
# Inter-Society Color Council Newsletter

ANNUAL REPORT ISSUE

NUMBER 224

May-June 1973

# TABLE OF CONTENTS
## ANNUAL REPORT ISSUE



**Please note: The 1974 Williamsburg Conference has been cancelled.**


COVER DESIGN – DONALD M. GENARO AND VALERIE PETTIS OF HENRY DREYFUSS ASSOCIATES, NEW YORK CITY
COVER PRINTED BY PROGRESSIVE COLOR CORPORATION, ROCKVILLE, MARYLAND
COVER STOCK – OXFORD STARFLEX GLOSS ENAMEL
COURTESY OF OXFORD PAPER CO., DIVISION OF THE ETHYL CORP., RICHMOND, VA.
CONSULTANT – MIMEOFORM SERVICE, INC., WASHINGTON, D.C.

# ANNUAL REPORT ISSUE

## REPORT OF THE PRESIDENT
## RICHARD S. HUNTER

To start this annual business session of the Inter-Society Color Council, I will give you the President's report. Midway in my two-year term of office, this is a good occasion to consider where we are and where we think we are going next year, and in the future.

A year ago when I became President, there were four areas on which I said I wanted to focus. The first area was facilitating communication about color horizontally. By horizontally I mean across the disciplines, particularly across disciplines from the art and design creative effort into the scientific analysis of appearance, and then over to its practical, productive realization by engineers, chemists, and physicists. The ISCC is uniquely qualified to do this type of work since it is the only organization I know of having extensive memberships in all these areas.

Today's program on Education in Color covers the whole subject from pure art, to applied art, to color science, and then to product color. Next year we have already arranged to have a similar horizontal Annual Meeting Program. Our theme will be "Color in Commerce, From Concept to Consumer". We will focus on the troublesome boundary line between the creative artists and the practical producers. They should work together to achieve concepts and products that combine the best potentials of both efforts.

My second area of concern was the need for increased attention to research, as promoted by the ISCC Problems Committee. I divided the projects of the Problems Committee into four groups:

1. Art and design
2. Color science
3. Color reproduction (in photography and printing)
4. Colorants (the coloring materials of technology).

The marked increase in problems activity which we saw yesterday, and which you will hear about this morning, will show you that we have made progress here.

My third area of effort was to expand the Inter-Society Color Council's area of concern beyond mere tridimensional color into other attributes of appearance; chiefly into what I call the geometric attributes. These are gloss, texture, luster, haze, translucency, and the like. We now have at least two Problems Committees actively concerned in this area. Problems Committee 30, working on appearance identification of building materials, knows that color alone does not tell practically how different building materials appear. Not until one adds the geometric aspects of appearance to color does one have an adequate description. The second group, just organized at this meeting, is Problem 35, on color and appearance of living tissue. In the identification of living tissue you have no specification until you have added translucency, texture, and other geometric effects to tridimensional color. The coming Williamsburg conference in January this year will also consider this subject, dealing with expansion of appearance analyses beyond tridimensional color. It will be concerned with the adaptive physiological and psychological modifiers of tristimulus color as well as with the geometric modifiers of object appearance.

My fourth area of interest is in revising the ISCC bylaws so as to expand the role of the individual members in the Council. This is the target on which we have made the least progress. We have a Bylaws Committee which you will hear about this morning.

Let me tell you about committees for the future. Roland Derby is the Program Chairman for our next year's program. If you have suggestions, get in touch with him. We set up a committee on longer-range program planning. This committee will be a repositiory of our thoughts and suggestions for future programs. We want to end the hand-to-mouth program planning of the past. Max Saltzman is Chairman of this so-called Program Planning Committee. This does not mean that he will be a Program Chairman. Instead he will receive ideas and suggestions from others, and on the basis of past experience I expect he will originate quite a few himself. Finally, the Nominating Committee for the next year has been appointed. If you have suggestions for nominees for officers or directors, get in touch with Ed Stearns, Midge Wilson, or Warren Rhodes.

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

The secretary's report appears to be dull by tradition, and so far I have not seen any really appropriate way to "liven it up." I am therefore forced to stay with the recitation of prosaic facts and figures.

In making the year's end count of our membership roster, I found that a number of paying individual members in the Council dropped 15% in 1972 to 535, whereas the number of members carried free of charge increased, by only 3% fortunately, to 254. This surely must say something about our generosity but something else again about our financial policies.

Looking at the "freeloaders," I find we have 18 fewer delegates at the end of 1972 than 1971 (total of 221), 3 fewer member-body editors or liaison officers (48), one new AIC member-society secretary (18) and one less honorary member (16). The difference between this loss of 21 and the net gain of 7 comes from 28 delegates who were either newly elected, replacing IMG delegates who resigned, or were also individual members up to 1971, but in 1972 felt that our $10 annual dues were too steep and preferred to ride free. I have often thought that a subtle campaign to convince them otherwise was in order, and have managed to convert a few loyal Council members, but not enough.

In summary, taking account of the fact that many delegates are also IMG's, and that some are delegates for two

(in two cases, three) member-bodies, our total mailing list was 789 as of January 1st, down 10% from a year ago.

I have felt it would be nice to have a full roster of 290 delegates rather than 221 to represent 29 member-bodies, and to eliminate all duplicate and triplicate representations, but this also seems to be too idealistic.

Although not properly a part of the report for 1972, I would like to note that 202 persons are registered at this annual meeting, and there will be 113 at the banquet.

An addendum to the Membership List was issued in the fall of 1972, and anyone who did not receive one or has mislaid it should contact my office to receive another. Since it was issued, however, there have been 83 changes in membership and 44 changes in address. A major revision and new list is scheduled for the spring of 1974.

Regrettably, I must close on a more sober note. We have been informed of the passing on of several ISCC members, including William Clark, color consultant, and Mrs. Elschen Hood, well known in fashion and design circles. In addition, the Council lost by death one of its most distinguished honorary members and past chairmen, Deane B. Judd. The Secretary's records show that Dr. Judd attended the first annual meeting of the Council in 1931, and became a delegate from the Optical Society of America in 1933, and was a delegate or chairman of the delegation until his death almost 40 years later. He was vice-chairman of the Council in 1936-7, Chairman from 1940 to 1943, Newsletter Editor for Science in the early years, received the Council's first Godlove Award in 1957, and was a valued member of the President's Advisory Committee, the Publications Committee, and the Finance Committee in more recent years. I am sure this list is not complete, but it seems to me to exemplify the kind of loyalty to the Council from a reknown and very busy scientist that inspired I. H. Godlove to write, a few days before his death in 1954,

*"It's not the brains or genius*
*Nor the money that we pay;*
*It's the close cooperation*
*That's bound to win the day.*
*It's not the individual*
*Nor the Council as a whole*
*But the everlastin' teamwork*
*Of every bloomin' soul."*

Truly, Deane Judd's passing signaled the end of an era, but I know he would have echoed Dr. Godlove's further admonition that we should stop and look back only that we may orient ourselves in the desired direction, and then press forward. We shall do so, but we shall nonetheless sorely miss his counsel and leadership.

## REPORT OF THE TREASURER
## WARREN B. REESE

Copies of the Auditors Report have been distributed to the Officers and Board of Directors and it is reproduced here. I should like to express thanks and appreciation to Mr. R. E. Phipps and his staff who perform all the accounting work of the Treasurer's office.

It is interesting to highlight that for 1972, we had an excess of $2960.20 income over expense and that the ISCC's financial affairs continue in sound condition.

### COLOR REPRODUCTION

The color reproduction facing this page is reproduced by permission of the National Geographic Society from their 1973 book "The Alps."

The reproduction is provided to the ISCC through the courtesy of Progressive Color Corporation, Rockville, Maryland.

Original photography by Gerhard Klammet. The legend reads:

"Brilliant in sunlight, the distant summit of the Heimgarten overlooks the village of Kochel, half-caught in frosty mist. In clear air skiers take advantage of neighborhood slopes; a family follows a well-packed hillside lane."

## INTER-SOCIETY COLOR COUNCIL, INCORPORATED
## BALANCE SHEET
## DECEMBER 31, 1972

### ASSETS

| | | |
|---|---|---|
| GENERAL FUND | | |
| Cash | | |
| Empire National Bank – regular | $ 3,626.14 | |
| Empire National Bank – savings | 6,185.64 | |
| Bowery Savings Bank | 1,414.52 | |
| New York Savings Bank | 122.12 | |
| Greenwich Savings Bank | 157.08 | $11,505.51 |
| Investments, at cost | | |
| Affiliated Fund, Inc. – 398 shares (market value – $2,918.60) | $ 3,050.23 | |
| Putnam Growth Fund – 265 shares (market value – $3,296.25) | 2,852.79 | 5,903.02 |
| Dues receivable | | 20.00 |
| Prepaid expense | | 500.00 |
| | | $17,928.53 |
| I. H. GODLOVE AWARD FUND | | 660.85 |
| | | $18,589.38 |

LIABILITIES

| | | |
|---|---|---|
| GENERAL FUND | | |
| Equity | | |
| Balance, beginning of year | | |
| As previously reported | $16,938.33 | |
| Less underaccrual of 1971 Williamsburg Symposium expenses | 1,970.00 | |
| As restated | $14,968.33 | |
| Add excess of income over expenses for the year | 2,960.20 | |
| Balance, end of year | | $17,928.53 |
| I. H. GODLOVE AWARD FUND | | |
| Balance, beginning of year | $ 1,108.13 | |
| Less excess of expenses over income for the year | (447.28) | |
| Balance, end of year | | 660.85 |
| | | $18,589.38 |

## INTER-SOCIETY COLOR COUNCIL, INCORPORATED

### GENERAL FUND

### STATEMENT OF INCOME AND EXPENSES

### YEAR ENDED DECEMBER 31, 1972

| | | |
|---|---|---|
| Income | | |
| Dues* | | |
| 558 individual members** and 30 member bodies | | $ 7,336.00 |
| Publication sales | | |
| Newsletter | $ 24.00 | |
| Royalties | 682.30 | 706.30 |
| Interest and dividends | | |
| Savings banks | $ 541.30 | |
| Affiliated Fund, Inc. | 187.30 | |
| Putnam Growth Fund | 198.08 | 926.68 |
| Other income (expenses) | | |
| Annual meeting | | |
| Reservations and registrations | $ 2,834.00 | |
| Cost of dinner and expenses | (1,929.99) | 904.01 |
| Williamsburg Symposium | | |
| Registration fees | $ 5,412.87 | |
| Cost of dinner and expenses | (3,691.31) | 1,721.56 |
| | | $11,594.55 |
| Expenses | | |
| President's office | $ 376.60 | |
| Treasurer's office | 147.35 | |
| Secretary's office | 2,861.94 | |
| Newsletter | 5,249.50 | |
| Other | (1.04) | 8,634.35 |
| Excess of income over expenses | | $ 2,960.20 |

*Dues are recorded as income when billed to members.
**Includes ten honorary members at no charge.

## INTER-SOCIETY COLOR COUNCIL, INCORPORATED

### GENERAL FUND

### SCHEDULE OF CERTAIN INCOME AND EXPENSES COMPARED TO BUDGET

### YEAR ENDED DECEMBER 31, 1972

| | (Income) expenses | | |
|---|---|---|---|
| | Budget | Actual | Difference |
| President's office | $ 250.00 | $ 376.60 | $(126.60) |
| Treasurer's office | 200.00 | 147.35 | 52.65 |
| Secretary's office | 2,200.00 | 2,861.94 | (661.94) |
| Newsletter | 6,000.00 | 5,249.50 | 750.50 |
| Annual meeting | (1,000.00) | (904.01) | (95.99) |
| | $7,650.00 | $7,731.38 | $ (81.38) |

## INTER-SOCIETY COLOR COUNCIL, INCORPORATED

### I. H. GODLOVE AWARD FUND

### STATEMENT OF CHANGES IN FUND

### YEAR ENDED DECEMBER 31, 1972

| | |
|---|---|
| Balance, beginning of year | |
| Cash on deposit | $ 242.60 |
| Receipts | |
| U. S. Treasury bond, 2½%, redeemed 9/15/72 | 1,000.00 |
| Interest, U.S. Treasury bond | 25.00 |
| Disbursements | (606.75) |
| | $ 660.85 |
| Balance, end of year | |
| Cash on deposit | $ 660.85 |

## REPORT OF THE FINANCE COMMITTEE
## WARREN B. REESE, CHAIRMAN

The members of the Finance Committee are:

Warren B. Reese, Chairman
S. Leonard Davidson
Roland E. Derby, Jr.
William J. Kiernan
Dorothy Nickerson

During the year the Finance Committee recommended to the Board of Directors the following actions which were approved by the Board:

1. Consolidation of several time deposit accounts.
2. Establishment of a separate time deposit account for the I.H. Godlove Award Fund which had heretofore been commingled with Council Funds.
3. Sell our investments—265 shares Putnam Growth Fund 398 shares Affiliated Fund and deposit proceeds of sale into time deposits. Concern over poor investment fund performance and the uncertain stock market has prompted the move to convert to cash.
4. The 1973 operating budget of $8,700 projected income and $8,700 expense was recommended and approved —this is a balanced budget:

**1973 BUDGET**

**Income:**

| | | |
|---|---|---|
| Annual Meeting | | $ 900 |
| Member Body Dues | | 1,860 |
| IMG Dues | | 5,040 |
| Royalty | | 400 |
| Other | | 500 |
| | | $8,700 |

**Expenses:**

| | | |
|---|---|---|
| President's Office | | $ 300 |
| Treasurer's Office | | 200 |
| Secretary's Office | | 2,200 |
| Newsletter | (amortization) | 500* |
| | | 5,500 |
| | | $8,700 |

*$2,500 additional was approved by the Board of Directors on 4/29/73 for the new *Newsletter* cover and format. The $2,500 will be amortized against the newsletter budget at the rate of $500 per year for five years.

Miss Nickerson, in her desire to reduce some of her many activities, has resigned as a member of the Finance Committee after many years of service. Dorothy has most generously stated that she is confident that the Council's financial affairs are capably handled by the members of the Finance Committee. The Chairman of the Finance Committee and the Board of Directors have reluctantly accepted Dorothy's resignation and extend to her our thanks and appreciation for her many years of service, contribution, and guidance. We shall miss the privilege of calling on her for the future.

President Hunter has appointed Midge Wilson to serve on the Finance Committee, and we take this opportunity to welcome Midge.

## REPORT FOR THE BOARD OF DIRECTORS
## FRED W. BILLMEYER, JR., SECRETARY

At President Hunter's request, I have prepared this report to indicate what matters were considered by the Board of Directors during the course of the year. The Board normally meets three times (January, the Sunday before the Annual Meeting, and September). Occasionally an extra meeting is called; this was the case in 1972 when a June meeting was held. Those invited to attend included the officers, directors, standing committee chairmen, liaison officers, and President's advisory committee (including all past officers as ex officio members). From 15 to 20 usually are present.

Regular agenda items include approval of new member applications and reports of the officers and of some standing committees (always those for Problems, Publications, one at least of the Awards, and—recently—By-Laws Revision; the others report on request). At least one Annual Meeting and, usually, one Williamsburg Conference are considered. Planning for these meetings is started well in advance; for example, planning for the 1973 annual meeting and the 1974 Williamsburg Conference was started in June, 1972. Location and space reservations for ISCC Meetings are usually made 5 years ahead. On the other hand, consideration does not stop with the meeting itself; publication of the 1971 Williamsburg Proceedings was still being discussed in March, 1972.

The above matters of business are routine in the sense of always being on the agenda, but they are considered with care and in great detail. For example, the Treasurer's report centers on matters of budget and expenditure, and must be studied most carefully. Each report of the Problems Committee now discusses progress in about 15 active Subcommittees and is rarely completed in less than an hour. The Board takes quite seriously its responsibility for maintaining the direction of Council activities and adhering to its stated aims and purposes.

The *Newsletter* reports much of the results of these recurring deliberations, such as meeting and conference programs, Awards citations, and Problems subcommittee reports. Many of the other items of business considered by the Board of Directors do not get this coverage for a variety of reasons. I have listed below some of these which may be of interest to the membership at large. The period covered is January, 1972, to May, 1973.

*By-Laws Revision.* Intent to revise the Council's By-Laws was disclosed to the membership in the President's Report in *Newsletter* 218 (May-June, 1972). One incentive to do so is to have the Council's status with the Internal Revenue Service changed from that of a trade association (Sec. 501C(6)) to that of a tax-exempt foundation (Sec. 501C(3)). A number of important tax advantages would result. The present thinking of Mr. S. L. Davidson's committee is to prepare three documents: a Constitution, which would be very difficult to amend; By-Laws, which could be changed only with the approval of the voting delegates; and Standing Rules, which could be changed by action of the Board. A draft of the Constitution, which is probably the most important from the standpoint of the IRS, has been approved by the Board and is being studied

by legal counsel.

In the revision of the By-Laws, some of the items to be considered are: establishment of a more active role for the individual members; creation of new classes of membership such as Company, Life, and Emeritus or Retired, and clarification of the Honorary member classification; updating the list of continuing Standing Committees, providing scopes for all standing committees and Problems subcommittees, and creating a small Executive Committee within the Board authorized to conduct essential business between Board meetings.

Finally, attention will be given to improving the continuity of Board membership, possibly by adjusting and staggering the terms for directors. Currently, the positions of Secretary and Treasurer are continuing ones (if they are willing to serve), and the Vice-President-President-Director sequence provides continuity over a 6-year period. Expanding attendance at the Board meetings, as indicated earlier in this report, has also helped considerably, since most of those invited to attend have held their positions for many years. What is further being considered is some way of avoiding the need for replacing (usually) four directors at one time every two years.

*Joint Meeting Policy.* The President's Report in *Newsletter* 218 indicated that details of this policy, adopted in February, 1972, would appear in the Newsletter, but in preparing this report I was unable to find that they had. I therefore quote from the Board Minutes of February 6-7, 1972:

*"Joint Meeting Policy.* After considerable discussion, the following guidelines were adopted covering Council participation in several categories of meetings or symposia other than its own annual meeting and Williamsburg symposia.

"Category I: *Jointly sponsored meetings* or symposia. In this category would fall true joint meetings (the word symposia will be understood to follow) set up between the Council and a member-body or other organization. A proposal to hold such a meeting would requie approval of the Board of Directors at the outset. The Board would appoint a member of the Council as co-chairman of the meeting, together with a member of the other organization (the two positions may be occupied by the same person). The Council would retain editorial approval of the use of the ISCC name, administered by the Board on recommendation of the Publications Committee. The Council would reserve the right of consultation regarding publication plans, and would be provided reprints, if any, at no charge or minimum cost for distribution to Council members. Financial support could be provided according to a budget submitted to and approved by the Board of Directors.

"Category II: *Cooperative meetings* or symposia. This category is meant to apply to cooperative efforts in arranging meetings of member-bodies; another organization desiring a cooperative meeting should be encouraged to apply for member-body (or sustaining-member) status. Approval for undertaking a cooperative meeting must be obtained from the Board of Directors. The ISCC name would be used only in conjunction with the phrase "in cooperation with." The Council would agree to provide "reasonable support" in seeking speakers, suggesting program content, and aiding with publicity, but would provide no financial support. The Council would request reprints for distribution to its members, but would not stipulate that they be furnished as a condition for cooperation.

"Category III: *Other meetings* of interest. This category refers to meetings held by other societies (member-body or not) on subjects of interest to the Council. The ISCC would extend its encouragement to such meetings, and would aid where possible in locating speakers and with publicity, but the Council name would not be used.

"It was recognized that a Delegation or a Problems Subcommittee could of course hold a meeting under its own name, but it should be made clear that the Delegation or the Subcommittee and not the Council was acting."

*Matters Pertaining to Membership List and Mailings.* The Board approved three recommendations in this area: 1. The Council mailing list will be made available to commercial users for a charge of $50.00 plus expenses of Mimeoform Service, Inc., but the fee will be waived if the organization requesting the use of the mailing list is tax exempt, such as an educational institution, society, government agency, etc. The responsibility for authorizing the use of the mailing list, in either way, rests with the Secretary, and arrangements *must* be made through him. 2. A bulk mailing permit was obtained and is being used for the *Newsletter* and other domestic mailings to all members, at a considerable savings in postage and no discernible disadvantages to the membership. 3. The privilege of receiving all ISCC mailings by air mail has been offered to all overseas members of the Council at a cost of $5.00 per year.

*Problems Committee.* As was mentioned in the Vice-President's report in *Newsletter* 218 and is evident in this issue, the Problems Committee was divided into four groups in an effort to provide closer supervision and direction. Inevitably, the more complex organization hampers communication, but improvement here is hoped for as a result of a meeting of all Subcommittee chairmen with the Board at the time of the 1974 Annual meeting.

Rules for publication of Problems subcommittee reports were reviewed and modified. As these procedures do not appear to have been collected and published in one place before, it seems advisable to do so here.

The By-Laws require that "Any report which is to carry the endorsement of the Council, direct or implied, shall be submitted to the voting delegates for approval" (Art. VIII a2). As the Board and the Problems Committee operate, this means that successive approval of the Subcommittee members, the Problems Committee chairman, the Board, and the voting delegates would be required, a process which takes several months at least. In the January 31, 1971, meeting, it was voted by the Board that "the following procedure be adopted for use when endorsement of a report by the Council is, in the opinion of the Baord of Directors, not required:

"That the report in question may be published carrying the following or equivalent disclaimer statement:

" 'This (identified as to origin) report has been authorized for publication and distribution by the Board of Directors of the Inter-Society Color Council but this authori-

zation does not constitute direct or implied endorsement by the ISCC as a whole.'

"And that, as a courtesy, the Chairman of the Committee responsible for the report shall notify the voting delegates of its existence by submission to them of an abstract, description, or the like for information purposes."

The procedure for implementing publication after either of the above was adopted by the Board on June 1, 1972, as follows:

"Approval of the report for publication, either by the Board or the voting delegates as required, shall first be obtained. The report will then be transmitted to the Publications Committee by the Chairman of the Problems Committee, together with recommendations on where to publish and how to obtain reprints at least cost. If subsequent editing results in changes of content, reapproval is required; if in editorial changes only, not. It is the responsibility of the Publications Committee to see that reprints are obtained for distribution to Council membership, but of the Problems Committee to prepare an estimate of the cost of such reprints in advance of the year in which they will be required, so that funds for their purchase can be budgeted."

*New Standing Committees.* At the April 29, 1973, meeting, a new standing Committee for Program Planning was created, as indicated in the President's Report in this issue. The scope of ths committee was outlined in the January 15 minutes as follows:

"A Director of Program Planning is appointed to keep track of ideas for meetings (both annual meeting symposia and special conference topics), order them so as to provide continuity and purpose, and present them to the Board for consideration."

The Board is pleased that Max Saltzman has accepted this position.

The scope for a Standing Committee on Public Relations was presented to the Board in January, 1973, and in April it was agreed that when a chairman could be found this committee would be created by Board action. The scope reads as follows:

"The purpose of this Committee shall be to monitor happenings within the Inter-Society Color Council, and to prepare and distribute news releases describing newsworthy achievements and activities of the Inter-Society Color Council, and otherwise publicizing the activities of the Council as deemed appropriate.

"By way of example, such newsworthy events should include but not be limited to:

1. ISCC annual meetings and symposia,
2. Joint meetings of which ISCC is sponsor,
3. Meetings of the International Color Association (AIC),
4. Meetings of ISCC Member Bodies where color is a specific theme,
5. ISCC awards and color related awards by member bodies to ISCC members,
6. Important technical achievements by ISCC Problems Committee and other groups,
7. Important ISCC decisions involving selection of officers, establishment of new programs, committees, etc.,
8. Important developments in the field of color education which involve the ISCC or its members.

"It is not intended that the news releases prepared by the Committee will replace announcements to ISCC Membership, such as that of the annual meeting program, which have and will continue to be issued through the Secretary's Office or, if of less topical interest, through the *Newsletter.*

"The duties of the Committee will include compiling, maintaining, and periodically reviewing and updating, a Publicity list for the Council consisting primarily of titles and names and addresses of editors of journals, periodicals and other serials carrying news related to color, designated liaison officers (or journal editors) of member-bodies, and other appropriate outlets for news releases. Such a list has been partially compiled by the Secretary's Office, which will assist in carrying out the initial stages of this task.

"The Committee shall prepare and submit (through the Treasurer) to the Board of Directors an annual budget covering the cost of preparing and disseminating anticipated news releases (providing that other sponsorship of this expense has not been established).

"While operating in close cooperation with the Publications Committee, the Public Relations Committee shall be responsible to and obtain basic direction from the Board of Directors."

*Timetable for Election of Officers.* As noted in the President's Report, procedures for the election of new officers were initiated before the April, 1973, Board meeting, though they will not take office until April 30, 1974. To clarify the standing rules on this subject, the following timetable was drawn up, based on the By-Laws and precedent:

| *TIME* | *ACTION* |
|---|---|
| Prior to spring Board meeting (in odd years) | President appoints nominating committee: two voting delegates and a past President, none a Board member |
| At spring Board meeting | Board approves appointment |
| At fall Board meeting, prior to November 1 | Committee reports names of nominees willing to stand for the offices:<br>President (the incumbent President Elect)<br>President-Elect<br>Secretary (eligible for re-election)<br>Treasurer (eligible for re-election)<br>Directors (four) |
| Immediately after fall Board meeting, prior to December 1 | Secretary shall notify all voting delegates by mail; this can be via the *Newsletter* if timing is convenient. (A procedure for additional nominations, requiring at least 30 days, is outlined in the By-Laws.) |

| | |
|---|---|
| During January (in even years) | Ballots are forwarded to the voting delegates |
| During February | Ballots are returned and counted. Results are announced to the candidates and Board, and to the Council via the *Newsletter* prior to the annual meeting |
| At the annual meeting | Newly elected officers and directors are invited to the spring Board meeting which precedes the annual meeting. At the end of the annual business meeting (or at the banquet, by the retiring President's choice), the new officers assume their duties. |

*Third AIC Meeting, 1977.* Though it is premature to give details, the Board has been considering since September, 1972, the desirability of inviting the International Color Association to hold their next quadrennial meeting in the United States. It was moved that such an invitation should be issued to the AIC at the 1973 York meeting in July. The Board agreed on a site for the meeting, if held here, and a detailed description of facilities and probable arrangements is ready for presentation. The Council will be informed as soon as possible if (as seems likely) our invitation is accepted.

## APPLICANTS APPROVED FOR INDIVIDUAL MEMBERSHIP

### Board of Directors' Meeting, April 29, 1973

| *Applicant* | *Member-Bodies and Interests* |
|---|---|
| Carl A. Amond<br>Celanese Fibers Co.<br>P.O. Box 444<br>Cumberland, Md. 21502 | AChS. Interactions between and evaluation of colorants. |
| John E. Bailey, Jr.<br>Div. of Color and Cosmetics<br>FDA, BF-437<br>Washington, D. C. 20204 | AChS. Analytical methods, synthesis of colors and purification of intermediates and subsidiary colors |
| Miss Mary E. Carter<br>2005 Lake Ave.<br>Knoxville, Tenn. 37916 | AATCC, AChS. Textiles, color research, photomicroscopy |
| Prof. George Goldfinger<br>School of textiles<br>North Carolina State University<br>Raleigh, N. C. 27607 | AATCC, AChS. The interrelation between the makeup of the colorant and the optical and geometric properties of the substrate and the color of the system. |
| Walter V. Grady<br>4232 N. 32nd St., Apt. 10<br>Phoenix, Arizona 85018 | Color theory, color measurement and control, water color, color photography. Certified gemologist, Gemological Institute of America. |
| Raymond A. Kinmonth, Jr.<br>434 S. Reuter Drive<br>Arlington Heights, Illinois 60005 | ASTM, SPE. Instrumental evaluation of changes in appearance resulting from photodegradation and weathering. Spectral balance of light sources. Atlas Electric Devices Co. |
| Dr. Victor J. Mimeault<br>Ferro Corporation<br>Technical Center<br>Independence, Ohio 44131 | AChS, SPE.—Dispersion—how to measure it.—Surface modification of pigments.—Heat-stable pigments.—Pigment-vehicle interactions |
| David L. Prentice<br>Darworth, Inc.<br>Tower Lane<br>Avon, Conn. 06001 | AChS. Quality control of stains (color) with trained personnel and instrumentation. |
| Jack D. Preston, D.D.S.<br>5062 Amestoy Ave.<br>Encino, California 91316 | ACP. Dental ceramics, dental education, the daily problem of making shade matches with teeth and ceramic restorations. |
| Donald D. Schneider<br>424 W. Melrose Ave.<br>Chicago, Illinois 60657 | ACeS, FSPT. Color control in factory usage, color system development, instrumental techniques for shading, color instrument evaluation (DeSota, Inc.) |
| Joseph J. Smith<br>906 Elmhurst Ave.<br>Bristol, Pa. 19007 | Color measurement, instrumentation and specifications. (Rohm and Haas Co.) |

The following individual member requests reinstatement:

| | |
|---|---|
| Miss Jacqueline K. Welker<br>311 N. Marietta Ave.<br>Milwaukee, Wisconsin 53211 | Working with the faculty at the University of Wisconsin–Milwaukee in developing education programs that interest the professional art student as well as themselves in guiding them to an understanding of the mediums they are involved in with the emphasis on pigment interaction and color. (PPG Industries–tinting and controling the color and strength of paints, tints and pigments.) |

## REPORT OF THE GODLOVE AWARD COMMITTEE
## GEORGE B. GARDNER, CHAIRMAN

The 1973 ISCC Godlove Award was presented jointly (for the first time in the history of the Council) to two recipients, Mrs. Dorothea Jameson Hurvich and Dr. Leo M. Hurvich, by President Richard S. Hunter at the Annual Meeting Banquet, May 2, 1973. The citation by Ralph M. Evans and abbreviated acceptance remarks by Dorothea Jameson Hurvich follow.

### Godlove Award Citation by Ralph M. Evans

I have been asked by the Godlove award committee to tell you a little about tonight's recipients of the award and

how their contributions fit into the aims and purposes of the Council. I am very happy to do so; I can at least claim that I gave them some encouragement in the early stages of their studies.

Not many of you will recall that our Color Council was formed by a group of people, mostly from the Optical Society of America, who felt that the subject of color was larger than could be encompassed by the field of optics. At least part of this feeling came from the dissatisfaction of a few members with the Helmholtz approach to the subject which the society had just endorsed by the publication of an English translation of his book. The upshot, in any case, was the formation of the Council with the intention that the subject of color would be approached from the standpoint of all disciplines rather than just one. Outstandingly different in their approach, of course, were the psychologists, initially represented by Troland and later by many other workers who have been active in our Council.

The Helmholtz approach to color was based on the physics of the stimulus and the eye as light receptor and, as you all know, has led to the science of colorimetry as we know it today. Almost simultaneous with the work of Helmholtz, however, Hering was also working on color from what we can see today was really the opposite end of the subject, and reached quite different conclusions; so different, in fact that there did not appear to be common grounds for the two.

Hering started from what an observer actually sees and tried to work back to causes. For this reason, if no other, his work has always appealed strongly to psychologists, who have been his chief proponents. Our recipients tonight were both trained in psychology, one at Harvard and the other at Wellesley, and it will interest many of you to know that Dorothea studied under Mike Zigler who was very active at one time in Council affairs and through whom, as a matter of fact, I came to know both of them.

The stated aims of our Council are summarized in the phrase, "the description and specification of color." I think not many people realize the gulf that lies between these two words. While the some forty year interval since the foundation of the Council has seen the specification phase of our aims develop into a well established science and the description phase become firmly established through refinement of color order systems, there has been little or no progress made in the obvious requirement that we be able to *calculate* the description based on the specification. We cannot yet calculate the color an observer will see, given the specifications of the stimuli, even for simplified situations. The connection has remained empirical.

Looked at very broadly it is not too much to say that the gulf between Hermholtz and Hering is identical to that between specification and description. If the first can be bridged it will lead inevitably to the bridging of the second.

It is for work in this field that we honor our recipients this evening. For the last 25 years or so they have devoted their very considerable energies to the establishment of a quantitative basis for the Hering theories, using the specifications established by CIE colorimetry. In this they have been eminently successful; there is no question that a link has been established. There remains, of course, the problem of abstracting the results from the theories of color vision involved and reducing them to workable terms. When this has been done, however, and I foresee it as a valuable activity of the Council, it is safe to predict that the work of Hurvich and Jameson will be seen in its proper light; not so much as vindicating Hering's theories as pointing to a solution of the problem of predicting color appearance from colorimetric specification.

In the course of this work they have produced the first English translation of Hering's book, thus again completing a job started by Prof. Zigler. This, by itself, is a notable contribution but, basically, they have quantified the Hering concepts with experimental work which is sufficiently precise, and it is likely to be used, eventually, in the extension of trichromatic colorimetry that will be necessary before quantitative calculation of color perceptions becomes possible. Their many publications which detail this work have been compiled.* Taken together they form a unique contribution to the subject of color.

Both Leo and Dorothea have the title of Professor of Psychology at the University of Pennsylvania and both represent the American Psychological Association as delegates to our Council.

*This Bibliography, comprising 77 citations over the period 1937-1972, is on file in the Secretary's Office.

**Abstract of Remarks made by Dorothea Jameson Hurvich after the Presentation of the Godlove Award***

We want to express our appreciation for the honor of receiving the Godlove Award from the ISCC, a group whose interests in color represent such a wide variety of human concerns. Dr. Godlove's own interest in color perception came about through his work as a chemist concerned with producing colored materials, and the breadth of his interest was such that he was an authority on man's use of color from the ancient civilizations on up to our present-day age of plastics.

We are especially pleased to be presented with this award by Ralph Evans. As most of you know, our work in color in the late 1940's and early 50's was done in Ralph Evans' division at Eastman Kodak Company, and with his invaluable support and encouragement. In addition to being a friend whom we have respected and admired for many years, Ralph Evans represents, to us, a man whose interests in color and whose expertise encompass the whole gamut, from chemistry to aesthetics, from teaching, which he does so well in his lectures and books, to doing, which he does so well in his photographic studio. And so our special thanks to him for being here tonight to make this occasion an even more special one for us.

The remainder of our remarks concerned the development of our current understanding of color vision in terms of opponent-process theory. The usefulness and acceptance of the theory have developed through (1) its statement in quantifiable terms that has led to experimental tests of quantitative psychophysical data; and (2) verification of

*The complete text of these remarks is on file in the ISCC Secretary's Office.

the existence of spectrally opponent neural responses in physiological experiments. The way the spectrally and spatially opponent organization of the visual system can bring about both perceived contrast and assimilation effects was briefly outlined and the effects were illustrated by slides of contemporary paintings by Josef Albers and Richard Anuszkiewicz.

## REPORT OF MEMBERSHIP COMMITTEE
## WALTER C. GRANVILLE, CHAIRMAN

We regret to report the resignations of the American Oil Chemists Society, a member-body since 1948, and the Paperboard Packaging Council, a member-body since 1942. At present we have 29 member-bodies.

During the past several years we have compiled an historical tabulation showing when each member-body joined the Council, how long they have remained, and a limited record of attendance of delegates at the Annual Meetings. A list of all member-bodies since the formation of the Council in 1931 also has been prepared. Copies of both are appended to this report.* Of the 8 founding organizations, 6 remain. Many groups have changed their name or consolidated with other groups having a similar interest. I am indebted to Dorothy Nickerson and George Gardner for help with the early records.

During the past year the number of individual members has dropped 15% because of resignations or non-payment of dues. I believe this shake-out is no cause for alarm because we have had a relatively large number of new members in recent years. Some probably were over enthusiastic about how Council membership would benefit them, while normal attrition could account for other resignations. Nevertheless, we will watch this situation.

*See center spread and following page.

## REPORT OF THE COMMITTEE ON PUBLICATIONS
## ROBERT W. BURNHAM, CHAIRMAN

The reconstitution of the Committee this year was immensely successful. It enlisted representatives from graphic arts, color measurement, design, and scientific areas. Their names are listed on the last page of each issue of the *Newsletter.* The cover on this Annual Report Issue of the *Newsletter* is ample testimony to the amount of work that was achieved during the past year. Credit should be given especially to Milton Pearson of the Rochester Institute of Technology, who is our Graphic Arts representative. Special credit should also be given to Donald Genaro, who designed our magnificent new cover, and who is with Dreyfuss Associates in New York. A more full recognition of the contributions of various people in other organizations appears inside the front cover of this issue.

The Committee has continued to examine ways and means to arrange for the translation of key or major articles in the foreign literature dealing with significant areas of color (possibly by employing foreign members through the International Color Association). We have at least two good contacts now with the Japan Color Planning Center, who have offered to permit ISCC to be a central clearing house in this country for many (apparently) interesting articles which they currently publish only in Japanese. William Benson, one of our Committee members, from the National Research Council in Washington, has taken on the job of retranslating from German a publication on color blindness which I translated some time ago. With his fluency (and the help of his wife who is also fluent), we will have at least two translations to compare with the hope that a combined one can be published thorugh the Council at some future time.

The Board wholeheartedly approved our recommendations for the new format, which involves a number of significant changes. I think our new publication will speak for itself, and I would welcome any comments from members of the Council.

## REPORT FROM THE INTERNATIONAL COLOR ASSOCIATION
## C. J. BARTLESON, LIAISON OFFICER

Plans for the Second Conference of the Association Internationale de la Couleur progressed during 1972. Over 100 contributed papers and several invited papers are scheduled for presentation at COLOUR 73 to be held in York, England, July 2-6, 1973.

All members of ISCC are, of course, cordially invited to attend COLOUR 73. Correspondence and inquiries should be directed to:

Professor W. D. Wright
(AIC Colour 73)
Applied Optics Section
Imperial College
London SW7 2BZ
England

## REPORT OF THE PROBLEMS COMMITTEE
## GEORGE B. GARDNER, CHAIRMAN

This is the first year that the Problems Committee has functioned with five principal members which include a chairman and four group chairmen who are listed below with their subcommittee responsibilities;

Franc Grum, Color Science and Measurement: Problems 18, 22, 24, 27, 34, 35

Robert F. Hoban, Colored Materials and Colorants: Problems 6, 7, 10, 25

John T. Smith, Pictorial Reproduction of Color: Problems 31, 32

Raymond Spilman, Art and Design: Problems 30, 33

The progress that has been made during the past year was due in large part to the vigorous efforts of the four group chairmen as well as to the dedicated work of the many subcommittee chairmen.

There are now fourteen active subcommittees, thirteen of which held productive sessions at the Annual Meeting. This report summarizes the activities and status of all fourteen subcommittees, and begins with a summary re-

port on the Color Science and Measurement Problems by the group chairman.

**Status Report on the ISCC Subcommittees for Problems 18, 22, 24, 27, 34, and 35 (Color Science and Measurement Group) Group Chairman, Franc Grum**

All five Subcommittees held their meetings on April 30, 1973. In all cases they were well attended and the participants took active interest in the individual problems. The conclusions and future objectives, given in summaries which appear in numerical sequence below, were submitted by the five Subcommittee Chairmen. From the activity and interest observed and based on the objectives set forth it is obvious that these five Subcommittees have a good "Raison D'Etre" in pursuing their goals.

Of particular interest was the maiden session of the Subcommittee for Problem 34 (Color Difference Problems). The meeting was attended by over 30 people who participated actively in very ardent debates. Judging from this and from the active correspondence following the meeting, it could be said safely that the Subcommittee for Problem 34 will arouse great interst and may even run into some controversy. This merely shows that a Subcommittee on this problem was indeed needed.

The report for Problem 18 is a little longer since changes in leadership of that Subcommittee and its task force took place.

A brief report was submitted on Problem 35 that was inaugurated at the Annual Meeting.

The ISCC members are hereby encouraged to support and actively participate in the Subcommittee's activities.

**Report of Subcommittee for Problem 6–Survey of Color Terms, C. J. Bartleson, Chairman**

The ISCC Board of Directors defined the scope of the present Subcommittee's assignment to provide a revised edition of the "Comparative List of Color Terms" published last in 1949 and first in 1939; the revision (3rd edition) specifically being restricted to those color terms and their definitions sanctioned or recommended for use by present member-bodies of the ISCC.

In December of 1972, all delegation chairmen were contacted and requested to supply appropriate information by 31 January 1973. To date, out of 30 delegations contacted, 19 have replied and 12 of those have supplied terms and definitions sanctioned or recommended for use by their member-body.

In April 1973 additional requests were sent to the 11 delegation-chairmen not responding to the original request. The second, and final, deadline will be 15 September 1973. At that time, all materials received will be collated and a draft of the 3rd edition will be prepared. It is anticipated that the draft will be submitted to the Problems Committee Chairman by 31 March 1974.

**Report of Subcommittee for Problem 7–Survey of American Color Specifications, Robert F. Hoban, Chairman**

Halelujah! The report "A Survey of American Color Specifications–1973" has been completed. After a final listing from the computer to get a cleaner original for publishing purposes, it will be officially submitted. The report will be made available at cost to members and at cost-plus to others. Details on publication will be given in the *Newsletter.*

**Report of Subcommittee for Problem 10–Color Aptitude Test, Angela C. Little, Co-chairman**

During the past year, emphasis has been placed on evaluating effects of varying conditions of illumination both quantitatively and qualitatively, and the order of presentation of chips on tests scores, on obtaining test-retest data, and on comparing the distribution of matchings from the test results obtained by us with those reported in the literature (e.g. by Dimmick and by Tilleard).

As these studies are currently in progress, it is only possible at this time to present some preliminary observations. A complete report will be prepared in due course, with pertinent recommendations incorporated into a revision of the brochure to be distributed with the new edition of the test, now in preparation.

In brief, it has been noted that the Macbeth easel lamp, sold for use with the ISCC-CAT, does not provide uniform distribution of light over the surface of the test, dropping from *ca* 75 ft. candles for the top (blue) row to *ca* 50 ft. candles for the bottom (yellow) row. An overhead Macbeth examolite in conjunction with the easel lamp provides a relatively uniform level of illumination of *ca* 100 ft. candles. Comparison of test scores obtained with the two conditions of illumination, easel lamp alone and easel plus overhead together, showed no significant difference in mean scores. Substituting cool white fluorescent lowered the mean score by 6 points, a difference significant at the 1% level.

It is interesting that when the order of presentation of chips was changed, i.e. starting with chip 29 and ending with chip 28, the total score was unaffected; but, regardless of order of presentation, the mean half-score for chips 29-48 higher than for chips 9-28, with the difference significant at the 1% level.

The results from one subject who has patiently repeated the test under varying conditions of illumination are summarized as follows:

| | Macbeth Easel plus Overhead | Macbeth Easel | Macbeth Overhead | Cool White Fluorescent | Daylight |
|---|---|---|---|---|---|
| ISCC-CAT | 5x | 1x | 2x | 1x | 1x |
| Score mean: | 72 | 74 | 72 | 60 | 74 |
| range: | 53-82 | | 70-74 | | |

Row by row analysis indicated that the red row was least affected by the fluorescent, and the green row the most, where a drop in score from 15 to 9 occurred. Although, on the fact of it, the performance of this subject appears to be quite consistent, with the major effect on score exerted by the cool white fluorescent mode of illumination, a range of 53 to 82 under the recommended conditon of illumination is not to be ignored. In fact, these results cast serious doubt on the reliability of a one trial test score.

It is surprising indeed that after more than twenty years of extensive use of the ISCC-CAT there still remains the need to define optimal conditions for identifying differences in performance capabilities among subjects. This is particularly surprising in view of the differences in population means reported by various investigators, the reasons for which there has been considerable conjecture but little evidence.

Coupled with this is the paucity of information regarding the validity of the test either with regard to measuring innate "color aptitude" or to predicting the performance capabilities of an individual for a specific task.

The question of prediction validity for certain occupations presents difficulties, but the question must be answered if the requirement of a certain minimum test score for employment purposes is to be justified.

**Report of Subcommittee for Problem 18—Colorimetry of Fluorescent Materials, Franc Grum, Chairman**

The meeting was opened by the Chairman with a special welcome to visitors Dr. A. Berger (Bayer) and Dr. G. Wysecki (National Research Council of Canada). The minutes of the previous meeting (3-20-72) were approved without comment. Subcommittee activities since the previous meeting centered about the following areas: 1) statistical evaluation of the round-robin panel test data from the visual appraisals of white samples (Task Force I), 2) inter-laboratory tests on the feasibility of separating true reflectance and true fluorescence (Task Force II), 3) the creation of two additional working groups to define pertinent terminlolgy (Task Force III), and to investigate parameters which lead to instrumental errors (Task Force IV). The activities of each Task Force were reviewed by each of the group chairmen.

*Task Force I—Chairman: Dr. P. Stensby* Mrs. B. Swenholt and Mr. R. Witzel have carried out detailed statistical analyses of data previously obtained in inter-laboratory visual panel tests (comparisons of "white" paper, cloth, and plastic samples). Excellent correlations have been found between experienced and inexperienced observers, and between observers under and over 30 years of age. Further correlations between visual assessment data and yellowness of vision have been suggested. In addition, the goniophotometric reflectance distribution of those samples which displayed anomalous visual/instrumental correlations will be determined by Miss R. Johnston in an effort to account for the observed behavior. It is felt that sufficient overall results, however, are available for publication.

*Task Force II—Chairman: Mr. F. Simon* Nine laboratories have participated in a round-robin test involving the separation of the spectral radiance curves of fluorescent samples into true reflectance and true fluorescence components. Two laboratories employed the Allen (filter) method and seven laboratories employed the Simon (interpolation) method. Fluorescent white, orange, and green paper samples; and red, blue, and yellow textile samples were used. In view of the wide range of spectrophotometers employed and the lack of specific calibration instructions, the agreement among laboratories was surprisingly good. For each sample, however, one or two laboratories were considerably out of line. The overall findings suggest 1) improved calibration methods, 2) a more accurate spectral description of the light source, 3) an accurate definition of the filters for the Allen method, and 4) improved interpolation technique for the Simon method. The task force will continue to refine the procedures.

*Task Force III—Chairman: Mr. J. Chisholm* This recently established task group is charged with the establishment of standard terms and definitions in the area of fluorescence and fluorescence measurement. The group is currently compiling lists of terms and definitions for discussion at future Problem 18 meetings.

*Task Force IV—Chairman: Mr. R. Lehman* Task Force IV was formed to 1) examine the goodness of fit between various $D_{65}$ source simulators and the spectral energy distribution of the $D_{65}$ illuminant, 2) elucidate the problem of quality control and specification of fluorescent materials, and 3) establish the effect of source irradiance level on the measurement of relative radiance. Initial studies in the latter will have confirmed that the relationship between irradiance level and emission intensity is linear as defined. With respect to the second area of interest, a questionnaire is being developed and will be forwarded to the members of the Manufacturer's Council on Color and Appearance. Since both Task Force II and Task Force IV are concerned with the instrumental evaluation of fluorescent samples, the latter group will be dissolved and its activities absorbed by an expanded Task Force II.

Following the presentation and discussion of the Task Force reports, brief status reports on the activities of the ASTM D-12.15.05 Subcommittee dealing with fluorescent whitening agents and the CIE Whiteness Committee were given by Dr. W. Findley and Dr. A. Berger, respectively.

Under new business, Mr. Grum pointed out that he had chaired the committee for five years and felt it was time for a fresh outlook on the problems involved. Although Mr. Grum plans to remain active in subcommittee endeavors, he expressed the desire to be relieved of the chairmanship responsibilities. The following slate of officers was accepted by the subcommittee:

| | |
|---|---|
| Chairman: | Dr. P. S. Stensby |
| Co-Chairman: | Mr. W. Heaps |
| Secretary: | Dr. W. R. Findley |
| Task Force I Co-Chairmen: | Mrs. B. Swenholt<br>Mr. R. Witzel |

| | |
|---|---|
| Task Force II Co-Chairmen: | Mr. F. T. Simon<br>Mr. D. Lehman |
| Task Force III Chairman: | Mr. J. Chisholm |

Dr. P. Stensby expressed the subcommittee's appreciation to Mr. Grum for his service over the past years and requested full participation by all members to maintain the level of subcommittee activity as fostered under Mr. Grum.

**Report of Subcommittee for Problem 22—Procedures and Material Standards For Accurate Color Measurement, J. T. Atkins, Chairman**

In the past, the Subcommittee has demonstrated that present procedures and standards are inadequate to provide the interlaboratory precision desired in color measurement. The kinds of standards needed were defined. During the coming year, the Committee will compile an annotated tabulation of all commercially available material standards which may have applicability to color measurement. The timetable calls for a rough draft to be available for the semi-annual problems meeting in September and a finished manuscript ready for publication to be submitted to the annual meeting next May.

All members of the ISCC are invited to submit items for this report.

**Report of Subcommittee for Problem 24—Catalog of Color Measuring Instruments, Harry K. Hammond III, Chairman**

The Subcommittee met April 30, 1973, in New York with 19 persons present. The Subcommittee was originally organized in 1966 under the chairmanship of Ruth Johnston. At the meeting in 1971, spiral-bound copies of a draft catalog were distributed. By 1972, the Guide to Selection of Color Measuring Instruments had been published in the Journal of Color and Appearance (Vol. 1, No. 2, pp. 27-38). Copies of the spiral bound draft and reprints of the guide are still available from the ISCC Secretary for a handling charge of $1.00 each.

The task remaining is to collect periodically and update data on individual instruments. The plan is to rely on the manufacturers to provide the information to the Subcommittee. The more difficult portion of this task is to provide a means for dissemination of the data on a continuing basis.

After much discussion it was agreed that the most useful form would be tables listing all instruments in a given category, rather than to provide an individual sheet on each instrument as originally contemplated. These tables could then be published periodically in a journal, such as the Journal of Color and Appearance, or they could be published in the ISCC Newsletter. In either case their distribution would be limited, but they could be referenced by those from whom this kind of information is often requested. The plan is to have at least one active member of the Subcommittee review each category periodically.

The question of how to rate instruments for performance was discussed briefly. Since the Manufacturers Council on Color and Appearance is now actively carrying on a Collaborative Reference Program (CRP) on Color and Appearance in cooperation with the National Bureau of Standards, it was agreed that the CRP reports should provide sufficient information.

**Report of Subcommittee for Problem 25—A. Determination of the Strength of Colorants—Dyes Section, Charles E. Garland, Co-Chairman**

During the past year Rolf Kuehni resigned as co-chairman of this subcommittee. Our progress to date is a result of his leadership and diligence—a job well done. The report that follows is an indicator of Rolf's efforts during the past three years.

1. *Completed Projects* The following two papers were published during the past year:

a. "A General Procedure for the Determination of Relative Dye Strength by Spectrophotometric Transmittance Measurement", Textile Chemist and Colorist, May, 1972, p. 133.

b. "A Systematic Approach to Developing a Method for the Determination of Relative Strength by Spectrophotometric Transmittance Measurement", Textile Chemist and Colorist, July, 1972, p. 181.

Therese Commerford has written a review of "Difficulties in Preparing Dye Solutions for Accurate Strength Measurements" with her own illustrative data and data supplied by other members of the subcommittee. This will soon be submitted for publication under Miss Commerford's name as a project of this subcommittee.

2. *Active Projects*

a. A third draft of a document entitled "A Genral Procedure for the Determination of Relative Dye Strength by Spectrophotometric Reflectance Measurement" was edited by the subcommittee. It will soon be submitted to the Board of ISCC and member-body delegates for approval to publish.

b. A fourth and final round-robin was started to determine the accuracy and repeatability of relative strength evaluation of cationic dye samples by transmittance measurement. Fifteen laboratories are participating. The results will be statistically analyzed and compiled with earlier data on acid, direct, and disperse dyes into a report for publication.

3. *Future Projects*

A number of proposals for future projects was discussed and it was decided to act upon the following four:

a. Standard depth determination.

b. A round-robin to determine the accuracy and repeatability of relative strength evaluation by reflectance, including the dyeing error.

c. Strength determination of dye mixtures.

d. Strength determination below the 5% reflectance level.

A September meeting is planned to further the work of the subcommittee.

**Report of Subcommittee for Problem 25–B. Determination of the Strength of Colorants–Pigments Section, Richard W. Harold, Co-Chairman**

Approximately twenty interested members and guests met Monday, April 30, 1973 to finalize plans for Phase II of the committee's efforts. Phase I, the collecting of an extensive bibliography on colorant strength determination from 1910 to date, has been completed. Phase II, the collecting of methods currently in use today by industry for pigment strength determination in many substrates will be completed by the next annual meeting. Non-committee members whose company may have methods they wish to have included in this subcommittee's report may contact either Dick Chartrand of Allied Chemical or Richard Harold of Hunter Associates Laboratory, Inc. Phase III of the subcommittee's work will be to formulate a "general" method for pigment strength determination and distribute this for comments and approval.

**Report of Subcommittee for Problem 27–Indices of Metamerism, Henry Hemmendinger, Chairman**

The planned work of the subcommittee will be based on the collection and evaluation of metameric pairs from current industrial practice. Since it is anticipated that a quite substantial number of samples must be collected, and a correspondingly large number of visual observations and colorimetric computations must be examined, the task can be undertaken only with the efficient use of data handling facilities, and with the close coordination of efforts of participating subcommittee members. During the past year, work has been restricted to a few sample problems which will serve as the basis of detailed planning for the collection of the required samples and data.

At the subcommittee meeting on 30 April, two working groups were organized to complete this detailed planning of the program, and to collect, measure, and analyze typical metameric pairs.

**Report of Subcommittee for Problem 30–Color in the Building Industry, Milo D. Folley, Chairman**

In reviewing past reports, I found a discouraging similarity in the fact that each year since 1968 we have made an ardent plea for assistance and recognition of the Universal Color Language, a project which this committee had proposed as the method of identification of color for the building industry.

Each year we have met, cried over our negative response from the business world, and determined that we would try even harder to break through. This has not worked and this committee finds it difficult to understand the reason.

Committee 30 has the feeling that it has come up with a most needed tool for the building industry in its use of color. Our proposal for an appearance folio has gone unnoted and unloved.

So, at the spring meeting, we reviewed our position, assisted by George Drake, Architect, Manager of McGraw-Hill's Sweet's catalog "Guidelines" program. Mr. Drake was invited to explain the Guidelines program which appears to be an organization of information for construction materials supplied free of charge to the construction industry. The committee approved the inclusion of whatever elements of the folio can be useful in the Guideline program.

The publication of a folio was discussed and several proposals were on the table. *First:* The financing on a guarantee basis of the folio and its distribution to the industry by the ISCC itself. *Second:* The guarantee of funds, in case of failure, by the ISCC with the solicited aid of major components of the color industry such as the AIA, various manufacturers of colorants, other professionals such as decorators, artists, etc., government agencies and well-heeled individuals. *Third:* Form a private corporation with backing adequate to finance the project and with the potential of making a profit. *Fourth:* Provide a committee-made mock-up of the folio, and with this seek out a method of financing the production. This latter proposal appears to have the most chance of success so a group of individuals in the committee will attempt to gather the data and construct a model.

Mr. Drake of McGraw-Hill felt that with such a sample we might interest them, or some other publishing house, in producing the folio.

It is the feeling of Committee 30 that the development of the Universal Color Language agrees most closely with the basic objectives of the Color Council. We look with jealousy upon all those other programs of the ISCC which deal with minute segments of the color industry and which receive attention (and funds). The broad interest in color is well served in Committee 30 and we would like again to call the Board's attention to this.

**Report of Subcommittee for Problem 31–Standard Methods of Measuring and Specifying the Color of Exposed and Processed Color Transparencies, Russell E. Zimmerman, Chairman**

A meeting of this subcommittee was held on Monday, April 30, during the Annual Meeting, chaired by John T. Smith in the absence of Russell Zimmerman. The lively discussion during the meeting, which was well attended by people in the photographic and photogrammetric industries, indicated that the solution to the problem may be quite simple.

Although the photogrammetrists are very much interested in the relationship between a color measurement of an area on film and the corresponding color measurement of a natural object that has been photographed, this difficult problem is outside the scope of this subcommittee. The original scope was fortunately available from the ISCC secretary and was again read and discussed. The scope does include the specification or color measurement of an area within a photographic transparency image. As such, it would appear that the problem resolves itself to developing appropriate instrumentation for making such measurements. This position will be presented by John Smith at the annual meeting of the American Society of Photogrammetry and the possibility of issuing a final report will be taken up at the fall ISCC Board Meeting.

(Mr. C. J. Bartleson who attended the meeting supplied the material for the above report.)

**Report of Subcommittee for Problem 32—Colorimetry and Spectrophotometry in the Graphic Arts, John A. C. Yule, Chairman**

A meeting of this subcommittee was held during the recent annual meeting of the Technical Association of the Graphic Arts in New York City. The questionnaire "Colorimetry in the Graphic Arts" referred to in the 1972 Annual Report was circulated during the year to those who had attended past TAGA Color Committee meetings. The questionnaires that were returned did not contribute much in the way of information on colorimetric methods currently in use in the Graphic Arts Industry. The subcommittee is now in the process of deciding the direction of future activity.

**Report of Subcommittee for Problem 33—Human Response To Color, Alexander Styne, Chairman**

A new Subcommittee, (Problem 33—*Human Response to Color)* held its first official meeting during the annual conference of the Inter-Society Color Council in New York City on April 30 - May 1, 1973.

*Problem 33* came into being through a concentrated effort and interest to identify *human* response to color as separate from the *measurement* of color as a quantity or scientific control problem. The idea for the study received wide support within the Council and its Board of Directors. However, how to bring what appeared to be such a broad study into manageable proportions became a major problem in itself. A guidance group led by past President, Dr. Randall Hanes, ably supported by President Richard Hunter and Vice-President Dr. Roland Derby of ISCC plus George Gardner and Raymond Spilman worked hard and long with Alexander Styne (acting Chairman) to establish criteria for a study program that could be restricted to group action. During this period Alexander Styne (also an IDSA delegate) became the Chairman of the emerging problem subcommittee. He and Mr. Faulker, AIA, arranged for, set up and brought together the first large-scale problem planning meeting held in Washington on November 21, 1972. The meeting objective was to submit to the Board a definition of the problem to the test of multiple and knowledgable opinions. This group decided that a controlled study of Human Response to Color in hospitals could and would be a good departure point into our new quest. Also, it was agreed that the problem name "Human Response to Color" was valid. Thus, Alexander Styne as Chairman presented this name and program to the Officers and Board of Directors, who gave it their approval and we became known as Problem 33—Human Response to Color.

Mr. Styne planned the first Problem 33 committee program for the ISCC 1973 annual meeting, presenting Mrs. Marcella Graham of the Catawba Sanitorium in Virginia, as guest speaker. Mrs. Graham, a behavioral scientist, made an outstanding report on how she developed and applied color as a therapeutic device to help return her some 2000 patients to the realities of the present world. *She made no claim to being a color expert.* She simply believed color was an important method for reaching through the haze of mental blocks that separated these patients from the world about them. Thus, her presentation was based upon the results of her use of color in the hospital on a practical, human level. The committee was most pleased with the results of her work and agreed that further work along this line (on a more controlled basis, with State permission) will be carried forward in the new hospital wing now being readied for patient use. Mrs. Graham, of course, will be a major participant in the project.

Several members of the Problem 33 Committee will visit the hospital in the next few weeks, then put together a program for proceeding with the study. Hopefully, the program, if properly structured, can be used for soliciting government funding as the results will be of major interest in veterans' and other government sponsored homes and hospitals. All new studies will be conducted under strict medical and psychological supervision, and will include the participation of Professor Halse, AIA, of Columbia University; Faber Birren, Colorist; Dr. Boynton of the University of Rochester, Dr. Sucov of Westinghouse; Dr. Woidich, Research Psychiatrist; Mortellito of DuPont; Wright of Caterpillar; George Gardner, and Raymond Spilman, as well as many new Committee members.

Among others, Alexander Styne, Chairman of the Committee, has visited the hospital and established official contact with the Medical Director. As ISCC Problem Subcommittee Chairman, Alexander Styne will correlate the problems between the committee activists and the hospital personnel. Sessions are under way to initiate another study program for the Navy and will be reported as this project takes shape.

**Report of Subcommittee for Problem 34—Color Difference Problems, Rolf Kuehni, Chairman**

The formation of the committee, based on a proposal by the American Association of Textile Chemists and Colorists, was approved by the Board of Directors in January 1973.

The scope of the Committee was defined as follows:

The work of the Subcommittee on color difference problems will involve a careful comparative study of color difference formulas in existence. It should undertake evaluation of the concepts of perceptibility and acceptability in industrial color difference problems, as well as the determination of whether acceptability rather than perceptibility is more important in industrial color matching. A second and equally important part of the work of this subcommittee will be to maintain contact with other groups who are working on these same problems.

In advance of the first meeting of the committee a questionnaire was mailed to all recipients of the ISCC *Newsletter,* which will establish some facts of interest to the committee concerning the present usage of color difference formulas in the industry.

**Report of Subcommittee for Problem 35—Color and Appearance Matching of Living Tissue, Robert C. Sproull, Chairman**

The formation of this subcommittee was approved at the Board of Directors meeting on April 29, with the recommendation that a more specific scope to cover the initial activity of the subcommittee be prepared for consideration at the fall Board meeting.

During the new problems session at the annual meeting, an informal discussion was held between several members of the American College of Prosthodontists, the sponsoring member body, and other interested ISCC members. This discussion was helpful in outlining the general direction that the work of this subcommittee may well take. The chairman noted that the scope would include color matching of both hard and soft tissues of the face.

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

The death of Picasso marked the end of an era.

Shock art, protest art, ideological art now are segregated from fine art. Art for Picasso was a "weapon for offense and defense". The public now is aware of the role of media in promotion of *Avant Garde* fads. Critics who have pushed these fads are now trying to disclaim identity with obsolete movements like minimal, pop art, action painting, etc.

Oriental art is on the up-swing, prices of French Impressionists and 19th Century Americans have gone through the ceiling. The public will no longer accept the more contemptuous forms of "action painting", plastic hamburgers, sculpture in dry ice and other stunts. They want art that "enhances life".

The ISCC grows more "relevant" each year. In relating the technical skills, psychology, physics, optics, chemistry, physiology, engineering, applied sciences and the arts, it is in the business of making them all "relevant" to each other,—and thus making them relevant to life.

Each year this becomes more important,—to our members, to the public, and to our country.

## REPORT FROM THE AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS DELEGATES ROLAND E. DERBY, JR., CHAIRMAN

Millions of yards of textile material are colored each day. The importance of color as a desirable property of textiles cannot be overemphasized. In many cases, it may be the overriding factor in its salability.

In addition to the color itself, the lightfastness, washfastness, perspiration fastness, etc. of the resultant color are important considerations. The AATCC is concerned with developing test methods to measure these properties and relate them to end use.

In the course of developing such test methods, it is inevitable that various methods of color measurement be utilized.

In order to insure the proper utilization of the best techniques of color measurement, a special committee on Color Technology has been established, chaired by Professor Fred Simon. In addition to their advisory capacity, its members are actively studying the following problems:

1. Reflectance standards
2. Recommended practice for color measurement
3. Sponsorship and close liaison with ISCC Problems Subcommittee 34 on Color Difference Equations and Their Use.

In the past, it has been customary to include a listing of articles on color measurement appearing in the Technical Journal of the Association (The Textile Chemist and Colorist). Since these articles are now being included in the British Colour Group bibliography and are published in the Journal of Color and Appearance, we have deleted them from this report.

## REPORT FROM THE AMERICAN CERAMIC SOCIETY DELEGATES F. JOSEPH VON TURY, CHAIRMAN

A Conference on Color, jointly sponsored by the Inter-Society Color Council and the American Ceramic Society, was held in conjunction with the 74th Annual Meeting of the ACeS, in Washington, D.C., May 10, 1972.

Speakers representing the ISCC were: Dr. Randall M. Hanes, William N. Hale, Jr., Richard S. Hunter, Ruth M. Johnston and Kenneth L. Kelly. The ACeS was represented by Dr. Clarence A. Seabright and F. Joseph Von Tury.

The various presentations were well received by the audience—which included representatives of management, research and production men, and ceramic engineers, from the glass, enamel, tile, sanitary-ware, structural clay and tableware industries.

The Conference on Color can be considered a success, and this type of cooperation may serve as an example to other member organizations to do the same.

On behalf of the ACeS, I would like to thank the representatives from ISCC for their very fine contribution to the Ceramic Society meeting.

In regard to color trends and news in the ceramic industry, I would like to quote a few lines from letters I have received:

"Color research is continuing on the zirconium base colors. To develop colors which are stronger and more stable, especially for high temperature work, is the main object of this research.

"A marked trend toward the use of more color. Brighter versions of traditional colors are sought. Bright reds, oranges and yellows are expected to be popular. Offshoots of Avocado and Harvest Gold are offered in dinner and artware to complement appliance colors. Parrot greens will be offered in sanitary-ware along with the established blues, tans, avocado, and golds.

INTER-SOCIETY COLOR COUNCIL ANNUAL MEETING REPRESENTATION 1931 – 1972

| MEMBER BODY | 31 | 32 | 33 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AAPL | | | | | | | | | | | Ⓧ | x | x | x | x | x | x | x |
| AATCC | Ⓧ | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| ACerS | | | | | | | | Ⓧ | x | x | x | x | x | x | x | x | x | x |
| ACS | | | | | | | | | | | | | | | | | | |
| ACP | | | | | | | | | | | | | | | | | | ◯ |
| AIA | | | | | | | | | | | | | | | | | | |
| AIID (AID) | | | | | | | | | | | | | | | | | | ◯ |
| AOCS | | | | | | | | | | | | | | | | | Ⓧ | x |
| APhA | Ⓧ | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| APA | ◯ | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| ASTM | Ⓧ | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| ASID (SID) | | | | | | | | | | | | | | | | | | ◯ |
| ASP | | | | | | | | | | | | | | | | | | |
| ATCI | | | | | | | | | | | | | | | | | | |
| CAUS (TCCA) | Ⓧ | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| CMG | | | | | | | | | | | | | | | | | | |
| DCMA | | | | | | | | | | | | | | | | | | |
| FSPT (FPVPC) | | | | | | | | | | | Ⓧ | x | x | x | x | x | x | x |
| GATF | | | | | | | | | | | | | | | | | | |
| GTA | | | | | | | | | | | | | | | | | | |
| IDI (ADI) | | | | | | | | | | | | | | | | | | ◯ |
| IDSA (ASID & IDI) | | | | | | | | | | | | | | | | | | |
| IES | Ⓧ | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| IFT | | | | | | | | | | | | | | | | | | |
| NAPIM | | | | | | | | | | | | | | | | | ◯ | x |
| NPCA (NPVLA) | | | | | | | | | | | | | | | | | | |
| NSID | | | | | | | | | | | | | | | | | | |
| OSA | Ⓧ | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| PDC | | | | | | | | | | | | | | | | | | |
| PI | | | | | | | | | | | | | | | | | | |
| PPC (FPBA) | | | | | | | | | | | Ⓧ | x | x | x | x | x | x | x |
| RECGAI | | | | | | | | | | | | | | | | | | |
| SMPTE (SMPE) | | | | | | | | ◯ | x | x | x | x | x | x | x | x | x | x |
| SPSE (SPE) | | | | | | | | | | | | | | | | | | |
| SPE (Plastics) | | | | | | | | | | | | | | | | | | |
| TCA | | | | | | | | | | | | | | | | | | |
| TAGA (TALI) | | | | | | | | | | | | | | | | | | |
| TAPPI | | | Ⓧ | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| USP | Ⓧ | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| MEMBER BODIES | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 11 | 11 | 11 | 13 | 13 | 13 | 13 | 13 | 13 | 15 | 19 |
| INDIVIDUAL MEMBERS | 2 | 2 | 2 | 16 | 16 | 24 | 30 | 50 | 67 | 80 | 82 | 91 | 94 | 100 | 119 | 141 | 160 | 179 |

**SOCIETIES WHICH ARE PRESENTLY THE INTER-SOCIETY COLOR**

| | | |
|---|---|---|
| AAPL | American Artists Professional League, Inc. | |
| AATCC | American Association of Textile Chemists and Colorists | |
| ACerS | American Ceramic Society | |
| ACS | American Chemical Society | |
| ACP | American College of Prosthodontists | |
| AIA | American Institute of Architects | |
| *ADI | American Designers' Institute | *Name changed to IDI |
| *AID | American Institute of Decorators | *Name changed to AIID in 1961 |
| *AIID (AID) | American Institute of Interior Designers | *Formerly AID |
| *AOCS | American Oil Chemists Society | *Resigned in 1972 |
| *APhA | American Pharmaceutical Association | *Resigned in 1954 |

X = ATTENDANCE OF SOME OR ALL DELEGATES  ◯ = YEAR IT BACAME A MEMBER BODY

| 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X | X | X | RESIGNED | | | (X) | X | | X | | | X | X | X | | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| | | | | | | | | | | | | | | | | | | | (X) | X | X | X |
| | | | | | | | | | | | | | | | | | | | | | | (X) |
| X | X | X | X | X | X | X | X | X | X | X | X | X | | X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| X | X | X | X | X | X | X | X | X | X | X | X | X | | X | | X | X | X | X | X | | RESIGNED |
| X | X | X | X | RESIGNED | | | | | | | | | | | | | | | | | | |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | SEE IDSA | | | | | | | |
| | | | | | | (X) | X | | | | RESIGNED | | | | | | | (X) | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| | | | | | | | | | | | | | | | (X) | X | X | X | X | X | X | X |
| | | | | | | | | | | | ◯ | X | X | X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| ◯ | X | X | X | X | X | X | X | | X | X | X | X | | X | X | (X) | X | X | X | X | | |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | SEE IDSA | | | | | | | |
| ASID AND IDI BECAME MEMBER BODIES IN 1949 | | | | | | | | | | | | | | | (X) | X | | | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| | | | | | | | | | | | | | | | | | (X) | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| | | | | | | | ◯ | X | X | X | X | X | | X | X | | X | X | X | X | | X |
| | | | | | | | | | | | (X) | | | | | | | | | X | | |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| | | | | | | (X) | | | | | | | | | | | | X | X | X | X | |
| | | | | | (X) | X | X | X | X | | | | | | | RESIGNED | | | | | | | RESIGNED |
| | | | | | | X | | | | | | | | | | | | | | | | |
| | | | | | | (X) | X | X | | | | | | | | | | | RESIGNED | | | |
| X | X | X | X | X | X | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| | | | | | | ◯ | X | X | X | X | X | X | | X | X | X | X | X | X | X | X | X |
| | | | | | | | | | | | | (X) | X | X | X | X | X | X | X | X | X | X |
| | | | | (X) | X | X | X | X | X | X | | X | | X | | | | | X | X | RESIGNED | |
| | ◯ | X | X | X | X | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| X | X | RESIGNED | | | | | | | | | | | | | | | | | | | | |
| 20 | 21 | 20 | 19 | 19 | 20 | 26 | 27 | 27 | 27 | 26 | 27 | 29 | 29 | 29 | 29 | 29 | 31 | 31 | 31 | 30 | 30 | 29 |
| 195 | 215 | 224 | 253 | 276 | 283 | 300 | 328 | 354 | 361 | 375 | 417 | 425 | 416 | 490 | 513 | 553 | 617 | 558 | 591 | 665 | 634 | 535 |

**OR HAVE BEEN MEMBER BODIES OF COUNCIL FROM 1931 – 1972**

| | | |
|---|---|---|
| APA | American Psychological Association | |
| ASTM | American Society for Testing and Materials | |
| ASID (SID) | American Society of Industrial Designers | *Combined with IDI in January 1965 to form IDSA |
| ASP | American Society of Photogrammetry | |
| ATCI | Architectural Terra Cotta Institute | *Resigned in 1961 |
| CAUS (TCCA) | Color Association of the United States, Inc. | *Formerly TCCA |
| CMG | Color Marketing Group | |
| DCMA | Dry Color Manufacturers' Association | |
| FPVPC | Federation of Paint and Varnish Production Clubs | *Name changed to FSPT in 1959 |
| FSPT (FPVPC) | Federation of Societies for Paint Technology | *Formerly FPVPC |
| FPBA | Folding Paper Box Association of America | *Name changed to PPC in 1967 |

| | | |
|---|---|---|
| GATF | Graphic Arts Technical Foundation | |
| GTA | Gravure Technical Association | |
| *IDI (ADI) | Industrial Designers' Institute | *Combined with ASID in January 1965 to form IDSA |
| *IDSA | Industrial Designers' Society of America | *Formed by combination of ASID and IDI in Jan. 1965 |
| IES | Illuminating Engineering Society | |
| IFT | Institute of Food Technologists | |
| *NAPIM | National Association of Printing Ink Manufacturers, Inc. | *Name changed from "Makers" to "Manufacturers" in 1967 |
| *NPCA (NPVLA) | National Paint & Coatings Association | *Formerly NPVLA |
| *NPVLA | National Paint, Varnish and Lacquer Association, Inc. | *Name changed to NPCA in 1971 |
| NSID | National Society of Interior Designers, Inc. | |
| OSA | Optical Society of America | |
| PDC | Package Designers' Council | |
| *PI | Packaging Institute | *Resigned in 1966 |
| *PPC | Paperboard Packaging Council | *Formerly FPBA. Resigned in 1972 |
| *RECGAI | Research and Engineering Council of the Graphic Arts Industry, Inc. | *Resigned in 1969 |
| *SID | Society of Industrial Designers | *Name changed to ASID |
| *SMPE | Society of Motion Picture Engineers | *Name changed to SMPTE in 1950 |
| *SMPTE (SMPE) | Society of Motion Picture and Television Engineers | *Formerly SMPE |
| *SPSE (SPE) | Society of Photographic Scientists and Engineers | *Formerly Society of Photographic Engineers SPE |
| SPE | Society of Plastics Engineers, Inc. NOTE: These initials used formerly to abbreviate another group. See listing above. | |
| *TCA | Tanners' Council of Americal, Inc. | *Resigned in 1970 |
| *TCCA | Textile Color Card Association of the United States, Inc. | *Name changed to CAUS in 1955 |
| *TAGA (TALI) | Technical Association of the Graphic Arts, Inc. | *Formerly TALI |
| *TALI | Technical Association of the Lithographic Industry | *Name changed to TAGA in 1950 |
| TAPPI | Technical Association of the Pulp and Paper Industry | |
| *USP | United States Pharmacopoeia | *Resigned in 1952 |

## THE NEW ISCC *NEWSLETTER* COVER

On April 16, 1973, there was a meeting at Progressive Color Corporation in Rockville, Md., to discuss a proposed new cover for the *Newsletter.* Present were Dr. Robert W. Burnham, Chairman of the Publications Committee of the ISCC; Mr. Charles Dyker, President of Progressive Color Corporation; Mr. Don Genaro of Henry Dreyfuss Associates, a member of the Publications Committee; David C. Sickles, President of Mimeoform Service, Inc., publishers of the ISCC *Newsletter;* and Mr. Peter Little, of the Kodak Washington Office, a graphic arts consultant (serving in place of Milton Pearson of the Publications Committee who had initiated the basic contact with Mr. Dyker).

Mr. Genaro presented a rendering of the proposed cover which was immediately approved. Discussion centered on the proper stock to be used and the best method of overprinting volume data for each issue. Other technical points were raised and decisions made.

It was pointed out that the cost of reproducing enough covers for five years would largely be covered by savings from using a bulk permit for domestic mailing.

It was proposed that Mimeoform Service, Inc. set up a sample page utilizing a same-size format for the body of the *Newsletter* to be submitted to the ISCC Board of Directors for approval along with the new cover format.

The ISCC Board of Directors at the 1973 Annual Meeting approved both the cover and the proposed type format. This issue is the result.

Credit for the undertaking is due: Mr. Genaro and Valerie Pettis of Henry Dreyfuss Associates for the cover design; Charles Dyker of Progressive Color Corporation for the color reproduction; Richard Hunter, President of the ISCC, for obtaining cover stock through the courtesy of the Oxford Paper Company, Division of the Ethyl Corporation of Richmond, Va.; Mr. Milton Pearson, Technology Supervisor, Rochester Institute of Technology, who provided technical reproduction advice; Peter Little of Kodak, graphic arts consultant; and, Mr. Sickles.

The Editor invites your comments.

R. W. Burnham
Editor

"Our problem is to match colors produced on different materials like cast iron, enameled steel or aluminum, or vitreous china–fired in different temperatures and different atmospheric conditions.

"New ways of using color are being found. The use of bright hues is increasing. In the fields of whitewares. structural clay products, glass, and porcelain enamel, increased use of color is occurring.

"Problems of control arise in the coordinating of colors used in whitewares, glass, and plastics. Various systems of designating color characteristics are available and are used by different companies and groups in industry.

"There is a need for a "Ceramic Color" glossary. Several attempts have been made to accomplish this. It would be a good project for the ACeS delegates to the ISCC.

"The glazed quarry tile field is a fast growing architectural product line, and in most cases crystalline glazes are used to give various textures and shades on each piece of tile. The effect is to give an antique appearance to the floor."

The proceedings of the Washington meeting and this report on color will be published in the *Ceramic Bulletin.*

## REPORT FROM THE AMERICAN CHEMICAL SOCIETY DELEGATES
## W. B. PRESCOTT, CHAIRMAN

Mr. Charles E. Garland was appointed to the ACS delegation by the President of the American Chemical Society to replace Dr. W. H. Foster who resigned from the delegation.

A survey was conducted among the members of the delegation for suggestions on projects for the delegation. The results of this survey, while not as large as expected, are now being evaluated.

## REPORT FROM THE AMERICAN COLLEGE OF PROSTHODONTISTS DELEGATES
## ROBERT C. SPROULL, CHAIRMAN

The American College of Prosthodontists applied for and was accepted for member body status in the ISCC at the 1972 annual meeting in New York City. At the annual meeting of the American College of Prosthodontists in Las Vegas, Nevada in October 1972, the College scheduled a presentation on color entitled "Color Matching in Dentistry" in keeping with their interest in color. The paper was presented by Robert Sproull, Chairman of the ACP delegation to the ISCC, and has been published in two parts in the April and May issue of the Journal of Prosthetic Dentistry. The delegates of the ACP to the ISCC met at Las Vegas and discussed plans for the future. As a result of this meeting and additional correspondence a request was made to the ISCC to form a problems subcommittee to be entitled "Color Matching of Living Tissue" to help in solving the color matching problems inherent in matching natural teeth and the soft tissues of the face. The Board of Directors of the ISCC approved the formulation of this subcommittee which has been designated Problems Subcommittee #35: "Color and Appearance Matching of Living Tissue." "Appearance" was added to the committee's title by the Board of Directors as being more descriptive of the problems to be met and solved. A report of the first meeting of Subcommittee 35 is included in this issue.

The next annual meeting of the American College of Prosthodontists will be held in October, 1973 in San Antonio, Texas. The delegates of the ACP to the ISCC plan to meet again at this time.

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

In 1972 the AIA Journal published a series of articles by Faber Birren on *Color and Man-made Environments.* The first of these appeared in the August issue under the title, *The Significance of Light.* The second article on *Reactions of Body and Eye* appeared in the September issue. The last article, *Reactions of Mind and Emotion,* was published in October. An introduction to this series was written by Waldron Faulkner.

A new edition of *Architectural Rendering* by Albert O. Halse was published by McGraw-Hill in October.

## REPORT FROM THE AMERICAN INSTITUTE OF INTERIOR DESIGNERS DELEGATES
## BEATRICE WEST, CHAIRMAN

The American Institute of Interior Designers report the year of 1972 a very colorful and active period. Color has been the key to eyecatching appeal for Chapter projects in every region.

Of growing interest everywhere is the effect of *SPACE* and *ECOLOGY* in the designers' workshop. Color Psychology, lighting, and design, using the space theme to make colors as normal and as unrestricted as life on earth, have been the keynote. Skylights, light reflecting colors, multilevels of floors and ceilings and mirrored walls have all been used to visually extend the apparent space themes of rooms, and areas. Flexible lighting, along with natural lighting coming through skylights and large open areas, have been designed to provide warm or cool colors as required to affect the atmosphere of a room.

With an eye on the *ECOLOGY* Scene, design solutions include varying textures, warm natural colors such as: Whites, Beiges, butterscotch, clear oranges and yellows, plus a range of simple rhythmic patterns to relieve monotony while maintaining a restful quality. Flowered prints, sea shells, live green plants, tree prints, bamboo, birds, butterflies, etc., are all being used to their full advantage to promote *ECOLOGY.*

Behind both the *SPACE* and the *ECOLOGY* themes has been the fantastic marketing tool of color. Color is the Answer. It can turn the consumer on to a product or turn him off. It can attract the attention or arouse a distaste. Color has been the boon to the designer. It all depends on how well we use it and how clever we are at understanding our customer's potential reactions.

Another theme that has hit our designers this past year is the *AMERICANA* Scene. We are seeing it in the use of "Patchwork", and Gingham Checks in all of the home furnishings such as: draperies, floor covering, carpeting and accessories. Also, red, white and blue combinations are appearing everywhere because of the Bi-Centennial in 1776, and "Grass" outdoor carpet. Color in area rugs and carpets colorfully depict the American Indians' cultural re-emergence in contemporary design.

During this past year one of the biggest highlights of the AIID was at the Tri-Regional conference, which included a dinner at the Corcoran Gallery of Art, a Private *White House* Tour by the Curator, plus a visit to the Opera House of the Kennedy Performance Center. The three major performing halls are flowingly carpeted with crimson carpet.

On the local scene, the AIID Chapter, Area II, of Florida, for the second year entered into a joint venture benefit with the Art Guild of Boca Raton, whereby colorful Vignettes were designed around paintings, sculpture or photographs of members of the Art Guild. Proceeds of this benefit again raised considerable funds for the Boca Raton Society of the Retarded on behalf of the AIID members.

The interior design and color styling in the new home of Ed McMahon, the T. V. Star, at Rotonda, Florida was furnished by Beatrice West, an accredited member of the AIID Ecological colors set the theme–ranging from today's fastest growing trend color in home furnishings, Chocolate Brown, to the clear and bright colors of flowers and bird's plumage. Such natural materials were used as handmade brown stoneware tile flooring, ivory toned carpet, natural burlap wallcovering, lemon yellow, palm green and orange colored upholstery, so indigenous to Florida, yet representative of today's natural and ecological color palette.

## REPORT FROM THE AMERICAN PSYCHOLOGICAL ASSOCIATION DELEGATES
## JO ANN S. KINNEY, CHAIRMAN

In surveying the work of psychologists in color for the past year, I find that while there are no brand new topics, there is a good deal of solid work being done in areas that have been in the research forefront for the past few years. The intensive interest in the underlying physiology of color vision continues, as does the multi-disciplinary approach to this topic. The latter is evidenced by the great growth in popularity of the Sarasota meeting of the Association for Research in Vision and Ophthalmology. Psychologists working in color and vision have been increasingly drawn to this annual meeting where joint sessions in biochemistry, electrophysiology, and psychophysics are held. Studies in color vision now span the visual system from the early receptor potential, through work on the photopigments, to single cell recordings from neurons at every stage from the receptor to the visual cortex. Integration of this work with the vast body of data from psychophysics of human color vision is resulting in a real understanding of color vision.

The search for "feature" detectors, mentioned in this report three years ago, continues to occupy the interest of both physiological and behavioral psychologists. In rhesus monkeys, single cortical cells are found that respond to either different spatial orientations, different colors, or both. In human subjects, investigators search for evidence of the existence of the same kind of cell by using the adaptation principle. In this, cells are presumably rendered less sensitive by continuous stimulation; their existence can then be revealed by parametric tests of sensitivity to determine the physical characteristics of the stimuli eliciting the reduced sensitivity. From such studies, data are available which appear to support, in humans, the existence of cells responsible to contours which differ in spacial frequency, color, and orientation.

Our APA delegates to the ISCC continue to provide much of the interesting new data in each of these fields. Both Lorrin Riggs at Brown University and Sidney Stecher, now at Lehigh University, are delving into different aspects of the adaptation paradigm, Riggs for colored after-effects for curvature and Stecher for spatial frequency. Dr. Riggs has also completed several investigations of the color vision of pigeons.

Sherman Guth from Indiana University has developed a theoretical model for the understanding of brightness and color vision which can account for hetereochromatic additivity failures, and for the different luminosity curves obtained by different psychophysical methods such as threshold, direct brightness matching, and flicker photometry. The model is very effective in putting together information from such a diversity of fields as colorimetry, photometry, opponent color theory, and electrophysiological studies of the responses of single cells to colored stimuli. It is a good example of the progress being made in theoretical understanding of color vision.

At the Naval Submarine Medical Research Laboratory, we have started a new investigation of color vision as affected by therapeutic drugs. A wide variety of tests is being used: routine tests of color vision such as pseudo-isochromatic plates and the FM-100 Hue test; tests of subjective colors such as Benham's top and memory colors; and an objective measure in the visual evoked response.

A major contribution to the field of vision in general has been made by Drs. Hurvich and Jameson with the publication of the Handbook of Sensory Physiology, Volume VII/4, Visual Psychophysics. The 800-page volume contains 28 chapters on a wide variety of visual topics. Individual chapters are written by different authors each of whom is well known in the field about which he writes. Within the field of color, there are chapters on color mixture, color discrimination, peripheral color vision, color adaptation, and several on color vision deficiencies, including both genetic and acquired.

A list of new publications in the field of color vision is given below:

Blough, P. M., Riggs, L. A., & Schafer, K. L. Photopic spectral sensitivity determined electroretinographically for the pigeon eye. Vision Res., 12: 477-485, 1972.

Eichengreen, J. Psychophysical estimates of opponent-process response function. Perception & Psychophysics, 13: 93-98, 1973.

Guth, S. L. A new color model. In Vos et al. *Color Metrics* A. I. C./Holland, Soesterberg, 1972.

Guth, S. L. On neural inhibition, contrast effects and visual sensitivity. Vision Res., 13: 937-957, 1973.

Guth, S. L., and Lodge, H. R. Heterochromatic additivity, foveal spectral sensitivity and a new color model. J. Opt. Soc. Am., 63: 450, 1973.

Hurvich, L. M. Color Vision deficiencies. In *Color Vision* National Academy of Sciences, Washington, D. C., 1973, pp. 1-33.

Ingling, C. I. Jr., Drum, B. A. How neural adaptation changes chromaticity coordinates. J. Opt. Soc. Am., 63: 369, 1973.

Ingling, C. I. Jr., Drum, B. A. Retinal receptive fields: correlations between psychophysics and electrophysiology. Vision Res., 1973 in press.

Jameson, D. and Hurvich, L. M. (Eds) Visual Psychophysics *Handbook of Sensory Physiology.* Vol. VII/4. Berlin: Springer-Verlag, 1972.

Kinney, J. A. S., McKay, C. L., Mensch, A., & Luria, S. M. Techniques for analysing differences in VERs: Colored and patterned stimuli. Vision Res., 12: 1733-1747, 1972.

Lange, R. V., Sigel, and Stecher, S. Adapted and unadapted spatial-frequency channels in human vision. Vision Res. 1973 in press.

Luria, S. M. Vision with chromatic filters. Am. J. Optom., 49: 818-829, 1972.

Myers, K., Ingling, C. I. Jr., Drum, B. A. Brightness additivity for a grating target. Vision Res. 1973 in press.

Paulson, H. M. Comparison of color vision tests used by the Armed Forces. In *Color Vision,* National Academy of Sciences, Washington, D. C., 1973, pp. 34-64.

Riggs, L. A., Blough, P.M., & Schafer, K. L. Electrical responses of the pigeon eye to changes in wave length of the stimulating light. Vision Res., 12: 981-991, 1972.

Riggs, L. A. & Wooten, B. R. Electrical measures and psychophysical data of human vision. In D. Jameson and L. M. Hurvich (Eds.) Handbook of sensory physiology VII/4 Visual Psychophysics. Berlin: Springer-Verlag, 1972.

Stecher, S., Sigel, C. & Lange, R. V. Spatial frequency channels in human vision and the threshold for adaptation. Vision Res. 1973 in press.

Verriest, G. (Ed.) Acquired colour vision deficiencies. Modern Problems in Ophthalmology Vol. 11. S. Karger, Basel-New York, 1972.

## REPORT FROM THE AMERICAN SOCIETY OF PHOTOGRAMMETRY DELEGATES JOHN T. SMITH, JR., CHAIRMAN

The American Society of Photogrammetry continued to promote the use of color in both remote sensing and aerial photography. Sales of the Manual of Color Aerial Photography continued at an even level throughout the year, and the Society is presently engaged in preparing for publication a Manual of Remote Sensing and Photo Interpretation, which should be available by the end of 1973.

The annual meeting of the American Society of Photogrammetry was well attended despite many cutbacks in both industry and the Federal government. Numerous papers were given both at the ASP annual meeting and at seminars and symposiums co-sponsored by the ASP on the use of color for photogrammetry.

The Society has been disappointed by the fact that very little progress was made on Problem 31 in the last year, and hopes that Problem 31 may be clearly defined and the working tools developed for photointerpretative techniques of minute colors on color transparencies.

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

ASTM continues to carry on many activities in support of the goals of ISCC. Perhaps the most important of these is education. Of course ASTM publishes test methods for evaluating appearance parameters such as color, gloss, haze, transparency, and the like, but the membership and particularly the public must be educated to use them intelligently. ASTM also likes to look out toward the measurement horizon and see where new emphasis is needed.

To this end, a very successful symposium on Sensory Evaluation of Appearance of Materials was held October 24-25, 1972, in Philadelphia, Pa. The Symposium was sponsored by Committee E-12 on Appearance of Materials and Committee E-18 on Sensory Evaluation of Materials and Products, with the cooperation of the Inter-Society Color Council. The two-day Symposium was co-chaired by Paul N. Martin and Richard S. Hunter (ISCC President). The state-of-the-art of sensory evaluation of appearance of materials was reviewed and recent developments and proposals were discussed. The symposium was well attended.

The breadth of the Symposium is indicated by a perusal of the titles of the thirteen papers presented and the variety of disciplines of the authors. Note, however, that five of the papers were presented by ISCC members including Past President Randy Hanes and President Richard Hunter. The titles of the papers, authors' names and affiliations are listed below for reference. Most of the papers will eventually be published by ASTM, and ISCC members will receive a notice of their availability.

1. "Mechanism of Vision—a Review"—James Johnston, Georgetown University, Washington, D. C.
2. "Some Considerations in Visual Color Tolerance Specification"—William N. Hale, Jr., Munsell Color Co., Baltimore, Md.
3. "Identifying the Sensory Attributes of the Appearance of Materials"—Richard S. Hunter, Hunter Associates Laboratory, Inc., Fairfax, Va.
4. "Product Appearance as Communication"—Chester Abend, SCM Corp., Syracuse, N. Y.
5. "On the Utility of Experimental Studies of Color Effects"—R. M. Hanes, Johns Hopkins Applied Physics Lab., Silver Spring, Md.
6. "The Connotative Meaning of Visual Properties of Surfaces"—Clarke A. Burnham and Clayford T. Grimm, University of Texas, Austin, Tex.
7. "Obtaining and Summarizing Subjective Impressions for Correlations with Analytical Measurements"—Mary G. Whitcomb, du Pont Company, Wilmington, Del.

8. "Concepts and Applications of Multidimensional Scaling"—Myron Wish, Bell Telephone Labs., Murray Hill, N.J.

9. "Color Evaluation of Foods—Correlation of Objective Facts with Subjective Impressions"—Angela C. Little, University of California at Berkeley.

10. "Relationship of Instrumental Measurements to Visual Impressions of Potato Chip Color"—John N. Yeatman, HEW, Food and Drug Administration, Washington, D. C., and Barbara B. Aulenbach, U. S. Department of Agriculture, Plant Industry Station, Beltsville, Md.

11. "On the Measurement of Judgmental Responses to Multi-Attribute Marketing Stimuli"—P. E. Green, University of Pennsylvania, Philadelphia, Pa.

12. "Appearance: Likes and Dislikes"—Eugene P. Rubacky, ASSESS Inc., Bethesda, Md.

13. "Subjective Scaling of the Appearance of Tissue Smears"—Ronald M. Pickett, Harvard School of Public Health, Boston, Mass.

The ASTM Board of Directors authorized the Award of Merit to be presented to William J. Kiernan, a past president of ISCC, and this was done on June 28, 1972, at the E-12 meeting in Los Angeles. The award carries with it the grade of Fellow of the Society.

In conclusion permit me to state that ASTM actively supports the goals of ISCC and the delegates recommend continued membership and support of the Council by ASTM.

## REPORT FROM THE COLOR ASSOCIATION OF THE UNITED STATES DELEGATES MIDGE WILSON, CHAIRMAN

*Homo Sapiens* is the only animal concerned with TIME—so concerned that we have become its slave. The drive to accelerate hangs as a noose around our necks. We are obsessed with doubling production, multiplying volume, advancing seasons regardless of the calendar, and operating on a global scale—as we fly faster than sound. We have created an environment so instantaneous and so fleeting that we never really experience it, only its rapid passing.

The technological explosion, population explosion and communications explosion, plus the tidal wave of synthetic materials coming in rapid succession like a twenty-one gun salute, have wrought radical changes in the market place. Operations shifted to volume production and distribution—sharpened by keen competition and catalyzed by the computer. Economics, rather than fashion, continues to exert the greatest influence on color developments. The expanded use of synthetic products, coupled with declining availability of natural materials, places an even greater emphasis on color *to achieve variety and interest in products.* In addition, color developments in fabrics are closely linked to the dominance of polyester fibers and are limited to the range of colors in appropriate dyestuffs. (Pale tones have too great an affinity for the "grayed look" and so are restricted in use.)

Who would have guessed that the energy crisis would further complicate the situation by limiting the supply of synthetic products? The restricted supplies prompt manufacturers to limit their color ranges to achieve maximum depth in lines.

Clear, bright tones continue in all areas, particularly in combination with white and cream tones. Yellows, oranges and orange-reds still dominate and carry over into the browns, giving rich clay and earthen tones. Greens are gaining in applications, especially in combination with other colors. Blues are on the up-swing, expanding from navy and denim blues to true medium tones and a range of turquoise variations. The violet-purple family has now become a perennial basic. The abundance of white is closely linked to the economic climate, as an added means of restricting costs.

Perennial fashion favorites—red, white and blue, are being de-emphasized for Spring 1974, to return with greater impact for fashion, as well as patriotic applications, associated with the Bicentennial.

The western hemisphere is gaining attention as a source for color and design inspiration. In addition to the interest in all phases of Americana, Central and South America are brought into focus as more and more people travel into the southern hemisphere in search of a new labor market and fresh resources. Rising costs of travel in Europe also influence more vacationing south of the border and greater exposure to native and tropical colorings. The color mood of Guatemala, with its lush fruits, berries, flowers and vegetation (ancient sources of native dyes) is an excellent example.

The approaching Bicentennial focuses additional interest on authentic, historical colors and accurate color standards. Requests for OLD GLORY RED and OLD GLORY BLUE, for the American flag, have increased markedly. Artists who are busy designing commemorative stamps also request authentic standards for state colors as well as flag colors.

Each season the applications of color broaden and the activities of the Color Association expand to keep pace with these developments. Color continues to make the world brighter and, we hope, happier.

## REPORT FROM THE COLOR MARKETING GROUP DELEGATES LOUIS A. GRAHAM, CHAIRMAN

Many of you will note the absence of a number of Color Marketing Group members at the April 1973 meeting of the Inter-Society Color Council. Through an oversight which the Color Marketing Group particularly regrets, the spring 1973 meeting of CMG was scheduled for New Orleans on exactly the same dates as the spring 1973 meeting of ISCC in New York. In particular, the Chairman of CMG delegation extends his personal apology for not doing the best job of liaison between the two groups to avoid such conflicts. However, these things will happen in the course of the finding of available hotel space for such groups as ours.

During 1972, CMG held two national meetings. To reflect properly the national flavor of color trends and developments, CMG held one meeting in the eastern United States and one in the west. The one in the far west was

held at Las Vegas in early October 1972 where the theme was "Color—From the Cradle to the Grave." This was a complete Color Marketing Group meeting where all the presentations were given by CMG members. The object of this meeting was to put on the record in broad and also detailed terms the purpose, objectives and accomplishments of CMG. CMG members from twenty-two different companies in the United States were represented on the speaker and panel programs. In-depth discussions were held on: a) Interior/Exterior Design and Furniture; b) Paints and Pigments; c) Forest Products and Graphics; d) Carpets and Tiles; e) Fashions.

A complete set of minutes with all panel discussions and presentations was published by CMG in alte 1972 for its membership. We would like to quote the unusual opening remarks presented by Jerry Allen Montei of Formica Corporation and President of Color Marketing Group in dialogue with F. F. "Bud" Walrod of Hopper Division, Georgia Pacific Corporation and the Vice President of CMG:

*Opening Remarks, J. Allen Montei* I hope you have all had an easy time with your 1973 colors. I have and Bud Walrod has. CMG has done more than I ever imagined possible . . . made our management aware that an industry organization can contribute meaningful information that sells in the market place. Two years of success and a lot of personal selling has proven to Bud and me the ultimate value of Color Marketing Group—an opportunity to exchange information, and make decisions, and sell management on color programs. My sales are up 21% this year alone. Bud's 28%.

This afternoon I'd like to introduce the participants in the next two days activities. They represent corporations that mold the color future of America—sales of 31 billion dollars—market expertise and color knowledge. What they have to say is as important as tomorrow. So "Color from the Cradle to the Grave," our subject, obviously alludes to color from birth to death and each step along the path is vital to the profit dollars per color. The steps are:

Market Research
Product Development
Product Presentation
Merchandising

I'd like to introduce my Co-Chairman, Vice President of CMG, F. F. "Bud" Walrod of Hopper Division, Georgia Pacific Corp.

(Following is the opening dialogue between President Montei and Vice President and Co-Chairman Walrod.)

Al: What's with the white suit?

Bud: I'm for the ecological movement—do away with all colors.

Al: I'm for top production—do away with all colors.

Bud: I'm for simplicity in sampling—do away with all colors.

Al: Color costs too much—reduce your cost—do away with all color.

Bud: You can never match exactly the color anyway—so do away with all color.

Al: I'm partially color blind—so do away with all color.

Bud: Why keep changing colors—you complicate my way of life.

Al: If everyone would just wear black or white you would value the individual, not his sartorial spendor.

Bud: I travel a lot—without color I could take less clothes and reduce my costs.

Al: Color in clothes, hard and soft goods, distracts from Mother Nature's beauty. Let the color in our life be only nature's colors. (You don't fool around with Mother Nature.)

Bud: Coloring hair, lipstick, eye shadow—takes away from the individual's own beauty. Do away with all color.

Al: In automobiles—do away with all colors—offer just black or white and eliminate the indecision that's so frequently used.

Bud: Color fades too much—so eliminate color.

Al: You don't make all 10 million colors so don't make any.

Bud: Your colors are too hard on my eyes—cause eye fatigue and headaches—eliminate all colors.

Al: White is our best seller—so let's just make white.

Bud: In our troubled times if everything were just white—no problem in the streets; no problems in war; no problems in spending the high price for color television.

Al: We could eliminate interior and exterior decorators, colorists, many stylists, and we could concentrate on the more important things in life.

Bud: If you wore only white, it would be a big boon to industry—particularly the laundries and the dry cleaning institute.

Al: White contains all the color that should be enough for anyone.

Bud: In the ensuing days, we'll prove to you what color does, or doesn't do. Why there is, or isn't color. And most importantly why there is a COLOR MARKETING GROUP.

Look. Listen, to the experts from all fields. They can answer your questions, for this is a rebirth of Color Marketing to show you the way to better utilizing your talents and move ahead in your respective areas. We'd like to welcome you to Las Vegas and THE COLOR MARKETING GROUP—a gathering of the most colorful people in the world today—starting today in living black and white.

The Las Vegas meeting of CMG was well attended with 93 persons present.

The meeting in the east was held at the Nevelle Resort Area in the New York Catskills in May, 1972. Yale Forman was chairman of the program for this meeting.

## REPORT FROM THE DRY COLOR MANUFACTURERS DELEGATES MAX SALTZMAN, CHAIRMAN

During this period the meetings of the Dry Color Manufacturers Association continued to feature speakers on various aspects of color. These were almost equally divided among discussions of Color Styling (Ms Amelia Bassin and Mr Yale Forman), Color Technology (Mr Ralph Kearns of Dayglo and Mr Max Saltzman of Allied Chemical), and

Customer Relations (Mr. Jonn H. Lathe of Glidden and Mr Robert Roland of the National Paint and Coatings Association).

Much time of the Association was devoted to an examination of the impact of pigment manufacture on the ecology. A successful seminar was held on the problem of waste disposal from pigment production.

An increasing amount of attention is being given to regulations arising from the administrative implementation of the legislation which established the Occupational Safety and Health Administration (OSHA). These new regulations will have at least an economic effect on the pigment producing and pigment using industries. Legislation which limits the use of heavy metals has resulted in technical activity on the part of members of the DCMA to provide satisfactory substitute materials.

The Association continues to provide an award for the best technical paper relating to pigments which is presented at one of the major meetings of the Society of Plastics Engineers.

## REPORT FROM THE FEDERATION OF SOCIETIES FOR PAINT TECHNOLOGY DELEGATES RUTH M. JOHNSTON, CHAIRMAN

During 1972 the Federation celebrated its Golden Anniversary, climaxed with the Annual Meeting held October 24-28 in Atlantic City. The program included a lovely film on "The Colors of Nature" prepared and presented by Hilton-Davis Company, which ISCC members would enjoy seeing.

The Bruning Award for outstanding contribution to the art, design, and science of color was presented to Mr. Faber Birren, well-known color consultant, author, and ISCC member. He is an old friend of Armin J. Bruning and so was a particularly appropriate recipient in this Golden Anniversary year.

The Committee's activities for the year included cooperation with the Federation's Glossary Committee in preparing a list of color terms and definitions as used in the Paint Industry. Several meetings of the Committee were held during the year and the word list and some of the definitions have been completed. This list will be submitted to the ISCC Subcommittee for Problem 6, Survey of Color Terms when it is completed. A second activity of the Committee has involved a study of needs and possible ways to present color educational programs at the local section sites. The special committee studying the problem has prepared its report and a proposal is being formulated to be presented to the Society's Education Committee.

Papers published in the Journal of Paint Technology during the year 1972 (Volume 44) which might be of interest to ISCC members include the following.

1. Blackinton, R.J. "Opacimeter—An Instrument for Measuring Pigment Concentration", March, p. 84.
2. Bolomey, R.A., and Greenstein, L.M., "Optical Characteristics of Iridescence and Interference Pigments", March, p. 39.
3. Cairns, E.L., "Measuring Hiding Power of Colored Paints", September, p. 76.
4. Clayton, D.B., "Calculation of Hiding Power from Reflection Measurement for Absorbing and Nonabsorbing Films", June, p. 66.
5. Feller, R.L., "Scientific Examination of Artistic and Decorative Colorants", March, p. 51.
6. Huey, S., "Scientific Approach to Visual Color Comparison", October, p. 83.
7. Rheineck, A.E., "Coatings from Cave Man to Apollo 8", April, p. 35.
8. Slepetys, R.A., "Particle Size Distribution of Titanium Dioxide Pigments from Light Scattering Measurements", May, p. 91.
9. Williams, C.G. and Bains, S.N.S., "Transmittance and Reflectance of Thin Paint Films", March, p. 59.

## REPORT FROM THE GRAPHIC ARTS TECHNICAL FOUNDATION DELEGATES WILLIAM D. SCHAEFFER, CHAIRMAN

This report summarizes the activities and programs centered on color and color reproduction in which GATF is engaged. The activities and programs include in-house research projects, cooperative work with other graphic arts industry associations, reports to the graphic arts industry, and educational programs presented in all sections of the country.

Research projects include the following:

*Color Variations in Lithography:* The lithographic reproduction process utilizes very thin ink films on a variety of substrates. When thin ink films are printed on paper, particularly, the substrate contributes appreciably to the color produced. The variation of this color across the press and around the cylinder is a matter of concern to printing press designers and manufacturers as well as the pressmen responsible for actual printing. To assist all groups, model printing forms were designed, printed, and analyzed to demonstrate the sources of color variation. A Research Progress Report on these studies is in the process of being published.

*The Foss Color Order System:* A new color chart with the Foss name will soon be available from GATF. The system was developed by Mr. Carl Foss at the Munsell Division of Kollmorgen Corporation which has recently granted the Foundation a non-exclusive, royalty-free license to market the chart films to the graphic arts industry. The chart is based on the dissection of a cubic color solid, and as such represents a significant improvement over most existing color charts. Its primary features include: an ordered color appearance, improved tonal spacing, and an easily understood black printer contribution. A Research Progress Report draft has been prepared that describes the chart, its production and use.

*COOPERATIVE ASSOCIATION STUDIES: AAAA/MPA/GATF Study of Letterpress Proving for Magazine Printing with Process Color, Heatset Inks:* With the guidance of this committee, two Research Progress Reports by Mr. Gary Field were issued during the year on the use of the reflection densitometer. The first report, RP No. 90, is titled "Graphic Arts Application of Reflection Densitometry" and describes the use, maintenance, and the calibra-

tion and consistency checks on the densitometer plus a guide to the various manufacturers who distribute instruments in the United States. The second report, RP No. 91, describes the use of the reflection densitometer for ink film control and is a one page release designed for use at the working place.

*Web Offset Proving:* The industry committee organized under the sponsorship of the American Association of Advertising Agencies, the Magazine Publishers Association and the American Business Publications has published a new set of production standards for purposes of communication among the advertisers, advertising agencies, publishers, and printers.

*EDUCATIONAL PROGRAMS: Seminars and Workshops:* Programs dealing with color have been presented for the industry in the following areas: Art and Copy Preparation, Color Workshop, Color Photography, Advance Color Separation, Color Reproduction and Color Printing. Making these presentations were Mr. Harvey Levenson, Mr. Frank Cox, and Mr. Gary Field.

Two Color Conferences on the Preparation and Reproduction of Color Copy were presented during 1972. The first was held in May in New York City, and the second in November in Toronto. Both Conferences were well attended.

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

For some years now we have had four Ink Groups for the various gravure publications. They varied in hue, chroma, and saturation depending on cost and editorial preferences. All efforts to standardize the gravure industry by getting it to use one ink came to naught. The plea of our clients, the advertising agencies, the lack of standardization, and the use of too many different inks for the same ad which increased engraving costs, and also affected the uniformity of reproduction of the same ad which appeared in many different publications, went unheard.

This year, however, some progress has been made, and the magazines using Groups II and IV inks have agreed to compromise and adopt the same ink for all magazines now using the above groups, and call it Group V. The magazines involved are Woman's Day, Family Circle, Good Housekeeping, Popular Mechanics, Mechanics Illustrated, Dell Publications and American Home.

The hue and saturation differences in the Yellow, Red and Black were not too great between Group II and Group IV inks. So it was no problem getting the publishers and printers to agree to adopt Group II Yellow, Red, and Black for all publications. The Group II Blue, however, was leaner and less saturated, closer in appearance to a Cyan. The Group IV Blue is a deeper, more purplish ink closer to the Milori Blue of Group I in hue. The Group II people agreed to adopt the Group IV Blue, and the Group IV people agreed to use Group II Yellow, Red, and Black. The Group V therefore will consist of the old Group II Yellow, Red, and Black plus the Group IV Blue inks, and there will no longer be a Group II or Group IV ink.

The GTA from now on, therefore, will have only three Ink Groups instead of four, namely Groups I, V, and III. Group I is the old standby using an orangy red and a Milori purplish blue for all Sunday supplements printed on 32 lb. newsprint stock. Group V will be used on the magazines mentioned heretofore, printed on a machine coated stock, and Group III inks will continue to be used by Triangle Publications for printing their Seventeen, TV Guide and Good Food magazines. The Group III inks are distinguished for their adherence to a greenish Cyan instead of blue, and a very clean Magenta ink in place of red.

The Gravure Technical Association as a result of the above, and also because their old printed GTA Tone Scales used by the industry are worn out and faded, will now proceed to print up new tone scales. These are used to check out film positives and engravings supplied to publishers by advertising agencies. The GTA will also print a complete color swatch book using the three ink groups. The swatch book when completed sometime this year will be a milestone in the 25 year history of the GTA. It will be a boon to the industry that is sorely in need of a complete color swatch book. It can be used by craftsmen to analyze color copy and engravings accurately, as well as by clients who need to specify particular colors for tint panels, colored type, etc., in the very same ink groups used by the respective magazines chosen by the advertiser to reproduce his product. This should help reduce to a minimum the misunderstanding and misinterpretation of instructions that now occur between engravers and advertisers, as well as printers, because of improper color guides. Amen!

## REPORT FROM THE ILLUMINATING ENGINEERING SOCIETY DELEGATES C. W. JEROME, CHAIRMAN

There has been a growing interest and concern with the esthetic aspects of color in lighting and their effect on the human environment. This was highlighted in an article in the IES monthly magazine last September by IES President, R. T. Dorsey, "On Uniting Esthetic and Engineering Approaches to Lighting." This is further developed in a series of articles on merchandizing which points out the effect of color on the overall psychological impact of any lighting installation.

One of the members of the IES Color Committee is the Chairman of the new ISCC Subcommittee for Problem No. 33, "Human Response to Color." This indicates that the IES Color Committee will be increasingly interested in this subject, and the presence of Mr. Styne will ensure the close coordination of the activities of the two groups.

The esthetic aspects of outdoor floodlighting is also being emphasized. An article "History by Night: An Artistry of Color in Floodlighting" describes the use of color in the lighting of our national memorials in Washington and elsewhere around the country. In "Spain: Floodlighting Design and Influence", J. M. Casal treats the esthetic goals in floodlighting the ancient edifices, national monuments and spiritual shrines of that country. One of his conclusions is:

"Architectural floodlighting is more an art than a technique. Consequently, it should be the artist who decides, in each case, the objective to be sought and the parts that are to be emphasized to underline the meaning and value of the total work."

At the IES National Technical Conference last year, the following papers on color were presented:

"A New High Intensity Discharge Light Source with a High Color Rendering Index"

"Subjective Measurements of Color Shifts with Various Light Sources"

"The Flattery Index"

"High Performance Fluorescent Lamps"

"Photographing Lighting Installations in Color"

The following papers have also been published in IES publications during the past year:

"Laser Art"

"Color and Light Sources"

"Fluorescents: Emphasis on Improved Color Quality"

"Flattery vs Color Rendition"

"Effect of Temperature on the Color Rendering Properties of Fluorescent Lamps"

"The Subjective Measurement of Color Shifts with and without Chromatic Adaptation"

"Multidimensional Scaling of Luminous Environment"

"Art in Lighting Design"

## REPORT FROM THE INDUSTRIAL DESIGNER'S SOCIETY OF AMERICA DELEGATION RAYMOND SPILMAN, CHAIRMAN

The IDSA contribution to the Inter-Society Color Council has been growing over the last few years and this year culminated in the establishment of Problem 33–"Human Response to Color," under the Chairmanship of Alexander Styne. While the original subject "Human Response to Color" was presented and promoted by Raymond Spilman some two and a half years ago, it has since been taken up by a wide spectrum of ISCC members who have interest in this category of color activity. Also, the subject of human response to color as opposed to the scientific measurement of color has aroused the interest of the ISCC Board of Directors and Officers during the past two years to the extent that they have become active participants in the formulation of the subcommittee's problem definition and are, and will be, participants in some of the on-going experiments. At the present time, Alexander Styne, one of the most active members of the IDSA delegation in this activity, is Chairman of this Committee and has done absolutely sterling work in arranging the committee efforts and setting up a major steering committee that met in November of last year in Washington. Then Alexander Styne became the key force for organizing the Problem 33 meeting in May at the ISCC annual meeting in New York City. In addition, he has also been active in introducing into the program Mrs. Marcella Graham (a behavioral specialist) of Catawba Hospital in Virginia who presented a major paper on her experience in using color in a mental hospital at the first meeting of Problem 33. Her report was enthusiastically received and her work has become the root for an immediate and more extended program that will be reported in following months. So, as we go into the year 1973-74 Alexander Styne is the Chairman and chief operating officer of Problem 33 "The Human Response to Color". We would like to take this opportunity to solicit actively the support of every person interested in this subject both within IDSA and among the membership of the ISCC. This is a new area for exploration and is just the beginning of an exciting venture into how color affects men's minds.

Don Genaro, a partner in Henry Dreyfuss Associates and a new member of the IDSA Delegation has joined the Publications Committee of ISCC. In this capacity, he has suggested and submitted a new design for the *Newsletter*, shown at the annual meeting of the Council, approved and in print with this historic issue.

Professor Redman, Bridgeport University, has continued his activity for and assuring a supply of the Macbeth Award Medallions for future years. In this capacity he is working directly with Norman Macbeth.

We hope that IDSA can contribute more to the general information of color usage in the coming year through our service to the Inter-Society Color Council. Ultimately perhaps we can establish some of the color programs within our own society which can be effectively shared with ISCC.

## REPORT FROM THE INSTITUTE OF FOOD TECHNOLOGISTS DELEGATION JOHN N. YEATMAN, CHAIRMAN

All of the members of the IFT Delegation to the Inter-Society Color Council (ISCC) and, in particular the voting delegates Dr. Angela C. Little, Dr. Frederick J. Francis and Mr. John N. Yeatman (Chairman), have been active throughout the year individually in their teaching programs and in research and collectively in their input to the ISCC Problem Subcommittee #6 on terms and definitions in color science. Our input has been, as expected, directed toward the color terms and definitions most widely used in food technological publications.

Dr. C.J. Bartleson, Chairman of Problem Subcommittee #6 requested that our delegation "submit color terms and definitions as used by members of the Institute of Food Technologists." Our response was good but did not fulfill the intention of the Subcommittee which was to "revise the 'Comparative List of Color Terms' to include only such terms and definitions as are *recommended* for use by member-bodies of the ISCC."

Our delegation does not agree on certain terms and definitions and unfortunately the Institute of Food Technologists does not officially recommend or sanction any color terms and definitions for use in food technology. Working within the delegation and with the Subcommittee we should be able to resolve our differences and arrive at an acceptable list of color terms and definitions for IFT council consideration.

A meeting of the Delegation was held April 29, 1973 in New York City at which time we hoped to be able to prepare a proposal to the IFT. Proper sanction of a list of color terms and definitions that our members may use

authoritatively in manuscript preparation will be considerable benefit.

The highlights of the year came in the form of the participation of member-delegates in the ASTM Symposium on Sensory Evaluation of Appearance of Materials held in Philadelphia in October 1972, and a presentation by Dr. Francis at the ISCC meeting in April 1973 on the subject of color science as an educational program in the food technology curriculum.

Announcements of special courses in color science continue to be published in *Food Technology* which serves to acquaint our members with the opportunities for extending their knowledge in this esoteric field of scientific endeavor.

## REPORT FROM THE NATIONAL ASSOCIATION OF PRINTING INK MANUFACTURERS DELEGATES ALFRED DI BERNARDO, CHAIRMAN PRO TEMPORE

This report consists of short status reports on two projects at the National Printing Ink Research Institute that are concerned with color:

### Computer Color-Matching of Printed Ink Films

The objective of this project is to develop a routine method to produce good non-metameric matches with minimum expenditure of time and raw materials. The first theoretical model developed used a three-layer model to represent the printed ink films on paper. This model gave acceptable matches, but the computing costs were high. Therefore, this three-layer model was simplified to a one-layer model with a paper background, which reduced the computing costs considerably. The computer program for this new model calculates all possible formulations containing one, two, three, four, and five basic inks. Within each group, the formulations are printed out in order of increasing metamerism. The computer printout also lists the degree of mismatch and the raw material cost. When tried on about 20 colors, this new system gave the best results with difficult-to-match colors–grays, chocolate browns, dull greens, and other colors low in saturation. This system will soon be tested in actual industrial color-matching in the ink plant.

### Color/Money Optimization in the Use of Pigments

The objective of this project is to develop guidelines for the optimum usage of pigments, with respect to their particle size before dispersion, the degree of dispersion required for optimum optical properties of the pigmented film, and the mechanical energy required to achieve this optimum degree of dispersion. This project is an outgrowth of an earlier NAPIM project with the objective of developing and evaluating methods to determine the degree of dispersion of pigments in printing inks. Three methods were developed (in addition to electron microscopy): 1. the variation of light absorbance with wavelength, to determine the appearance of primary particles and small agglomerates during mixing; 2. gravity sedimentation, to determine the disappearance of large agglomerates; 3. gloss measurements on Grindometer draw-downs, to detect the presence of large agglomerates. There are four possible approaches to the present problem: 1. use commercial pigments with a broad particle-size distribution, disperse these pigments in a vehicle, measure the degree of dispersion as a function of mixing time, and correlate the optical properties of the film with the degree of dispersion; 2. fractionate commercial pigments to obtain narrow size-fractions, disperse these fractions in vehicle, check the degree of dispersion to ensure that it is representative of the narrow size-fraction, and correlate the optical properties of this film with the average particle size and degree of dispersion; 3. develop a theoretical model by combining the Mie and Kubelka-Munk theories, to determine the optical properties of the film as a function of particle size, particle concentration, refractive index ratio, and wavelength of the light; 4. prepare model pigmented films by dispersing monodisperse latex particles of known size and refractive index in a continuous matrix of an incompatible polymer. Preliminary experiments using all four approaches are underway.

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

The Secretary received the following letter from Mr. Call:

Dear Fred:

This is to notify you that the National Paint and Coatings Association will not have a report for the ISCC–neither oral nor written.

Also, to my knowledge, there will be nobody from our delegation attending the ISCC annual meeting.

With best regards.

## REPORT FROM THE NATIONAL SOCIETY OF INTERIOR DESIGNERS DELEGATES LEON BARMACHE, CHAIRMAN

This report summarizes briefly what the concepts on the use of color in the NSID amounts to. Most of our members use the yearly "House and Garden Colors" to keep up to date with what is being used in color today. However one of our members has been involved with the "Renovation of Abandoned Housing" which the City (New York) has taken over from landlords who abandon their buildings. The use of color on these projects was extremely important and was accepted by the City as a cheap means to enhance the character of the quarters to be occupied and made more viable visually for the prospective tenants who are of various ethnic origins and don't look to colors, as designers do.

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

The 1972 Fall and 1973 Spring Meetings of the Optical Society of America were held in San Francisco, California

on October 17-20, 1972 and Denver, Colorado on March 13-16, 1973.

Invited papers by Justin Rennilson on Color Information from Lunar and Planetary Space Missions and by Angela Little on the Evaluation of Pertinent Color Discrimination Abilities were given in sessions, chaired by D. J. Bartleson, R. M. Boynton, J. M. Enoch, and by Frank L. Tobey on Colorvision (chaired by Lorrin A. Riggs). Several contributed papers were presented in a Color Session on Physiological Optics chaired by Gerald L. Howwett.

At the Denver meeting several contributed papers were given at a session chaired by H. R. Blackwell.

At the San Francisco meeting, the Color and Vision Technical Groups held two joint meetings, one at Stanford Research Institute including dinner and a tour of vision activity at SRI. At Denver, they held a joint meeting on Thursday after the morning session of papers.

At a special ceremonial session the 1972 Tilyer Medal Award was presented to Robert M. Boynton.

The December number of the Journal (OSA) contains an index of 1972 papers; about one column lists those devoted to color, color measurement, perception, vision and colorimetry.

We have a great loss to report in the death on October 15, 1973 of Deane B. Judd, Chairman of this delegation for many years, and a member of the delegation for as long as we can remember (like 1933).

Following the resignation of Dorothy Nickerson, Chairman of this delegation for many years, the following slate has been appointed for 1973:

Franc Grum (voting member)—Chairman

C. J. Bartleson, Robert M. Boynton, Carl E. Foss, Glenn A. Fry, Walter C. Granville, Richard S. Hunter, Gerald L. Howwett, David L. MacAdam (voting member), and Gunter Wyszecki (voting member).

## REPORT FROM THE PACKAGE DESIGNERS COUNCIL DELEGATES KARL FINK, CHAIRMAN

PDC Members have, during the past year, worked extensively in products that feature color as an important attribute. Our activities as a group, however, have been concerned with more general projects. Many of the ISCC problems are of interest to our members, including the recent ones having to do with environmental color.

We appreciate and support the effort that is being put into the various ISCC activities and will, we hope, during the next year play a more active role.

## REPORT FROM THE SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS DELEGATES W. T. WINTRINGHAM, CHAIRMAN

The use of color in cinematography and in television has become so widespread that except for the special fields of photoinstrumentation and of industrial television, it is most likely that a technical discussion in the Society of Motion Picture and Television Engineers is related to color. This situation is reflected in the programs of the Society's semiannual technical conferences and its special symposia and in the contents of the JOURNAL OF THE SMPTE. In order that this report can be kept to a reasonable length, therefore, only those papers published in the JOURNAL that are most likely to be of interest to the ISCC are included in the Appendix to this report.

A problem of continuing concern to the Society is that of the reproduction by television of material on color film. Several of the papers listed in the Appendix bear on this problem.

The SMPTE continues to act as administrative host to the Adhoc Committee for the Study of Color Television that was established several years ago under the industry-wide sponsorship of the Joint Committee for Intersociety Coordination. Most of the problem areas in color television broadcasting have been identified, and the resulting questions have been referred to the appropriate technical organizations for resolution. It is expected that the work of this Adhoc Committee can be completed during the calendar year 1973.

The Society issued the following revised or newly-prepared SMPTE Recommended Practices relating to color during the year 1972:

RP 12-1972 "Screen Luminance for Drive-In Theatres"

RP 27.6-1972 "Specifications for Gray-Scale Operational Alignment Test Pattern for Studio and Field Television Cameras"

RP 27.7-1972 "Specifications for Gray-Scale Operational Alignment Test Pattern for Telecine Cameras"

RP 46-1972 "Density of Color Films and Slides for Television"

**APPENDIX: The Most Significant Papers Treating Color Published in the JOURNAL OF THE SMPTE During 1972:**

D. M. Zwick and D. L. Brothers, Jr., "Color Balance and Density of Films for Tungsten (Theatrical) and Arc (TV Preview) Projection", *81*, 1-3, January, 1972.

Masayuki Mino and Yukio Okano, "Optical Low-Pass Filter for a Single-Vidicon Color Television Camera", *81*, 282-284, April, 1972.

C. N. Kurtz, F. C. Eisen and G. C. Higgins, "Color Television from Transparent Film—Theory and Practice", *81*, 285-292, April, 1972.

Walter Bruch, "A Color Video-Disc System", *81*, 303-306, April, 1972.

C. B. B. Wood, A. B. Palmer and F. A. Griffiths, "Color Negative in the Telecine", *81*, 661-663, September, 1972.

Keiichiro Ryu, "Lumiscope Lens-Screen System for Color Television, *81*, 668-671, September, 1972.

L. E. DeMarsh, "Optimum Telecine Transfer Characteristics", *81*, 784-787, October, 1972.

A. M. Lessman, "The Subjective Effects of Echoes in 525-Line Monochrome and NTSC Color Television and the Resulting Echo-Time Weighting", *81*, 907-916, December, 1972.

## REPORT FROM THE SOCIETY OF PHOTOGRAPHIC SCIENTISTS AND ENGINEERS DELEGATES C. J. BARTLESON, CHAIRMAN

During 1972, the Society of Photographic Scientists and Engineers continued its activities in areas of color related to photographic reproduction. A bibliography of papers relating to color appearing in the Society's Journal "Photographic Science and Engineering" is appended hereto.

In addition, the Society held a special symposium on graphic arts color reproduction in Washington, D. C. on October 25-28, 1972. The proceedings of that symposium were published by the Society as a 180 page book entitled *New Photo-Technology Trends in the Graphic Arts.* A special tutorial seminar on color was also held in Denver, Colorado on November 2-4, 1972. The proceedings of this seminar were published by the Society as a 456 page book entitled *Color: Theory and Imaging Systems.*

The Society plans to continue such activities with special seminars and as a part of its annual conferences. Notification of such activities will appear in the ISCC *Newsletter* as well as "Photographic Science and Engineering."

**Bibliography of Papers Published in Photo. Sci. and Eng.**

"Aggregation and Sensitization of Simplest Cyanine Dyes," by Herbert Kobischke and Sigfried Dähne. 173

"Color Gamut Obtainable by the Combination of Substractive Color Dyes. I. Actual Dyes in Color Film. (3) Stability of Gray Balance," by N. Ohta. 203

"Color Gamut Obtainable by the Combination of Subtractive Color Dyes. II. Actual Dyes in Color Prints. (1) Optimum Peak Wavelengths and Breadths of Cyan, Magenta, and Yellow," by N. Ohta. 208

"Computer-Generated Color Image Display of Lunar Spectral Reflectance Ratios," by F. C. Billingsley, 51

"Energy Levels of Sensitizing Dyes in Relation to Their Photographic Properties," by T. H. James. 120

"Excimer and Related Emission in Cyanine Dyes at Low Temperature," by W. Cooper and N. B. Liebert. 25

"Exponential Tail and the Threshold for Photoionization of Sensitizer Dyes," by S. -S. Choi and R. C. Nelson. 341

"Metameric Color Matching in Substrative Color Photography. I. Dye System in Obedience to Lambert-Beer Law," by Noboru Ohta. 136

"Method of Computing the Mask Characteristics Required for Accurate Color Reproduction in Photomechanical Processes," by Clarence Gutteridge, Jr. 214

"Minimizing Maximum Error in Matching Spectral Absorption Curves in Color Photography," by Noboru Ohta. 296

"Reflection Density of Multilayer Color Prints," by Noboru Ohta. 334

"Sensitization of Photographic Emulsions by Dyes for Blue Exposures at 77°K," by L. M. Kellogg, N. B. Leibert, and T. H. James. 110

"Spectral Response and Sensitometric Curves of Doped Poly-N-Vinyl-Carbazole Films in Electrophotography Under Positive and Negative Charging Modes," by Karel Kriz. 58

"Structure of Sensitizing Dye Aggregates Adsorbed in Silver Halides," by Douglas L. Smith. 329

## REPORT FROM THE SOCIETY OF PLASTICS ENGINEERS DELEGATES M. M. GERSON, CHAIRMAN

The activities in color and appearance in plastics have progressed at an accelerated pace under the Color and Appearance Division of the Society of Plastics Engineers. The Division Newsletter has been expanded and reports fully on ISCC and other organizations which have special interest in "color".

The Annual National Technical Conference in Chicago, May 15-18, 1972 presented five (5) papers on Color and Color Problems in plastics.

A Regional Technical Conference was held in Philadelphia, October 2-3, 1972. The Retec, "Coloring of Plastics VI" presented eleven (11) papers on the subject of color and appearance problems, including discussions on weatherability, substitutions for pigments eliminated by ecological problems, and compliance with new FDA regulations.

Articles of interest that appeared in the SPE Journal during the year 1972 were:

*Choosing the Right Carbon Black for PVC* by: M. D. Garret

*Color Reversal in Modified PVC for Packaging* by: T. E. Ferguson

*How to Characterize Polymer Films Optically* by: W. H. McCallum

*Polymers Under the Weather* by: Winslow, Matreyek, and Trozzolo

## REPORT FROM THE TECHNICAL ASSOCIATION OF THE GRAPHIC ARTS DELEGATES WARREN L. RHODES, CHAIRMAN

This year an increasing number of papers on color were presented at the Annual Meeting of TAGA in May, 1972. This reflects a growing interest in color in an industry already heavily committed to color printing. Sophisticated color scanners and printing presses are factors in increasing the volume and quality of color printing.

The TAGA Color Committee met during the Annual Meeting to continue discussions about the design and use of color densitometers in graphic arts. The Committee stressed the problem of using densitometers or colorimeters. (John Yule of Rochester Institute of Technology has proposed a method for modifying densitometers to approach colorimeter performance.) The Committee suggested that the densitometer manufacturers standardize on geometry and spectral characteristics of densitometers to improve interlab communication. Milton Pearson was appointed to represent TAGA on the ANSI Densitometer Committee, PH2.28.

The ISCC accepted a Problems Subcommittee proposed by John Yule, "Colorimetry and Spectrophotometry in the Graphic Arts."

The TAGA Color Committee reviewed the 1949 "Comparative List of Color Terms" (Subcommittee for Problem 6) and made recommendations for additions, deletions and revisions.

**Papers on Color Presented at 1972 Annual Meeting of TAGA (From 1972 Proceedings)**

"Control Charts as an Aid to Uniform Quality in Multicolor Presswork" by Robert Loekle, MLA-ALA Lithograhpic Technical Institute.

"A Study of Neutral or Gray Balance Requirements for Photomechanical Reproduction of Hard-Dot Gravure," by K. K. Puri, George Brown College of Applied Arts and Technology.

"The Reproduction of Over- and Underexposed Transparencies," by Richard E. Maurer, Research Laboratories, Eastman Kodak Co.

"Computation of Dot Areas Required to Match a Colorimetrically Specified Color Using the Modified Neugebauer Equations," by Irving Pobboravsky and Milton Pearson, Graphic Arts Research Center, Rochester Institute of Technology.

"A Practical Approach to Gray Balance and Tone Reproduction in Process Color," by Zenon Elyjiw and H. Brent Archer, Graphic Arts Research Center, Rochester Institute of Technology.

"Theoretical Analysis of Color Errors Associated with Dot Area Metrology," by Peter G. Engeldrum, Image Information, Inc./Electronics.

"Accuracy of Color Reproduction with the Digital Computer–Scanner System of Color Separation," by N. I. Korman, Ventures Research & Development Group.

"A Television Engineering Approach to Graphic Arts Color Correction with Electronic Scanners," by R. L. Hallows, Jr., New Jersey Public Broadcasting Authority.

"The 1970-71 GATF Color Survey," by Gary G. Field, Graphic Arts Technical Foundation.

"Graphic Arts Light Sources–Their Characteristics and Applications," by Max Michalski, Berkey Technical.

## REPORT FROM THE TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY DELEGATES P. C. HAMBAUGH, CHAIRMAN

The TAPPI Optical Methods Committee efforts have been largely directed at completing old Committee Assignments. Three of the eight completed in 1972 may be of interest to ISCC.

TAPPI Standard 442–Spectral Reflectance and Color of Pulp and Paper

TAPPI Standard 525–Diffuse Reflectance of Pulp at 457 nm Technical Information Sheet–Reversing Optics on Spectrophotometers

Bob Hoban is preparing a program on "State of the Art in Fluorescence Measurements" to be presented to the Optical Methods Committee meeting at the 1973 TAPPI Testing Conference in Milwaukee.

Dick Hunter is gathering data on opacity *by reflectance* vs opacity by transmission to present to the committee at the Annual TAPPI meeting in Miami (1974). Anyone using transmission measurements for opacity is requested to contact Dick.

**EDITOR'S COMMENT**

I would like, personally, to pay tribute to the many people who have contributed to the new design and format of this publication. It has gone a long way, I believe, toward cementing the relationship between the artistic and scientific elements of our color community. A new cover in color and a removable color-insert have put color *into* the publication, to help replace "words" about color, or at least to augment them in a very significant way.

The contents of the ISCC *Newsletter* can continue to be only what people send to us. We hope that the fine contribution, for example, of the color insert by National Geographic will inspire others to make similar contributions.

I have been especially pleased with the activities of the newer members of our Committee on Publications. Parts of their effort are not yet visible; they are all working on different aspects of color publication. You may expect to see further results in the not too distant future.

R. W. Burnham, Editor

CONTRIBUTIONS

WELCOME

CONTRIBUTIONS

WELCOME

## COMMITTEE ON PUBLICATIONS

Robert W. Burnham, Chairman
Milton J. Pearson
Ruth M. Johnston
Donald Genaro
William Benson
Robert T. Kintz

**Send *Newsletter* Items to Editor:**

Dr. Robert W. Burnham
Eastman Kodak Company
Research Laboratories, Bldg. 81
Rochester, N.Y. 14650

**Other Correspondence to Secretary:**

Dr. Fred W. Billmeyer, Jr.
Department of Chemistry
Rensselaer Polytechnic Institute
Troy, N.Y. 12181

**Treasurer:**

Mr. Warren B. Reese
Macbeth Corporation
P.O. Box 950
Newburgh, N.Y. 12550

**NOTE:**

The Council promotes color education by its association with the Cooper-Hewitt Museum. It recommends that intended gifts of historical significance, past or present, related to the artistic or scientific usage of color be brought to the attention of Christian Rohlfing, Cooper-Hewitt Museum, 9 East 90th Street, New York, New York 10028.