. Three pair of dark samples were prepared on a medium bright polyester filament fabric. The sample pairs are to be measured in two directions, the warp (or, vertical) and the filling (or, horizontal, and with the specular both included and excluded. Five laboratories have completed measurements of the samples on three instrument types (Hardy spectrophotometer, ACS Spectro-Sensor, and Hunter D-54 spectrophotometer). Four additional laboratories are presently participating.

The following papers on color were published in 1978 in *Textile Chemist and Colorist*:

Hudson, John D., "Computer Assisted Color Quality Control," *Textile Chemist and Colorist*, Vol. 10, March 1978, p.47.

Pigott, William T., "A New Look at the Gray Scale," *Textile Chemist and Colorist*, Vol. 10, March 1978, p. 63.

Kuehni, Rolf G., "Standard Depth and its Determination," *Textile Chemist and Colorist*, Vol. 10, April 1978, p. 75.

REPORT FROM THE AMERICAN CERAMIC SOCIETY DELEGATES

F. JOSEPH VON TURY, CHAIRMAN

Interest in color and its importance in the ceramic industry is evident by the many papers on color presented at the 81st Annual Meeting of the ACS in Cincinnati last May, and in other meetings. Several articles on color appeared in various ceramic publications.

At the Annual Meeting, joint sessions arranged by the Materials & Equipment and Whitewares Divisions, featured talks and discussions on "Ceramic Pigments and Decals." In a Material & Equipment Division session on "Decorating Ceramic Ware," the application of color on tableware and tile was discussed. Modern developments in sophisticated decorating equipment for the ceramic tableware industry, including multicolored banding, lining, screening, stamping, and printing from photo-etchings, were described.

The application of enamel colors to glassware and white-ware, using the silicone pad, was the theme of another paper.

In the Design Division, a paper "Ceramic Colors Through the Ages" was presented by N. W. Wagar. "Ultraviolet Curing of Glass and Ceramic Decoration" by D. Sagar and R. Sagar (Advance Process Co., Chicago), explained the application of ultraviolet curing to printing media used in direct decorating and in decal decoration for china and glass. "Designing for Color-Sensitive Glass" by G. A. Luers, Corning Glass Works, described design considerations relating to the new color-sensitive glass developed by Corning.

The paper on "Color, Craftsmanship and Ingenuity: Creative Surface Treatments to Improve Marketability of Ceramic Products" by F. Joseph von Tury, which was presented at the 80th Annual Meeting of the ACS, was published in full in the February, 1979 issue of the Society's *Ceramic Bulletin*.

In reference to ceramic tile, Jess McIlvain, Architectural Director of the Tile Council of America, states, "The new American concept of ceramic tile design is genuinely different from European concepts."

In the past, ceramic tile conveyed the image of hygiene and ease of maintenance. Although today's ceramic tile provides these necessary qualities, new shapes, new textures, new designs, new glazes with warm tones, earth tones, coupled with brilliant designer colors reflecting the entire palette of the rainbow are now produced by American ceramic tile manufacturers, to complement the creative ideas of the design professionals.

The emerging handcrafted appearance in ceramic tile provides the warmth that complements both traditional and contemporary decor. Bold new glazes provide a vibrance of color never seen before in permanent finish materials.

Recent changes in the membership of the ACS Delegation to ISCC: The place of Alan J. Werner of Corning Glass Works has been taken by Dr. Brent Wedding, Development Associate in Physics, of the same company; and now in the place of Dr.

Clarence A. Seabright of The Harshaw Chemical Company, Division of Kewanee Oil Company, is Paul H. Mining, Technical Director, Elyria Colors, of the same company.

Following are the reports of some of the delegate members: Laurence D. Gill, Manager, Glaze and Color Development, SCM Pemco Products, Baltimore: "The past year has seen continuing interest in stoneware glazes by most dinnerware manufacturers. The predominant colors remain the earthy colors; browns, tans, burnt orange with some accent shades of black, blue, reds, and yellows.

In the major appliances we see a growing demand for off whites, ivory and parchment shades and decreasing interest in the fashion colors.

The whiteware industry in general seems most interested in the melon to amber family of shades. Better described as muted orange yellows or orange rust, they may be the color of choice to blend with the earthy stoneware glazes and off whites of the appliance industry.

Color selection and formulation has been greatly influenced by the rapidly escalating cost and availability of metal oxides used in the manufacture of ceramic colors. Leading the list has been cobalt oxides and for economic reasons the typical cobalt blue and other red/purple shades of blue will find decreasing usage. Unless the consumer is willing to pay the premium for specialty shades, some colors will not be available in ceramics."

Paul H. Mining, Technical Director, Elyria Colors, The Harshaw Chemical Company, Cleveland: "In the field of Whitewares, no major breakthrough has occurred during the last year. The scarcity and extremely high price of Cobalt have had an adverse effect in dark blues and blacks, particularly in dinnerware, artware, and sanitaryware fields. All color manufacturers are trying desperately to come up with Cobalt free blacks and Vanadium zirconium blues with a red undertone to replace Cobalt blues in, at least, pastel colors.

Alumina supply has become a major problem primarily due to the fact that several grades have been withdrawn from the market.

In spite of these and other problems, Whitewares business continues quite brisk and we are optimistic for the future."

Dr. Brent Wedding, Development Associate, Physics, Corning Glass Works: A course, "Color in Glass and Glazes," was offered for the second time on March 26-28, 1979, at the Center for Professional Advancement in East Brunswick, N.J. The course director was Dr. L. Klein of Rutgers. Additional faculty were: R. A. Eppler, PEMCO, R. McCauley, Rutgers, H. W. Trontel, Brockway Glass Co., and A. J. Werner, Corning Glass Works. The course covered fundamentals of color theory and structure of glasses and glazes, as well as specific topics in colored glasses and glazes and in glass decorating.

A full-color photosensitive glass has been announced by Corning Glass Works, and was discussed by Dr. George Beall in paper 1-G-78F at the ACS Bedford Springs meeting in October. The polychromatic glasses, discovered by Dr. S. D. Stookey, are colorless when formed. By exposure with mercury arc and heat-treatment, a full range of colors can be developed in the glass. In some samples, a color gamut can be produced which forms a closed loop about the illuminant on a color-mixture diagram plot.

Intricate multi-colored designs can be put into the glass by this photographic process. The patent literature discloses possible application in televisions picture tubes, as well as the obvious decorative/artistic uses.

Supplement: Color As Seen From The Commercial China Industry

The color trends are ever-changing, as you well know. Currently the earth tones are most popular with an increase in the lighter beiges over the darker browns. Burnt oranges and terra cottas are much in evidence. There is a new interest in blue which has never been a big seller in commercial china. Both light blues and a dark cobalt are on the grow. They are also being used in conjunction with the browns in mixed bands. Bright yellow is also a new addition to the scene. In the retail market of china there are several sets of the rainbow spectrum. Since the commercial market generally follows the retail market, I presume there will be more bright colors used in the future of commercial patterns. Colors with *texture* have never been more popular than now. Flecks, spots, brush strokes and mottled surfaces with matte finishes from reactive glazes are in vogue. "Color within color," which suggests the "craft look," is the trend.

Paul W. Cook
Director of Design
The Sterling China Company

REPORT FROM THE AMERICAN CHEMICAL SOCIETY DELEGATES LAWRENCE R. LERNER, CHAIRMAN

During the past year the efforts of our delegation have been directed toward organizing a color symposium to be given at a future American Chemical Society Meeting. I am happy to report that we have received approval of the American Chemical Society to hold a one day symposium during the August 1980 annual American Chemical Society Meeting in San Francisco to be co-chaired by Sister Mary Virginia Orna and myself. We expect to be inviting speakers shortly and will be using younger speakers where possible. Listed below is a tentative list of topics. We will keep the ISCC informed of developments and look forward to comments and suggestions from other ISCC members.

Tentative Program

1. Introduction – Function of ISCC, CIE and AIC in Color Research.
2. What is Color: Introduction to Colorimetry.
3. Specification of Color Appearance.
4. Instrumentation for Color Measurement.
5. Color Difference Evaluation.
6. Calculations for Colorant Formulation.
7. Solution Measurements.
8. Luncheon Speaker – Perception of Color.
9. Light Induced Color Changes.
10. Instant Color Film.
11. Color and Liquid Crystals.
12. Chemical Origins of Color.
13. Recent Advances in Pigments.
14. Recent Advances in Dyes.

REPORT FROM THE AMERICAN COLLEGE OF PROSTHODONTISTS DELEGATES STEPHEN F. BERGEN, CHAIRMAN

No report.

REPORT FROM THE AMERICAN INSTITUTE OF ARCHITECTS DELEGATES WALDRON FAULKNER, CHAIRMAN

Due to the illness and untimely death of Waldron Faulkner, no report was received. The chairman of the Delegation is now Michael B. Barker.

REPORT FROM THE AMERICAN PHILATELIC SOCIETY DELEGATES DONALD L. MACPEEK, CHAIRMAN

The Delegation of the American Philatelic Society (APS) to the Inter-Society Color Council has been staffed and comprises: Fred W. Billmeyer, Jr.; James T. DeVoss, Executive Secretary of the American Philatelic Society; John E. Foxworth, Jr., President of the American Philatelic Society; Kenneth L. Kelly, National Bureau of Standards; Richard L. Maley and Donald L. MacPeck, Chairman of the Delegation. The Delegation also serves as the ISCC-APS Committee (No. 38) on Philatelic Color Designations.

The project arises from the lack of consistent and accurate naming of colors for postage stamps in the general catalogues and the literature of philately. The scope of the project has been defined, submitted to the Board of Directors of the ISCC, and accepted. Briefly, the project committee will, with the enlistment of assistance from the membership of the APS, 1) assign ISCC-NBS color names and Munsell designations to the important postal issues of each major country, 2) prepare a philatelic color names dictionary, listing the stamp catalogue names corresponding to each ISCC-NBS name and Munsell designation and vice-versa, and 3) compile the information for publication.

The enlistment of qualified philatelists in the project will be forthcoming and will continue into the future. No specific date for completion of any identifiable phase of the project can be given now because of the magnitude of the effort needed and the continuing appearance of new postal issues throughout the world. The importance of consistent and accurate color designations for postage stamps is clear since the general catalogue descriptions of all stamps in the internationally recognized reference volumes includes a description of color.

The American Philatelic Society is especially pleased to join the ISCC and through that organization anticipates the technical guidance of its membership in this important long term project. The APS is making increasing use of color in illustrating important articles in its monthly journal, the *American Philatelist*, which is issued to its 47,000 members monthly. The appearance of color has been most welcome, contributing significantly to the quality of the permanent literature as well as to the satisfaction of the membership.

The activities of the member-body delegation have only recently begun. More extensive discussions of the tactics required to meet the objectives outlined in the Project Scope will take place at the National Convention of the Society at its convention in Boston, Massachusetts in August. Such discussions will have as a major objective the description of the project to interested members and their enlistment in the effort. The American Philatelic Society appreciates the guidance relative to color already provided and looks forward to a continuing association of mutual benefit.



**REPORT FROM THE AMERICAN
PSYCHOLOGICAL ASSOCIATION DELEGATES
SIDNEY STECHER, CHAIRMAN**

No report.

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

No report.

**REPORT FROM THE AMERICAN SOCIETY OF
INTERIOR DESIGNERS DELEGATES
ANNA CAMPELL BLISS, CHAIRMAN**

The efforts of the ASID delegation for this year's annual meeting have no doubt been covered in detail in other sections of the *News*. We are indebted to Jack Lenor Larsen for permitting the use of his beautiful showroom for the reception and the New York Chapter of ASID for helping to sponsor it.

Barbara Schirmeister, ASID devoted a great deal of time to getting a distinguished group of speakers to participate in the session of Project Committee 33, "Human Response to Color". Designers, Michael Rabin and Everett Brown, FASID; artist and teacher, Mary Buckley Parriott; and psychologist, Dr. José Raul Bernardo shared their experiences working with color in a very stimulating session.

Participation of the ASID delegation to the ISCC is now under the direction of the Professional Practices Program. We believe close ties are also necessary with the Education Program of ASID and are working toward that goal.

**REPORT FROM THE AMERICAN SOCIETY OF
PHOTOGRAMMETRY DELEGATES**

At present this Member-Body has appointed no Delegation chairman; hence no report was received.

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

No report.

**REPORT FROM THE ASSOCIATION OF
PROFESSIONAL COLOR LABORATORIES
DELEGATES
MARTIN HERSHENSON, CHAIRMAN**

No report.

**REPORT FROM THE COLOR ASSOCIATION OF
THE UNITED STATES DELEGATES**

At present this Member-Body has appointed no Delegation chairman; hence no report was received.

**REPORT FROM COLOR MARKETING GROUP
DELEGATES
JOYCE S. DAVENPORT, CHAIRMAN**

Two national meetings were held during 1978. CMG returned to Canada for the Spring meeting; the lovely city of Montreal was our chosen site and the theme "Color Me Canada." The Color Directions workshops were the main area of activity during this meeting. Spring meetings are oriented towards two

year color projections. The Fall meeting was still very close to Canada held at the Plaza Hotel, Detroit, Michigan the theme, "Color on the Move."

During the year considerable emphasis has been given to expanding the membership of CMG into even more diversified areas of color to bring more fields of expertise to all concerned. Many new members have been introduced through the regional meetings, which enables interested guests and/or new members to become acquainted with the local groups before attending a national meeting.

Some regional boundaries were expanded during the year and the areas and number of meetings are listed below:

Northeastern Incl. N.Y. City	3 meetings
North Central	1
Midwestern	1
Southern	1
Western	1
Canada	1
Foreign	—

The three new direction committees, Education, Marketing, and Technical are proving to be an excellent addition to Color Marketing Group's format and are featured in both national and regional meetings.

During the year the CMG delegation to the ISCC has met three times, twice at CMG meetings and at the ISCC annual meeting in Washington, DC. The guest of honor at that meeting was the president elect, Mr. Franc Grum who was invited to observe the meeting.

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

No report.

**REPORT FROM THE ENTOMOLOGICAL SOCIETY
OF AMERICA DELEGATES**

As yet this new Member-Body has not appointed a Delegation chairman. The Liaison Officer is James M. Packer, 4603 Calvert Road, College Park, Maryland 20740.

**REPORT FROM THE FEDERATION OF
SOCIETIES FOR COATINGS TECHNOLOGY
DELEGATES
ROBERT T. MARCUS, CHAIRMAN**

The last meeting of the ISCC delegation from the FSCT (ISCC Committee) was in conjunction with the annual meeting of the FSCT which was held in Chicago on Nov. 1-3, 1978. During that meeting the change in chairmanship from Ruth Johnston-Feller to myself was announced.

Although there were a couple of changes in the delegation, Ruth retained her voting membership as did Dennis Osmer.

In light of some questions of the validity of a new version of the Color Matching Aptitude Test (formerly the Color Aptitude Test). The consensus was reached that several of the committee members would have both versions of the test run. At this time there is no evidence that the new version of the test produces different values than the old version, but a full report will be made to Bonnie Swenhold, Chairman of Problem 10 "Color Aptitude Test," as soon as the data can be evaluated. To date about 105 sets have been sold.

There was no Dry Color Manufacturers Association Award presented this year, but there will probably be one next year.

Papers from the Symposium on Color and Appearance Instrumentation began appearing in the January issue of the Journal of Coatings Technology. Consideration is being given to holding a similar symposium in 1981.

I have also noted color becoming a more common subject for talks and regional meetings within the FSCT.

Articles of possible interest to ISCC members that were published in the Journal of Coatings Technology in 1978 include the following:

1. R.C. Zeller, "Assessment of Pigment Dispersion By A Colorimetric Technique," March, 1978, p. 62.
2. R. W. Hislop and P.L. McGinley, "Microvoid Coatings: Pigmented, Vesiculated Beads In Flat Latex Paints," July, 1978, p. 69.
3. R. T. Marcus and J. Welker, "Pigment Volume Concentration Effects In Color Prediction and Practice," July, 1978, p. 78.
4. H. Rakoff and L. E. Gast, "Optical Brighteners - Their Effect On The Yellow Appearance of Linseed Oil Paint," July, 1978, p. 84.

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

No report.

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

No report.

**REPORT FROM THE GRAVURE TECHNICAL ASSOCIATION DELEGATES
OSCAR SMIEL, CHAIRMAN**

No report. Mr. Smiel has recently been replaced as chairman by Frank Benham.

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

No report.

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

No report.

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

No report.

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

No report.

**REPORT FROM THE INSTITUTE OF FOOD TECHNOLOGISTS DELEGATES
ANGELA C. LITTLE, CHAIRMAN**

No report.

**REPORT FROM THE MANUFACTURERS COUNCIL ON COLOR AND APPEARANCE DELEGATES
JAMES G. DAVIDSON, CHAIRMAN**

The enrollment in the Collaborative Reference Program (CRP) has been increased by 11% (10% of which is foreign). The CRP program now offers paper samples to the people in the paper industry.

The MCCA has become a constituent member of the U. S. National Council of the CIE. The individuals who will represent MCCA will be Ed Connor, Ralph Stanziola, and Frank Zurlo.

The MCCA was instrumental in initiating a campaign of protest concerning the recent reprogramming of the spectrophotometric and colorimetric groups at the NBS. This reprogramming was the result of a budget reduction and would serve to eliminate the color standards program. As a result of formal protests sent in by members and associated concerned parties, the NBS is currently underway with discussions exploring the feasibility of reprogramming some of the spectrophotometric activities to support other areas, such as new Measurement Assurance Programs.

Absolute reflectance at 45/0° geometry has been added to the CRP Program.

The MCCA will be extending its activities outside the United States on a formal basis in the forthcoming year.

**REPORT FROM THE MYCOLOGICAL SOCIETY OF AMERICA DELEGATES
KENT H. McKNIGHT, CHAIRMAN**

No report.

**REPORT FROM THE NATIONAL ASSOCIATION OF PRINTING INK MANUFACTURERS DELEGATES
GERALD NASS, CHAIRMAN**

No report.

**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 has again submitted no report.

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

Annual Meeting

The 1978 Annual Meeting of the Optical Society of America was held in San Francisco, California. There was a very high level of activity with four symposia and 75 invited papers concerned with vision and color. Russell DeValois presided at a Symposium on "Recent Developments in the Psychophysiology of Color Vision," in which primate electroretinography,

human color-vision genetics, and moderate steps of color difference were discussed. Seventeen contributed papers were presented on a very wide variety of topics concerned with color, including basic physiological mechanisms, color deficiency, chromatic discrimination, color difference equations, spectral sensitivity, and color reproduction procedures. A technical group meeting followed these papers at which Calvin McCamy, Chairperson of the Color Technical Group, presided. This meeting permitted additional discussion of the invited and contributed papers. McCamy also discussed the importance of learning more about the visually relevant properties of materials, including how best to physically characterize the geometric aspects of the appearance of materials in a way that correlates usefully with color appearance.

The 1979 Annual Meeting will be held in Rochester, New York.

Awards

The 1978 OSA award winners are Mr. G. Westheimer, Edgar D. Tillyer Award; Eli Yablonovitch, Adolph Lomb Medal; Bryce L. Crawford, Jr., Ellis R. Lippincott Award; Harold H. Hopkins, Frederic Ives Medal; Robert P. Madden, William F. Meggers Award; Peter P. Sorokin, R. W. Wood Prize, and Thomas J. Johnson, David Richardson Medal.

Publications

Appended is a listing of the papers published in the Journal of the Optical Society of America in 1978 in the field of color.

Color

David L. MacAdam, "Colorimetric Data for samples of OSA uniform color scales," *J. Opt. Soc. Am.*, 68, 121 (1978).

Ralph W. Pridmore, "Complementary colors: Composition and efficiency in producing various whites," *ibid.*, 68, 1490 (1978).

Dorothy Nickerson, "Munsell rennotations for samples of OSA uniform color scales," *ibid.*, 68, 1343 (1978).

Hugh R. Davidson, "Preparation of the OSA Uniform Color Scales Committee samples," *ibid.*, 68, 1141 (1978).

Carl E. Foss, "Space lattice used to sample the color space of the Committee on Uniform Color Scales of the Optical Society of America," *ibid.*, 68, 1616 (1978).

Color Measurement

D. A. Palmer, "Maxwell spot and additivity in tetrachromatic matches," *ibid.*, 68, 1501 (1978).

E. R. Dixon, "Spectral distribution of Australian daylight," *ibid.*, 68, 437 (1978).

Color Vision

W. N. Charman and Jill Tucker, "Accommodation and color," *ibid.*, 68, 459 (1978).

Daniel S. Greenhouse and Theodore E. Cohn, "Effect of chromatic uncertainty on detectability of a visual stimulus," *ibid.*, 68, 266 (1978).

Robert W. Massof and Joseph F. Bird, "A general zone theory of color and brightness vision. I. Basic formulation," *ibid.*, 68, 1465 (1978).

Joseph F. Bird and Robert W. Massof, "A general zone theory of color and brightness vision. II. The space-time field,"

ibid., 68, 1471 (1978).

Robert L. Booker, "Luminance-brightness comparisons of LED alpha-numeric sources at suprathreshold levels," *ibid.*, 68, 949 (1978).

Jo Ann S. Kinney, "Request for Brightness Matching Data and Mathematical Color Vision Models," *ibid.*, 68, 1155 (1978).

Color Vision Discrimination

Mitsuo Ikeda and Hiroaki Shimozone, "Luminous efficiency functions determined by successive brightness matching," *ibid.*, 68, 1767 (1978).

Color Vision, psychophysics

Carl R. Ingling Jr., "Luminance and opponent color contributions to visual detection and to temporal and spatial integration: Comment," *ibid.*, 68, 1143 (1978).

P. E. King-Smith and D. Carden, "Luminance and opponent color contributions to visual detection and to temporal and spatial integration: Authors' reply to comments," *ibid.*, 68, 1146 (1978).

REPORT FROM THE PHILATELIC FOUNDATION DELEGATES RICHARD E. BERESFORD, CHAIRMAN

Since becoming affiliated with the ISCC, The Philatelic Foundation embarked on several projects dealing with the problem of color and its relationship to philately.

In January, the Foundation published its first booklet on the subject entitled "Color In Philately – An Introduction," authored by Roy H. White, Executive Director of the Foundation and Chairman of the Foundation's Delegation to the ISCC. The foreword was by Dr. Fred W. Billmeyer, Jr., Secretary of the ISCC. This booklet touched on such subjects as significant factors in Color Science, chemical and physical aspects of ink colorants and pigment stability, definitions most frequently used in color determination, techniques and instrumentation available to philatelists for color identification and some conclusions regarding color in philately. Some of the research required for the publication was carried out by the Chemistry Department of Rensselaer Polytechnic Institute, Troy, N.Y.

In May, Roy H. White was asked to speak on the subject of "Color In Philately" at the Canadian Philatelic Exhibition, CAPEX, one of the major international gatherings of philatelists in 1978, held in Toronto, Canada. The Philatelic Foundation prepared a slide program illustrating many points of the problems of color in relationship to stamps. Using special lighting techniques and photomicrographs as well as spectrophotometric data, the program was very well received and reviewed.

In June, Roy H. White, along with the other Members of the Delegation to the ISCC, discussed the possibility of producing a major book on the subject of color and philately. With the approval of the Executive Committee of the Foundation, work began on our book, *Color In Philately*. Roy H. White served as Author and Editor-in-Chief assisted by an Editorial Board composed of Dr. Fred W. Billmeyer, Jr., Secretary of the ISCC, S.L. Davidson, Treasurer of the ISCC, who also wrote the foreword, Carl E. Foss, Trustee of the Munsell Foundation, Colonel John F. Rider, USA, Ret., noted philatelist and F. Burton Sellers, Chairman, Board of Vice-Presidents, The Amer-

ican Philatelic Society and Trustee of the Philatelic Foundation.

In the months that followed, extensive original research in the problems of color and its relationship to philately was undertaken. Under a grant given to the Chemistry Department of Rensselaer Polytechnic Institute, much of the required scientific research was performed.

A new series of color charts for the use of philatelists was created by Carl E. Foss. These charts are the first available to the philatelist that use the ISCC-NBS designations and mark a total departure from systems developed and used over the years in philately. A special mask was also designed for use with the charts.

Color In Philately took specific issues of stamps from the United States, Canada, Great Britain, Bermuda, New Zealand and the Confederate States of America, and developed new information about certain issues that was not known before. *Color In Philately* will be released the end of June, 1979.

The research generated in producing *Color In Philately* will be extended by the Foundation over the years.

REPORT FROM THE SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS DELEGATES ROLAND J. ZAVADA, CHAIRMAN

"Imagery – Today and Tomorrow" was the theme of the Society's 120th Technical Conference and Equipment Exhibit in New York City. The program presented an opportunity for effective dialogue between technical people, primarily concerned with hardware, who wanted to learn about the problems and aims of production people, and creative programming people who needed to understand technology in order to utilize available equipment for artistic achievement.

The science of color was the subject of eight technical papers out of the 80 presented during the Conference:

A Holographic Process for Color Movie Preservation.

Image Enhancement of Film by New Method of Pre-Flashing.

Two New Eastman Color Print Films with Improved Cyan Dark-Keeping Dye Stability.

Eastman Color Internegative II Film 5272/7272.

Color Titles for Color Negative Films.

Diffusion and Reflection Media for Light Control.

A continuous-Motion Color Film Telecine Using CCD Line Sensors.

A newly Developed "Integrated Pick-Up Component" for a High Performance and Economical Color TV Camera.

Significant technical achievements in the advancement of color were recognized by the Society:

To honor his continuing substantial contributions to color film processing systems, Dr. Roderick T. Ryan, Eastman Kodak Company, was chosen for the Herbert T. Kalmus Memorial Award.

Recipient of the Agfa-Gevaert Gold Medal was Donald B. Milliken in recognition of his achievement in designing a fast pulldown TV film recording camera that eliminates the kinescope shutter bar problem and, by increasing exposure time, facilitates color shadow-mask recording.

For his work in pioneering the commercial adaptation of many color processes, Reid H. Ray was presented the Eastman Kodak Gold Medal.

Honorable Mention was awarded to Dr. Karel Staes, Agfa-

Gevaert N.V., for his paper entitled "Light Sources as an Integral Part of the Color Photographic System," published in the August 1977 SMPTE Journal.

Among the subjects under study by Society Engineering Committees are screen luminance for drive-in theaters, color temperature shift in projection lenses, measurement of stray light and screen luminance in theaters, quality of projected images, evaluating quality of the 35-mm projection illuminant, screen brightness meter, definition of TV system colorimetric specifications and development of performance characteristics for its components, TV color cameras, color reference test film, color rendering index, and reference brightness transfer characteristic.

Appended is a list of papers on color published in the SMPTE Journal during 1978.

GALE, M. T. and KNOP, K. Embossed relief images and their application for color motion pictures. No. 1, Jan., pp. 6-8.

MAEKAWA, AKIJI; IINO, HIROSHI; SHIGESAWA, TAKASHI; and TSUTADA, TADAKAZU. Preserving color television programs on black-and-white film by electronic video recording. No. 1, Jan., pp. 9-15.

ETO, YOSHIZUMI; MATSUI, KAZUYUKI; ISHIBASHI, SHIZUKA; and TERUI, HIROYUKI. Digital processing amplifier and color encoder. No. 1, Jan., pp. 15-19.

MARSDEN, R. P. An improved automatic color corrector for telecine. No. 2, Feb., pp. 73-76.

TAYLOR, E. W. and LENT, S. J. BBC test card no. 61 (flesh tone reference): colorimetric and other optical considerations. No. 2, Feb., pp. 76-78.

HUNT, R. W. G. Color bars on film for setting up telecines. No. 2, Feb., pp. 78-81.

DUPREE, C. Russell. A bleach system for color positive and negative film that reduces waste treatment requirements. No. 2, Feb., pp. 84-88.

NEUHAUSER, ROBERT G. The Saticon color television camera tube. No. 3, Mar., pp. 147-152.

DOODY, WILLIAM G.; LAWTON, JAMES K.; and PERRY, RODNEY S. Flashing of Eastman Ektachrome video news film for intercutting with Eastman Ektachrome commercial film 7252. No. 6, June, pp. 373-375.

SEYS, WALTER A. Suggested improvements in the efficiency of the color print film process. No. 7, July, pp. 436-441.

GONTCHAROV, A. V. and MOOTCHIEV, S. G. Measurement and evaluation of moire in magnetic video recording. No. 7, July, pp. 456-458.

ISOZAKI, YUKINAO. The 2-in return-beam Saticon: a high-resolution camera tube. No. 8, Aug., pp. 489-493.

STAES, KAREL. The role of film in the film-plus-telecine system: considerations about telecine design. No. 9, Sept., pp. 565-573.

ROTTHALER, M. The colorimetric fidelity characteristics of telecines within the EBU organizations. No. 9, Sept., pp. 574-578.

LANG, HEINWIG and ILLETSCHKO, GERHARD. Testing color reproduction by means of a programmable color bar generator. No. 9, Sept., pp. 579-582.

BENNETT, D. A.; KAISER, P.; and QUINN, S. F. A quality assurance vehicle for radio and television broadcasting. No. 9, Sept., pp. 582-586.

MOORE, J. K.; KAISER, A.; and MAHLER, H. W. A recent innovation in digital special effects: the CBS "Action Track" system. No. 10, Oct., pp. 673-676.

AUTY, S. J.; READ, D. C.; and ROE, G. D. PAL color picture improvement using simple analog comb filters. No. 10, Oct. pp. 677-681.

LEWIS, JOHN H. A new color attenuation system for motion-picture printing. No. 10, Oct., pp. 688-691.

LABRUM, JOSEPH H. Optimizing the compound-reflector framing spotlight. No. 10, Oct., pp. 694-699.

ANDERSON, D. A. and HAKANSON, J. D. Ultraviolet-cured inks for edge numbering by the user on any motion-picture film, including polyester. No. 11, Nov., pp. 749-752.

KUBOTA, YASUO and UEHARA, YOSHIO. The video-melter. No. 11, Nov., pp. 753-754.

POETSCH, DIETER. A continuous-motion color film tele-cine using CCD line sensors. No. 12, Dec., pp. 815-820.

IH, CHARLES S. A holographic process color for motion-picture preservation. No. 12, Dec., pp. 832-834.

REPORT FROM THE SOCIETY OF PHOTOGRAPHIC SCIENTISTS & ENGINEERS DELEGATES

CALVIN S. McCAMY, CHAIRMAN

No report.

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

WILLIAM J. CUNNINGHAM, CHAIRMAN

No report.

REPORT FROM THE TECHNICAL ASSOCIATION OF THE GRAPHIC ARTS DELEGATES

ROBERT LOEKLE, CHAIRMAN

The Color Committee of the Technical Association of the Graphic Arts met in Kansas City on May 9. The Committee serves as an informal forum for reviewing current problems in color that arise in the printing processes. Standards for web offset printing were reviewed from their historical origins to present applications. The need for standards in publication work is self-evident since the final assembly is made up of components, i.e., color separation films, prepared from widely differing originals using different reproduction methods and materials, supplied by individual trade houses.

Existing standards raise problems for the printer as well as the printing buyer. Problems are those of compliance and the general validity of the approach. There is not general consensus at the present time on some of the points that are raised although the publications industry provides wide support and recognizes that acceptance of standards will be an evolutionary process.

Standards for viewing original copy and its reproduction have been available to the graphic arts through the American National Standards Institute for a number of years. They were adopted after almost two decades of development and refinement and have general industry acceptance. Although the standards specify in detail the lighting geometry, color temperature and color rendering index of the viewer for transparent color copy, differences between viewers are experienced, presumably even when the manufacturer has met the specifications. Slight changes in baking time of the interior enamel affect the spectral reflectance considerably, and variations in spectral distributions of the lamp tubes are frequent.

The application of colorimetry to problems in pictorial color reproduction was discussed. Color densitometry is widely used in routine production control at the press to evaluate the thickness of the ink film being applied. Calibration of the instruments to arbitrary standards extends the range of useful communication; however, further extending the densitometric readings to the specification or measurement of color has proved dangerous and misleading.

Papers dealing with color presented at the annual conference were as follows:

Tone and Color Control in Duotone Reproduction, Robert Y. Chung. Subjective criteria can be presented graphically, and the halftone requirements can be deduced analytically; the desired reproduction qualities can be predetermined and communicated in a form useful to the producer.

Color Separations for Textile Printing, Dr. U. Gast. Textile printing normally employs more than four colors, and the color separations need a new and different color recognition system. A scanner using digital and minicomputer technology with a further extension to an interactive textile design system was described.

An Approach to Integrating the Operational Stages of Separation in Relation to a Defined Output of the Printing Process, B. Sunderland. The discrete stages in reproducing a colored original are considered, related to a defined printing system output.

Measurement of Color Differences, Sylvia S. Y. Subt, Patricia Del Mar. Report on a two year investigation using an abridged spectrophotometer interfaced with a programmable calculator to establish numerical tolerances on specifications for paper color.

Color Measurement for Graphic Arts, R. E. Maurer. Description of color-order systems and color measurement with suggested applications for graphic arts.

Mr. Charles Rinehart now succeeds Robert Loekle as chairman of the TAGA Delegation.

REPORT FROM THE TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY DELEGATES

S. J. POPSON, CHAIRMAN

No report.

48TH ANNUAL MEETING APRIL 22-24, 1979 THE ROOSEVELT HOTEL NEW YORK, NEW YORK

Sunday, April 22

Time	Event	Place
6:00 PM	Reception sponsored by	Jack Lenor Larsen
7:30 PM	the Metropolitan Chapter American Society of Interior Designers	Showroom, 232 East 59th Street, New York, New York

Monday, April 23

Time	Event
8:30 AM- 4:30 PM	PROJECT COMMITTEE MEETINGS

Project No. Title and Chairman

10	Color Aptitude Test: Bonnie K. Swenholt, Chairman
18	Colorimetry of Fluorescent Materials: Thomas E. Cullen, Chairman
22	Procedures and Material Standards for Accurate Color Measurement: Ellen Campbell Carter and Charles D. Sterman, Co-Chairmen
25D	Determination of the Strength of Colorants, Dyes Section: Charles D. Sweeny, Chairman
25F	Determination of the Strength of Colorants, Pigmented Fibers Section: George F. Sonn, Chairman
25P	Determination of the Strength of Colorants, Pigments Section: Joyce Davenport, Chairman
27	Indices of Metamerism: Ralph Besnoy and Allen B. Rodrigues, Co-Chairmen
30	Color in the Building Industry: Waldron Faulkner, Chairman
32	Image Technology: LeRoy E. DeMarsh, Chairman
33	Human Response to Color: Alexander F. Styne, Chairman
34	Color-Difference Problems: Ruth M. Rich, Chairman
35	Color of Living Tissue: Robert C. Sproull, Chairman
36	Color Acceptability Standards: Anthony J. Pentz, Chairman
37	Artists Materials: Joy Turner Luke, Chairman
38	Philatelic Color Designations: Donald L. MacPeck, Chairman
New Problems	Open discussion with Problems Committee Chairman and Coordinators
<i>Time</i>	<i>Event</i>
6:00 PM-7:30 PM	SPECIAL PRESENTATION "Computer-Controlled Film and Video—Adapting New Technology for Art" Ms. Lillian Schwartz

"Excess Color Temperature Shifts in Motion Picture Screen Images, or Why is it Green on the Silver Screen?"—Glenn M. Berggren
"The Wheres and Whyfors of Film Color Variability"—Frederick C. Franzwa

12:00 AM-1:30 PM LUNCHEON

Presiding: Mr. Franc Grum
President, Inter-Society Color Council

1:00 PM

Alan R. Robertson:

Citation for the presentation of the Godlove Award to Dr. Gunter Wyszecki

"Color as Seen by a Scientist"—Gunter Wyszecki

1:30 PM-2:30 PM

ANNUAL BUSINESS MEETING

Presiding: Franc Grum
President, Inter-Society Color Council

Reports of Officers

President, Franc Grum
President-Elect, William D. Schaeffer
Secretary, Fred W. Billmeyer, Jr.
Treasurer, S. Leonard Davidson

Reports of Standing Committees

Finance Committee, S. Leonard Davidson
Membership Committee, Calvin S. McCamy
Publications Committee, William Benson
Problems Committee, William D. Schaeffer

Reports of Delegation Chairmen

2:30 PM-4:30 PM

SYMPOSIUM

"Selecting Colors for Automobiles"

Presiding: Jon Hall, PPG

"An Overview of Automotive Color Design at General Motors"—Walter Walker, General Motors

"Mastering: Making Color Work in Production"—John Hertlitz, Chrysler

"Color: Why We Do What We Do"—Vincent Geraci, American Motors

General Chairman: Calvin S. McCamy
Arrangements: James G. Davidson
Symposium: Richard Bauer
Finances: S. Leonard Davidson

Tuesday, April 24, 1979

Time *Event*

8:30 AM-

SYMPOSIUM

12:00 AM

"Color in Motion Pictures and Television"

Presiding: Richard Bauer

"Color Reproduction in Motion Pictures and Television"—LeRoy E. DeMarsh.

"Conditions for Previewing Film for Television Use"—Daan Ziviak

"Television: Does Color Make the Jokes Funnier?"—E. Carlton Winckler

NOTICE OF ANNUAL MEETING

The annual conference of the American Society of Interior Designers will be held in Seattle, Washington on August 2-6 at the Seattle Center. Conference workshops, seminars and tours have been organized around the theme of DESIGN TECHNOLOGY as the CHALLENGE OF THE 80's.

Topics ranging from energy conservation and solar heat to home computers and inner city restoration will be analyzed by specialists for their impact on the interiors of the future.

Further information about the conference, exhibits and EXPOSITION of DESIGNER SOURCES may be obtained from A.S.I.D. at 730 Fifth Ave., New York City, N.Y. 10019.



NORMAN MACBETH, 1917-1979

The death on March 13, 1979 of Norman Macbeth was a great shock to his friends and associates. It occurred in Rio de Janeiro where he and his wife, the former Helen Vaniman, were enjoying a long-planned vacation. A heart attack took him within a few hours. He had seemed to be well recovered from a similar, but what had been called a mild, attack that had occurred about six months before. On March 23 he would have celebrated his 62nd birthday.

Norman Macbeth was well known and respected in the color field. He was not yet 21 when, at his father's death in 1936, he took over management of the small and specialized Macbeth Daylighting Company, "manufacturers of equipment for scientific production of daylight," equipment that in those days was chiefly sold as lamps or filters for surgical lighting, for use in lighting for the production of color motion pictures (Technicolor was at that time one of Macbeth's most important customers), and for use in textile color matching. Well trained by his father in scientific attitude and blessed with good business sense, he built this company into the Macbeth Corporation, known world-wide for its industrial daylighting equipment and its electronic photometers and densitometers. These were used for color control in the graphic arts, in large areas for classing of cotton and other agricultural products, and in the textile and other industries where color inspection and control are serious problems. In 1967 the Macbeth Corporation merged with the Kollmorgen Corporation, whose wide interests in optical devices needing standard illumination com-

plemented those of Macbeth. Norman Macbeth was president of the Macbeth Corporation 1936-1967; he was chairman of Kollmorgen's board of directors, 1967-1979.

During World War II Norman Macbeth was appointed general manager of Hellige, Inc., serving as its president 1942-1945. The glass standards of this (enemy alien) firm were very necessary in developing and maintaining standards for determining water purity and for use in various medical evaluations.

Throughout his career he was closely associated with the Inter-Society Color Council. For 30 years (1940-1970) he served as its treasurer, serving also as an active member of several of its committees. As an outgrowth of work on Problem 11, Color Blindness, Macbeth worked closely with Comdr. Dean Farnsworth during the early years of the war to develop the Farnsworth Lantern, used by U.S. Navy personnel. His cooperation with the work of the committee on Problem 13, the Illuminant in Textile Color Matching, made possible the committee report that was published in journals of both the Illuminating Engineering Society and the Optical Society of America, a report used as a basis for setting standards for a number of color problems. For all the years of his ISCC membership he was a member of the IES delegation, for many years its chairman.

In 1967 the ISCC board of directors announced acceptance of a Macbeth Award, established by Norman Macbeth in honor of the pioneering contributions made to the science and art of color and illumination by his father, Norman Macbeth, Senior. (See ISCC Newsletter No. 216).

In 1971 the Godlove Award of the ISCC, its highest honor, went to Norman Macbeth. Details regarding his career are outlined in the report of the selection committee, George Gardner, chairman, and Norman's acceptance speech (ISCC Newsletter No. 211) in which he reviews his experience in the development of daylighting studies, and the gradual acceptance of artificial daylighting.

Since 1963 Norman Macbeth has been a trustee of the Munsell Color Foundation. In 1975 he became its president, and since then has been its driving force in an attempt to increase funds available for color research and application.

My own contacts with Norman Macbeth were close. I had been exploring with his father the general possibility of introducing artificial daylighting as an eventual alternative for the specially built north skylights in our own cotton classing rooms at the U.S. Department of Agriculture. It took time to collect sufficient information on which to base specifications, and to gain the necessary "go-ahead" for building a trial unit. When the answer to my letter to Mr. Macbeth (informing him that we were now ready to discuss specifics) notified me of his death, the letter, signed by Mr. Macbeth's son, was a real blow. I knew and trusted Mr. Macbeth, Senior, but I knew nothing of young Norman. I did not know that he was not yet 21 nor that on his father's death he had decided to leave school in order to take over the business. However, I soon learned, as did others in our organization, that he was a very capable young man, one in whom his father had instilled his own respect for scientific accuracy and business integrity. On his first visit he reminded me that he had been in my office several years before with his father, who often took him on his trips to visit customers; he had been 16 at the time.

We worked together on the development of lighting units for cotton classing, first in units of filtered-tungsten lamps, later in fluorescent-plus-tungsten units that he called Examolites, units that could be used for lighting extended areas, not

only for cotton, but for many other products. We learned together; we solved many problems together! At the same time we introduced him to the Inter-Society Color Council and its members, many of whom became close personal as well as professional friends. I knew and was very fond of his mother and, later, of his wife and their two boys in their younger years. We have many shared memories — of the last dinner with Dean Farnsworth, in London; of the Inn at Eindhoven; of Brussels. To me, the death of Norman Macbeth means the end of an era, an era in which we were privileged to accomplish a great deal of useful work.

A memorial service was held at the Noroton Presbyterian Church in Darien, Conn. on Saturday, March 17 at 11 a.m. Notice of his death appeared in the Wall Street Journal of March 14, and was noted in the New York Times of March 16 both by the Kollmorgen Corporation, of which he was chairman, and by the directors and officers of the Empire National Bank with which he was associated.

His loss is mourned by colleagues in many fields. His dedication and counsel will be greatly missed.

Dorothy Nickerson

WALDRON FAULKNER, 1898-1979

Waldron Faulkner, chairman of the A.I.A. delegation for many years, president of the ISCC 1956-57, died quietly at his home on May 11, 1979.

He was missed at the ISCC April meetings, to which he sent his greetings and resignation. (The Board of Directors promptly elected him an Honorary Member.) He died of cancer. A memorial service was held on May 16 at St. Margarets Church in Washington, DC.

More will follow in the next issue.

ISCC Annual Meetings

1980: April 21-22 — Rochester, N.Y.

Williamsburg Conferences

1980: February 4-6
1981: February 9-11
1983: February 7-10

American Society of Interior Designers

1979: Seattle, WA, August 2-6

Dry Color Manufacturers Association

1980: The Greenbrier, White Sulpher Springs, WV, June 15-18

Federation of Societies for Coatings Technology

1979: St. Louis Convention Center, October 3-5

Industrial Designers Society of America

1979: Hyatt Regency, Washington, D.C., September 26-30

Optical Society of America

1979: Genesee Plaza Holiday Inn, Rochester, NY, October 8-12

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:

Dr. William Benson
636 Massachusetts Ave., N. E.
Washington, D.C. 20002
292-546-1016

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