M. Balcom

INTER-SOCIETY COLOR COUNCIL

NEWS LETTER

NUMBER 177-178 July-August-September-October 1965

INSTRUMENTAL APPROACHES TO COLORANT FORMULATION

ISCC members have received several notices about the special technical conference to be held in Williamsburg, Virginia, February 6-9, 1966. The coordinating Chairman, Mr. Max Salzman, reports that several offers of papers have been received. He says that speakers who have submitted abstracts will be notified soon whether their papers were accepted or not. He also reported that early in November a committee will meet to consider applications for attendance. All who made application will be notified of the committee's action. Mr. Salzman reports that considering the papers which have been offered and the attendance applications which have been received, the meeting should be excellent. A summary report of this meeting will constitute the technical session of the 1966 ISCC annual meeting.

NEW PROBLEMS SUBCOMMITTEES

At the September meeting, the ISCC Board approved the following new Problems Subcommittees:

Problem 24. Catalog of Color Measuring Instruments.
Chairman, Miss Ruth Johnson, Federation of Societies for Paint Technology

In the last few years, there has been a marked proliferation in color measuring instruments. So many varieties are now available that it has become very difficult for the neophyte to select the equipment most suited for the solution of his problems. The existence of a relatively simple but complete catalog of available instrumentation would go far to alleviate this situation.

It is proposed that a problems subcommittee of the Inter-Society Color Council be established to compile and issue such a catalog. The purpose of this document will be to list commercially available instruments for measuring color and color difference, together with their associated data reduction accessories. It is understood that color measurement of a reflecting or transmitting material consists in the determination of measurements which can be directly related to aspects of color perceived by a specified observer in a specified illuminant and condition of viewing.

The information tabulated for each instrument will include salient design features such as spectral character of illumination, viewing geometry, sample size, etc. If performance data, such as precision and accuracy, are given by

the manufacturer, they will be included, but the subcommittee will not undertake comparative testing of instruments. Sufficient editorial comment will be included, however, to aid the prospective user in selecting appropriate instrumentation.

It is anticipated that the work of this subcommittee will be of a continuing nature for two reasons: (1) to issue supplements to the original catalog as new or improved instruments become available; and (2) to compile and maintain an annotated bibliography relating to the performance of the instruments.

Problem 25. Determination of the Strength of Colorants.
Chairman, Charles G. Leete, Individual Member

The economics of colorant usage generate a continuing interest in the tinctorial power of a particular colorant. The problem proposed to the ISCC is: To authoritatively describe methods of determining colorant "strength" both instrumentally and visually.

Scope: This problem will require a careful study of the nature of "strength" in terms of the measurable psycho-physical variables. From this study, it is anticipated that a clear statement as to the meaning of strength in various colorant usages will emerge.

It is intended that the final report cover colorants in general, such as classified in the Society of Dyers and Colorists "Color Index."

In order to make available, as soon as possible, the more straight-forward aspects of the problem, it is recommended that the report be published on a tentative method basis, by sections, as they are written and approved by the committee.

As a preliminary report, a detailed literature survey would seem most appropriate.

Members of the subcommittee will be recruited from manufacturers and users of colorants. A number of persons have already indicated their interest in working on the problem which has been proposed by the American Association of Textile Chemists and Colorists.

Problem 26. Determination of Sets of Maximally Different Non-Fluorescent Surface Colors. Chairman, Kenneth Kelly, Individual Member

The scope of this problem is to determine and present a series of sets of colors having maximal differences within these sets. The sets are to consist of two, three, four, etc. colors up to 22. It would be desirable if as many sets as possible would not be confused by color blind people. It would also be desirable if all of the colors were to be taken from easily available standard colors such as the ISCC-MBS centroid colors. It is probably not necessary that each set have the maximum possible differences within the set but this would be desirable.

There are a number of ramifications of the problem that the committee might consider and they might lead to several series of recommendations to meet the following situations.

1. To be seen in daylight
2. To be seen in artificial light
3. To work best under both
4. For the most common kind of color blindness
5. For very small areas (central tritanopia)
6. Possibly also for very high and very low light levels.

1967 ANNUAL MEETING

In 1967, the CIE will meet in Washington, D. C. There are usually many meetings preceding the CIE sessions to enable committees to review their communications before presenting their reports. It is the intention of the Inter-Society Color Council to invite Europeans visiting the U. S. for the CIE meetings to participate as guests in our annual meeting. Consequently, the date for the Inter-Society Color Council 1967 Annual Meeting has been set for June 12 and 13. It will be held at the Statler-Hilton in New York City. Although the June date is much later than ISCC ordinarily holds its annual meeting, it is assumed that we will be able to extend a special invitation to Europeans attending the CIE. We also hope that we will be able to obtain Europeans as speakers on this program.

ISCC BOARD MEETS WITH MEMBER BODY OFFICERS

At the Board meeting in September in New York City, a meeting was arranged between the officers, secretaries and delegation chairmen of several ISCC member bodies. It was the purpose of this meeting to permit officers and delegates to become better acquainted with the officers and Board of ISCC. The response to President Pike's invitation was very gratifying. The societies represented were:

American Artists Professional League
American Institute of Interior Designers
Color Association of the United States
Dry Color Manufacturers' Association
Gravure Technical Association
Illuminating Engineering Society
Industrial Designer Society of America
National Association of Printing Ink Makers
National Society of Interior Designers
Package Designers' Council
Tanners' Council of America
The Packaging Institute
Society of Motion Pictures and Television Engineers
Society of Plastics Engineers
Technical Association of the Pulp and Paper Industry

HUNT FOR NEW MEMBER BODIES

The Council Board of Directors has adopted a new policy with regard to member-bodies which requires the Chairman of the Membership Committee to come out of hibernation and hunt for new prospective member-body affiliations. It would be appreciated if all delegates and members would be on the lookout for new groups (national in scope) that might benefit themselves and the member-bodies of the Council through affiliation. Please communicate to the Secretary or me the names and addresses of prospects and any suggestions as to how to approach the group.

Walter C. Granville
Chairman, Membership Committee

NEW MEMBERS The following applications for individual membership were accepted at the last meeting of the Board of Directors held in New York City on April 25, 1965.

Individual Members	Particular Interests
Mr. Norman Baird 9 Spencer Court Morris Plains, N. J.	Functional and decorative coatings for electric light bulbs.
Miss A. Elizabeth Burr University of Kentucky College of Agriculture & Home Economics Lexington, Kentucky 40506	Teaching homemakers and young people how to use and appreciate color.
Mrs. Wendy Coker 15 Tynong Street Croydon, Victoria, Australia	The psychological, aesthetic and physiologically correct application of color in industry, education and especially therapy, and the development of special research projects in this country concerning these aspects.
Mr. W. Keith Gainer 7380 S.W. 115th Street Miamia, Florida	Relation of paper base to printing color. Type of light to paper shade and printing color.
Mr. Don F. Hill 570 Mt. Hood Drive Hemet, California 92343	Color science, and "visual music" with its music in visible colors which I have been pioneering for several years now. Also I have been developing a new and better color notation system based on the three visual primaries (which were recently confirmed after 163 years of debate. Five and four primary systems are now obsolete in this truer new light, like it or not.) See Science 9/4/64 & Sci. Amer. 12/64. There are only 3 primaries.
Mr. Alfred Jakstas The Art Institute of Chicago Michigan & Monroe Chicago, Illinois 60603	
Mr. Robert B. Mandell University of California School of Optometry Berkeley, California 94720	Color vision.
Mr. Charles H. Mertz 11756 Wheaton Dr. Utica, Michigan	Instrumental quality control. I have been actively attending the council for the past 3 years and taken an active part in Subcommittee 22.

Individual Members	Particular Interests
Mr. Domenico Mortellito 716 W. Matson Run Pkwy. Wilmington, Delaware	The direction, guidance and inspirational use and application of color for greater and more effective visual communications, better product, package and corporate design, and more effective economic and efficient use of color toward better living.
Mr. Alexander Nesbitt 142 Prospect Street Providence, R. I. 02906	Methods of teaching the use of color in graphic design and the printing industry.
Mr. Anthony J. Pentz Rohm & Haas Co. P. O. Box 219 Bristol, Pa.	Evaluation of colorants for acrylic plastics.
Miss Susan Renard 306 S. Morris Avenue Crum Lynne, Pa. 19022	Interior decorating trends.
Miss Jane Schoppe University of California 279 University Hall Berkeley, California 97420	Developing teaching materials for adult consumer and youth groups, on the understanding and use of color for interiors, home furnishings, and related arts. Also, training home economists on the Extension staff in this field of subject matter.
Dr. Deborah T. Sharpe 315 East 72nd Street New York, N. Y.	The psychological aspects--how to create an atmosphere or environment in hospitals, schools, and buildings of public assembly to maximize the desired goals or function.
Mr. Benjamin Weinfeld Baltimore Paint & Chemical Corp. 2325 Hollins Ferry Road Baltimore, Md. 21230	Instrumental color measurement, production color control, color matching and materism.
Mr. Edwin M. Wilson 7 Church Street East Bloomfield, N. Y. 14443	Psychological color relationships. Color photography.
Dr. William C. Woodland E.I. du Pont de Nemours & Company P. O. Box 1217 Parkersburg, W. Va. 26101	Color development, measurement and control in plastics. Color measurement and calculation in general.
Mr. John N. Yeatman U. S. Dept. of Agriculture Horticultural Crops Branch Plant Industry Station Beltsville, Md. 20705	Measurement and specification of color of agricultural products; spectrophotometric and colorimetric analysis of color, and development of color standards for agricultural products.

MAILING THE ISCC NEWSLETTER

The irregular appearance of the ISCC Newsletter is due to the irregular schedule of your editor. Occasionally, however, he has had some help from the U.S. mails. To check on the speed of mail delivery, our printer, Mimeoform, Washington, D.C., mailed a return card to a randomly selected sample of Newsletter readers. The Newsletter was mailed March 24, 1965 with the return cards enclosed. Thirteen were returned, with the date the Newsletter was received. On March 29 the Newsletter was received in Wilmington, Del., and Middletown, Ohio. On April 1, it arrived in Brooklyn, N.Y.C. and Riverdale, N.Y. By April 2 it had reached Easton, Pa. and Louisville, Ky. Four were delivered Monday, April 5 to Buffalo and Rochester, N.Y., York, Me. and Salt Lake City. Two weeks later we reached Cleveland, and the last one was delivered on the 8th to New York City!

One of our readers reports that he receives the Newsletter in poor condition because the envelope we use is not adequate to protect the contents. I can imagine that when we enclose a number of extras, the envelope is strained - perhaps beyond the limit. If you have had similar difficulty, please notify me. We may need a stronger or more durable mailing container.

Ed.

COLOR MARKETING GROUP

About the time ISCC readers receive this newsletter, the Color Marketing Group will be holding its semi-annual meeting. The date of the meeting is November 4 and 5, 1965, at the Hotel Plaza, New York City. Theme of the meeting is Color Fair and Color Revolution. During the two-day meeting CMG will feature the Scientific Color Revolution, the Photographic Color Revolution, and the Advertising Color Revolution. Moderator for the Scientific Color Revolution is Robert F. Hoban, Sandoz, Inc. The speakers are Color Matching, Ralph Stanziola of Davidson & Hemmendinger; Color Identification, John C. Schleter, National Bureau of Standards; and Color Record Keeping, Charles M. Tyson, Tyson & Belzer Assoc.

Glen Peterson of Peterson Color Labs will review the Photographic Color Revolution. Moderator for the Advertising Color Revolution is William Stark, Kimberley-Clark Corporation. Robert McLaughlen, American Newspaper Publishers' Association, will discuss ROP newspaper color; Nancy Salkin, National Broadcasting Company, will review TV color; 3-D color will be the topic of Arthur Rothstein and Richard Harmel of Visual Panographic Subsidiary of Cowles Magazine.

Guest speaker for the banquet is Dr. Farbecouleursky - Kolir Expert.

The Officers of C.M.G. for 1965 are Dwight L. Wardell of Sandoz, Inc., Pres.; Walter H. Olson, Valspar Corporation, Vice-Pres.; Miss Beatrice West, Beatrice West Studios, Sec'y; Joseph P. Radigen, Kentile Floors, Treas.

The Spring, 1966 meeting will be held March 10 and 11 at Williamsburg, Va. The theme will be "Color, Then and Now."

A NEW SOCIETY

This spring Lyndon B. Johnson congratulated the Industrial Designers' Society of America. The occasion for congratulations was the Association of American Society of Industrial Designers

and Industrial Designers' Institute into a single organization. The following are exerpts from a communication by the President of Industrial Designers' Society of America, Henry Dreyfuss.

"Anyone who can look back across more than 30 years - a full generation, by Biblical standards - and recall the birth, adolescence and now finally maturity and broad acceptance of a profession called "industrial design," anyone with this long memory and experience has to take a substantial measure of pride in the event being consummated here today.

"Members and officers of each group decided the time was long overdue to join forces of the talents and resources of the IDI, which started in 1938, and the ASID, which was founded in 1944. This tendency among designers to reshape, rejigger, remodel, streamline and change as our times change very likely is an occupational peculiarity. It's practically compulsive - and, although being industrial designers we may be a little bit biased, we think it's a positive peculiarity, a constructive characteristic that gives us and our profession distinctive value.

"IDSA will represent more than 500 members of the profession. There are very likely quite a few more industrial designers at work in the United States - and a great many more distinguished practitioners in the major industrial nations of the world. But this membership, bringing together as it does the finest men and women in the field in our own country, is in its own way a revealing documentation of industrial design's coming of age.

"When the Henry Dreyfuss organization, for example, hung out a shingle in the perilous beginning of the Thirties, most businessmen had the idea that a designer was someone who had something to do with fashions, or decorating store windows, or maybe was merely a backbench architect who hadn't quite learned enough engineering or calculus to get the AIA's blessing - and permission to carry the letters 'AIA' on his office door. We found it necessary over and over to explain that we weren't merely offering to 'pretty up' a manufacturer's product. We weren't offering - and to be blunt about it, we weren't interested in - a practice that simply jazzed up an ironing board or typewriter or telephone, or gave it enough of a different look to make last year's model out of date, or our model more desirable than the model of the competitors.

"Of course, a designer wants to help his clients increase their business through his work or advice. But again, there's a special quirk in our nature that impels us - any of us worthy of the name 'industrial designer' - to create something basically new, something that's not just prettier but better, not merely more saleable but more useable, and not merely more useable but safer and easier to use and cheaper to make and easier to repair or maintain or integrate with other things we use in our homes and offices and at our factories and on our farms. The industrial designers belonging to IDSA have one thing in common: we have a deep regard for quality - utility with beauty, or beauty with utility (and the two are not so incompatible as a lot of persons would have you believe).

"We have come so very far, for all the tragedies and strange new devices that have appeared in just this century. We have come far, but we know - our public leaders have pledged our national energies to this purpose - that we must build

and improve upon what we already have. In any age, but particularly in the mid-20th Century, to stand still is to slip backward. And of course this is what the profession of industrial designers is dedicated to - to take what is good today and make it better for more people tomorrow, because making anything better is the only road to human happiness."

IDSA's Objectives:

1. Industrial Design is the process of integrating beauty with utility in the design of objects, services and environments for people.

2. The Industrial Designers Society of America recognizes its responsibility to the public, industry, government, education and its own members. Its main objectives are listed below:

To identify Industrial Design as a vital profession in today's society.

To serve as an authoritative voice of Industrial Design in the United States.

To recognize design achievement and encourage creative experiments in Industrial Design.

To establish and maintain high standards of design ethics and professional integrity among its members.

To assist schools teaching Industrial Design and encourage students and young designers in their professional development.

To foster and support research related to Industrial Design.

To create and assemble a body of professional literature through which members can share their knowledge with each other, with educators, students, management and the public.

To cooperate with other professional societies, national and international, for the betterment of our environment.

Members of the new society design for the nation's outstanding businesses and industries, whose products reach every aspect of industrial and consumer life and activity. The Society aims to maintain the standards of the profession in its relations not only with business and industry, but also with the government and international designers. It is continuing and enlarging upon such programs as the former societies sponsored in the past: the Student Merit Awards Program and the Walter Dorwin League Scholarships, and the 15th Annual Design Awards Program. Its first national meeting was held in Chicago September 30, October 1 and 2.

The society headquarters are 60 West 55 Street, New York City.

LIGHTING ENGINEERS HONOR HENRY LOGAN

Dr. Henry L. Logan, Vice President and Vice Chairman of the Board of Holophane Company, Inc., and past chairman of the New York section of the Illuminating Engineering Society, has been selected to receive one of the

highest honors of the lighting profession, the Gold Medal Award. This award is made by IES "For the purpose of giving recognition to meritorious achievement which has conspicuously furthered the profession, art or knowledge of illuminating engineering." Dr. Logan is the nineteenth engineer so honored since the medal was instituted. Formal presentation of the medal and accompanying citation was made at the IES National Technical Conference in New York City, on August 30.

Dr. Logan was an active participant in the early development of traffic lighting, and surgery lighting. He designed and installed the first built-in, electrical troffer lighting system, which is now the most widely used method, world-wide, for lighting schools, offices and stores. He counts among his lighting landmarks, installations at the Century of Progress World's Fair, Chicago; the San Francisco Exposition, the New York World's Fair, 1939, Radio City, New York, installations and the Lever House. Dr. Logan pioneered fundamental research in the characteristics of both natural and artificial lighting which are best for the needs of people, the evaluation of visual discomfort, and the relation of lighting to safety and health.

THE COLOUR GROUP OF GREAT BRITAIN

The Colour Group of Great Britain announced that at the beginning of the new year membership stood as follows: ordinary members, 284; patron members, 14; participating societies, 16. Of the 284 ordinary members 23 are foreign and 10 are Scottish. W. N. Hale of Baltimore, Maryland, was listed among those accepted as new members.

A Scottish section has been established under the chairmanship of R. S. Sinclair, Paisley College of Technology.

The first meeting of the Colour Group was a review of the International Conference at Lucerne. Speakers were Dr. Crawford, Dr. Palmer, Dr. Hunt, and Mr. Wall.

At the November meeting, the speakers were Mr. Alex Hardy, Department of Building Science, University of Newcastle-on-Tyne. His topic was The Color Coordination of Tiles and Other Factory Colored Products for the Building Industry in Relation to BS 2660. The second speaker was Mr. F. Malkin, British Ceramic Research Assoc. His topic was An Experiment in the Color Tolerance of Glazed Wall Tiles.

COLOUR COUNCIL OF CANADA

New officers of the Colour Council of Canada were announced in their October News Letter: President A. G. S. Heathcoat, Department of Public Health, Toronto, 1st Vice-Pres.; Mr. Howard C. Dierlam, Education Center, Board of Education of Toronto, 2nd Vice-Pres.; Leonard A. Wheeler, Color Engineer.

Last spring, ISCC president, Ralph Pike was the featured speaker at one of the Color Council meetings. At that time he learned that a special study committee had been formed to study the future of the Council in Canada. The organization has been essentially limited to Toronto region although a separate council was established at one time in Montreal (it has since discontinued activity). This committee, under the chairmanship of Charles Conquergood is to prepare a report on the present and possible future activities concerning the needs of Canadian national requirements in the field of color.

The Canadian Colour Council has held regular meetings for 13 years. It will be one of the purposes of the committee to determine whether or not a Colour Council of Canada should be extended.

THE SWEDISH COLOR GROUP

Gunnar Tonnquist has just completed an extended tour of the United States and Canada. Shortly after his arrival in the U.S. he attended the Inter-Society Color Council Board meeting. At that meeting he described the formation of a Swedish Color Center. The Center was formed with the cooperation of about 40 Swedish companies and some government organizations. The Center is operated by a foundation. The Center is operated by the staff of the former Color Center and is located in Stockholm.

Dr. Tonnquist visited Washington, Philadelphia, Rochester, New York, Ottawa, Connecticut, Massachusetts, Atlantic City, New Jersey, and New York. He visited many manufacturers, universities, companies interested in color, society headquarters and government agencies. While in Rochester, he lectured at the Center for Visual Science at the University of Rochester. He also lectured at the U.S. Naval Submarine Medical Center, Groton, Connecticut. The subject matter of his lectures is the development of an organized color system. He has developed this thoroughly for the industry in Sweden. This was also the topic of his lecture at the International Conference in Lucerne.

INTERNATIONAL COMMISSION ON ILLUMINATION

The International Commission on Illumination's CIE publication No. 13 (E-1.3.2) 1965, Method of Measuring and Specifying Colour Rendering Properties of Light Sources, is now available from the secretary of the U.S. National Committee of the C.I.E., L. E. Barbrow, National Bureau of Standards, Washington, D. C. 20234, price $3.00. The text, in French, English, and German, contains an explanatory preface, the method itself, and five tables of necessary data. The method includes equations for calculating both general and special indexes. The general index is in agreement with the one recommended in this country by the Illuminating Engineering Society's committee on color rendering of light sources, which cooperated in the work of the CIE committee.

IRISH COLOUR COUNCIL

The inaugural meeting of the Irish Colour Council was held in Dublin on February 15. The purpose of the new organization is to establish for the benefit of industry in the Republic of Ireland, a body officially recognized by Government Departments and all color using industries, which will advise on the interpretation of international color trends, and the national coordination of color ranges throughout a wide range of materials used respectively for women's wear, children's wear and men's wear, as well as in furnishing and interior decoration.

The Irish Colour Council will be working very closely in liaison with the Federation of Irish Industries and the Institute of Standards, and will be affiliated to the British Colour Council. A board of directors, comprising leading Irish industrialists has been formed, with Mr. James A. Chapman, managing director of the Switzer Group, as chairman, and Mr. Hugh H. Muirhead, executive director of the British Colour Council, as director and secretary.

Headquarters of the new organization will be at 9 Ely Place, Dublin, 2, and preparations are already in hand for a major press conference which will be attended by representatives of the Irish Government. It is expected that the council will be of considerable importance in furthering the rapidly expanding Irish export trade.

LUCK OF THE IRISH

Here's a Good Samaritan story I am proud to relate. On Good Friday, April 16, Mrs. Lynch and I flew to Dublin on the homeward leg of a vacation trip through Egypt and Greece. Over the weekend we toured 400 miles through Southern Ireland to Shannon and home on Easter afternoon. But it was an eventful weekend.

Early Saturday morning at Blarney Castle a friendly American tourist volunteered to photograph me with my camera in the strenuous act of kissing the Blarney Stone. Late the same afternoon, some 200 miles away on the "Ring of Kerry" - a scenic little road along Ireland's south coast - I again had the good fortune of meeting this friendly American and his family. Again he volunteered his help, and this time I was in trouble.

I had just collided with another car containing five students from London. No one was hurt but the little cars were in bad shape, mine leaking water and the other spilling oil. This friendly American insisted on helping us to the nearest town seven miles back down the road he had just travelled. He took two of the five others into his car already crowded with three children, found a garage in the little town of Sneem, and sent help to us on the road. He then settled his family in the hotel. Not until three hours later when my wife and I were ready to leave Sneem in our patched up car, did we learn the name of our friendly American - none other than Hugh Davidson of Davidson & Hemmendinger.

He may be world famous as a color expert, a fame he justly deserves, I'm sure, but to me he will always be more than that: my Good Samaritan who sacrificed at least three hours of his vacation to help a stranger in need.

R. L. Lynch

INTERNATIONAL COLOR CONGRESS

An International Color Congress is to be held in Dresden, Germany, May, 1966. Organized by the Executive Committee of the Paint and Varnish Industry within the "Chemical Engineering" Professional Association of Kammer der Technik and Vereinigung Volkseigener Betriebe Lacke und Farben, the Congress is planned to deal with new knowledge obtained in research and practice. It will be presented in plenary and brief congress sessions.

Subjects to be discussed in the sessions will include:

1. Colorimetrics
   a) Agreement on colorimeters on an international scale
   b) Systems based on sensation and their transformation from the CIE system
   c) Use of colorimetrics (color sampling and formulas)

2. Color physiology
   a) Influence exerted by the color on the human organism - the optical-vegetative system
   b) Theories of color vision

3. Color psychology and color design
   Color and its aesthetic psychological use in the human sphere

4. Color in teaching and publication

The subjects suggested are of a provisional character, and will be completed or changed in accordance with the number and kind of lectures announced. The congress will be presided over by well-known scientists.

A program of excursions preceding and following the congress comprises a visit to the former place of activity of color researcher Wilhelm Ostwald at Grossbothen, present color research department of the German Academy of Sciences. Other trips will be to Dresden (visit to the Lichtkabinett, Zwinger and Art Gallery), and Weimar (Goethehaus and Goethe's science of colors). A special ladies' entertainment program is also provided.

We should be very much obliged to you if you would contribute to a successful issue of the congress by announcing a short report (time 20 minutes) dealing with a subject of the congress.

Address: Industriezweigvorstand Lacke u. Farben im Fachverband "Chemische Technik" der Kammer der Technik
108 Berlin, Clara-Zetkin-Strasse 115-117

DAVID MACADAM MATIELLO LECTURER

The 1965 Matiello Memorial Lecture of the Federation of Societies for Paint Technology was presented by Dr. David L. MacAdam. The lecture was presented at the forty-third annual meeting in Atlantic City, October 27-30. The Matiello Memorial Lecture was instituted by the Federation in 1949 to commemorate the name of Dr. Joseph J. Matiello, who, as a member of the Federation, did much to expand the application of the sciences in the decorative and protective coating fields.

Dr. MacAdam is a senior research associate in Kodak Research Laboratories. He is a fellow and former president of the Optical Society of America and is currently editor of the Journal. He is a fellow of the Society of Motion Picture Television Engineers. ISCCer's will remember that he received the Godlove award of the Inter-Society Color Council in 1963.

The title of his lecture is "Color Measurement and Tolerances." The following is his abstract reprinted from the April, 1965, Official Digest, Journal of Paint Technology and Engineering.

"Normal color vision is so acute that only the most accurate instruments, used most carefully, are adequate for automation of color matching. The basic instrument is the spectrophotometer; the appropriate procedure uses data recommended by the International Commission on Illumination. Such specifications of colors can be used to expedite corrections of pigment-color formulations. Data concerning the sensibility of people with normal color vision can easily be used to interpret differences of color specifications. Generally available data processing equipment can be employed to facilitate such interpretation, by use of newly developed formulas. Those formulas have interesting implications for theoreticians; for instance, color space has various curvatures, positive for white, for pastels, for purples and for short wavelengths, but negative for high-purity long-wavelength colors, and zero between these two groups of colors.

DR. MICHAEL ZIGLER DIES

Michael J. Zigler, 72, professor-emeritus of psychology at Wellesley College, died at the Newton-Wellesley Hospital. He was a member of the Wellesley faculty for 34 years until his retirement in 1958.

Dr. Zigler was energetic and active in the affairs of ISCC. The following citation is taken from Who's Who in Color, compiled by the ISCC 1937-1938. Zigler, Michael J. 4 Birch Rd. Wellesley, Mass. Assoc. Prof. Psych., Wellesley College. Chief Interest Psych, psych-phys; Nature of Work theor, tech-color discrimination and relation between color and intensity discrimination; Earliest Date of Color Interest, Publications, etc; 1920 "Experimental Study of Visual Form," Am. J. Psych. 1920, 31, 273-300; "Qualitative Differences Between Uniocular and Binocular Impressions," Am. J. Psych. 1929, 40, 467-475; "Perception of Form and Color in Peripheral Vision," Am. J. Psych. 1930, 42, 246-259; "Color as a Function of Wavelength, Time and Intensity" (In press);"Reaction Time to Differently Colored Light" (In press); Delegate from APA to ISCC 1935- ; Degrees, Societies or Other Information of Color Interest BA Bridgewater 1916, MA Clark 1917, Ph.D. Cornell 1920, AAAS (f) 1925- , APA, Sigma Xi.

Before coming to Wellesley in 1924 as assistant Prof., he taught at Cornell, Wells College, Bridgewater College and Princeton University. He became associate Prof. in 1927 and Prof. in 1939.

His special fields were sensory capacities, post-contraction and perception. He was the author of numerous articles and books. He contributed to the Encyclopedia Britannica, Psychological Review, Psychological Bulletin, Journal of Experimental Psychology and the American Journal of Psychology.

He was a member and fellow of the American Assn. for the Advancement of Science, American Psychological Assn., Optical Society of America and Sigma Xi.

He was for many years a Wellesley town meeting member and was 1943 chairman of the education planning division of the Wellesley Community Postwar Service.

He leaves his wife, Eleanor (Lannert); a son, Donald, and two daughters, Mrs. Daniel Long and Mrs. Kenneth Shaw.

CENTROID COLOR CHARTS

The ISCC-NBS Centroid Color Charts are now available from the National Bureau of Standards; ask for standard sample 2106, price $3.00. The Munsell Color Company has obtained 9" x 12" sheets of these colors from this same production run. They are assembled into sets, each set containing one sheet of each of the 251 colors. These sets are priced at $60.

HUNTERLAB SEMINARS
NEWARK, NEW JERSEY

On November 16 & 17, Richard S. Hunter will lead two identical seminars dealing with the current status of appearance measurements of paints, plastics, metals, foods, textiles, papers, etc. Color, whiteness, opacity, yellowness, gloss, distinctness-of-image, haze, turpidity, and translucency will be explained. There will be discussion of the use of these measurements for research, development and quality control.

Morning Sessions: 9:00 - 11:30 A.M. - will discuss the properties of an object which produce color, gloss, etc., and how these are measured by special

instruments which give numbers correlating with visual appearance. Afternoon Sessions: 2:00 - 4:30 P.M. - will cover the problems of preparing specimens in a manner which can be reproduced from day to day and from operator to operator. The specimens should represent the visual differences which are important for that product. Participants may bring samples showing variables, which are critical in research and quality control, for discussion and measurement. Instrument demonstration will be given after each session.

COLOR SEMINAR AT CLEMSON

Color measurement in textiles - from basic theory to the practical use of colorimetric instruments in the plant - was the subject of a seminar at Clemson University, Clemson, S.C. The event, held from June 14 to 18, was attended by 53 industry representatives from 14 states and Canada. Approximately 20 additional applicants were turned down for lack of space.

The seminar, sponsored by Clemson's School of Industrial Management and Textile Science, began with a discussion of the general theory of color by Professor Edward S. Olson of Clemson, whose talk included a description of the nature of color, light and the electromagnetic spectrum; the importance of illuminants; and differences in observers, samples and backgrounds.

Prof. Fred Lindstrom of the school's chemistry department, substituting for Joseph P. Neary of the Du Pont Co., presented a discussion of color measuring instruments based on Mr. Neary's notes. Advantages and disadvantages of individual types of units were outlined.

Douglas Graham, of Fabric Services, Inc., lectured on the general subject of color systems. He described the origin of the tristimulus values x, y, and z, and the derivation of the X, Y, and Z values which are dependent on the light source, the response of the standard observer and the reflectance of the sample. His talk also included descriptions of the Munsell, Hunter and Adams systems.

E. I. Stearns, of American Cyanimid Co., conducted a dye analysis seminar which explained the determination of an additive function in solution and reflectance measurement. An additive function, he noted, is the function of a dependent variable. In dye work, the concentration of dye is the independent variable.

He also described the Pineo method of analysis, which involves the subtraction of spectral curves to identify dyestuffs and to establish quantitative relationships to match shades.

Roland E. Derby, Jr., of Textile Aniline & Chemical Co., discussed spectrophotometry and colorimetry. He also conducted a laboratory session involving calculations and examples of principles discussed in his lecture.

Ralph Stanziola, of Davidson & Hemmendinger, spoke on color matching. He illustrated the spectral curves of various colors, indicating from the curve shape which colors would be best to use. Problems were illustrated using the chromaticity diagram to show how a certain color could be corrected to bring it closer to the standard. Both pigment and stock dyeing problems were considered.

C. W. Carroll, of IBM Corp., discussed the use of computers in the general area of color measurement, placing stress on the use of digital computers. For formulation, Dr. Carroll pointed out, one must have information on the substrate, the nature of the color to be matched, and the dye characteristics. A program has just been completed, he said, which allows the use of three or four dyes to give a match of a standard under one light source and to minimize the mismatch under another source. Hue, value, and chroma may be calculated from tristimulus values by computer.

Chet Harris of Instrument Development Laboratories, discussed a continuous dye range monitoring system. Problem areas, he said, include getting on shade initially, maintaining uniform color, and inspecting and classifying finished goods. Good progress has been made in the area of formulation, he reported, but process variables are just becoming known. Tolerance and correction computations can be calculated by computers, he added. Closed loop control is still in the thinking stage, he said.

COLOR ENGINEERING MAGAZINE When the ISCC Newsletter is edited I assume that readers will have taken advantage of the color news and information appearing in Color Engineering Magazine. Detailed reports of ISCC activities and photographs of meetings appear in Color Engineering Magazine. News of activities of member bodies and individual members of ISCC is also printed in Color Engineering. Articles of interest in all fields of color are included. For example, in the May-June issue is an excellent article, "Analysis and Description of Color with Spectrophotometry," by Ruth Johnson. In the same issue are articles of interest to stylists, artists, and designers.

The editor urges you to refer to Color Engineering Magazine for full coverage of events in the world of color. Every member of Inter-Society Color Council should receive the magazine. If you do not, notify the Editor of the ISCC Newsletter or the Secretary of ISCC.

Ed.

LETTER TO THE EDITOR "I would appreciate it very much if you can suggest where I can purchase a few color prints of the CIE Chromaticity Diagram. The color chart is printed in various books, but I do not want to destroy a book just to get a print. If ISCC Newsletter readers can suggest a source, I will be very grateful." R. C. Knepper, 1440 Marlborough Avenue, Anaheim, California, 92801.

LETTER TO THE EDITOR II "Our laboratory has undertaken what is growing into a major task: A review of the literature on color discrimination. I would be most grateful for any assistance from readers of the Newsletter in locating articles which are pertinent. I am anxious not to overlook reports in what would be obscure journals for us." Michael H. Siegel, Ph.D. Psychology Branch, Directorate of Medical Research, 113 South Linbrook Rd., Bel Air, Maryland.

Editor's note: The Godlove Bibliography (see Newsletter #134, March 1958) lists 66 references on color differences and tolerances, and 60 references on thresholds between 1936 and 1954.

MISCELLANY Tail Lights: Tail lights on automobiles should be green, not red, says Dr. Merrill Allen, professor of optometry at Indiana University. His study of night vision indicates that more than 80 per cent of drivers have eye defects which cause them to think that red tail lights

are farther away than they are. This defect, which is known as chrome stereopsis, is found in two out of three people and makes red seem farther away than any other color. Dr. Allen also notes that one man out of every hundred is protanopic - a form of color blindness in which sensitivity to red light is reduced. And, the common defect of far-sightedness has the effect of blurring red objects, but not blue, green or yellow ones.

When these drawbacks of red tail lights are combined with poor visibility due to rain or fog, or when the driver is tired or unalert the risk of running into the rear of another car is greatly increased. Dr. Allen suggests green tail lights would have better visibility, and could be regarded as lights which it was safe to follow. However, stop lights and turning lights, which are meant to be seen from a short distance, could continue to show red. The Sciences, July, 1965.

Peanuts:

Peanuts: "I have never seen the sky as blue as it is today."

Lucy: "Oh, I have, I remember back on July 14, 1959, the sky was real blue. Oh, yes, it was much bluer that day. And then I remember on September 2, 1961, the sky was a very deep blue: and on June 1 of the very next year, the sky was... "

Peanuts: "I can't stand it!"

Thanks to Schultz

Unabridged: wistaria...2a: a pale purple that is redder and paler than average lavender, bluer and lighter than phlox pink, and bluer, lighter and stronger than floss-flower blue. b: a light violet that is redder, less strong, and slightly redder than average periwinkle.

- Webster's Third New International Dictionary, Unabridged, 1961.

Thanks to Harper's Magazine, July, 1963.

Visual Aids: Many useful items of interest to people in color have come from Tintometer Ltd. The most recent one is called "Visual aids to the teaching of colour and colorimetry and colorimetric analysis" by G. J. Chamberlin. It is a well illustrated booklet on color leading up to the use of Tintometer Colorimeters. For further information write to G. J. Chamberlin, Tintometer Limited, Waterloo Rd., Salisbury, England.

More from Eagle Shirtmakers:

Long John Silver
Done up Brown
Everything went Black
Minoan Maize
In Violet
Yuca Tan
Count to Tan
Ant Teak

Rip out the front Beige
High-pitched Wine
Mind over Madder
Toots Wheat
Extweme White
Saratochre
Up to Snuff
George Scandals White

Playboy, p. 24, Oct., 1965.

Blue: Mary O'Neill's Hailstones and Halibut Bones, a collection of 12 poems about various colors, has inspired young poets all over the country to write verse of their own about colors and what they symbolize and signify. One of the most expressive is this published in Elementary English by fifth-grader Mary Joyce Pritchard:

Blue is the sky over your head.
Blue is the blanket that's on a bed.
It's blueberry pie and juicy sweet plums.
It's the ink with which you write your sums.
It's water lapping the distant shore.
It's fresh paint on the front door.
The air in spring is the smell of blue.

(Young Miss Pritchard is blind.)

Road to Colors: Albany - Tired of black and white highways? Drive to Route 146 near the Northway in Saratoga County and by the end of the week you'll find lanes of red, blue, green, orange and yellow. The state is laying a half-mile (80 tons) of colored pavement to determine its traffic control and visibility characteristics. Three companies are furnishing the supplies without charge. The "color code" has been suggested for national use. About 200 feet of the northbound Route 87 exit ramp near Clifton Park will be covered with red materials, to denote a stop zone. The southbound entrance to 87 will be covered with a blue paving material. The southbound exit will be colored orange to the point where it meets a yellow merging lane on Route 146. The westbound through traffic lane on Route 146 will be green, with an orange strip laid for traffic destined for the 87 southbound access lane. A 1000-foot-long median strip on Route 146 will be colored white. (Talk about color mixture!)

The Times-Union (Rochester, N.Y.), Wed., Aug. 12, 1964.

Symphony Among the Leaves: In terms of trees Manhattan Island is an underprivileged area. The Department of Parks actually counts more than two million in parks, playgrounds and along expressways throughout the five boroughs and there are many on private property, of course. Their distribution favors the open spaces of Staten Island and the fringes of the other boroughs. Anyone more or less confined to the downtown regions has to look quickly for occasional glimpses if he is going to see green foliage from day to day. And now is the time to start looking. From late September to Halloween the leaves put on their seasonal grand finale, a silent symphony of reds and golds, canary yellow, scarlet and purple which somehow makes the world seem more colorful than it did last spring when millions of blossoms covered the gardens and the open fields.

This year the ancient spectacular of turning leaves comes along just when the television industry has undertaken to show us everything in "living color." If you can afford the adjustment to your set you will henceforth see the drabbest items of domestic news, the most startling revelations of foreign intelligence in vibrant hues. More exotic subject matter at home and abroad will be presented with the extra excitement of pulsating pigments and we can all be doubly critical of the clothes and the appearance of everyone in sight. Clinging with stubborn pride to its classic garb of black and white, a colorless column in sober printers' ink can offer only descriptive background notes.

One thing mere words can do is to counter the romantic and picturesque notion of a multicolored symphony among the weaving boughs by explaining that the whole business is nothing but the chemistry of graduated sunlight acting upon various substances inside the leaves. Chlorophyll (A and B) dominates the situation when the bulk of the leaves in this latitude develop each spring; varied shades of green last through the summer, visible as long as maximum sunlight keeps chlorophyll in the ascendant. With the equinox, daylight slowly surrenders claim to one-half of the time between midnight and midnight. Immediately the carotinoids and the anthocyanins take precedence, the green recedes and the leaves become a mosaic of many colors where there had been only variations upon one. The word "color" is derived through rather devious channels and several intervening languages from the Latin verb celare (inf.), meaning to hide or conceal. The colors in the leaves are merely playing hide and seek as the light changes and one eclipses the other.

The sources of color in nature and the remarkable effects it can create form one of the fascinating mysteries in human experience. Poets and philosophers have been talking about it from ancient times right down to today. One of the pleasantest metaphors any of them have produced goes back to Chaucer's day; it is in John of Trevisa's English translation of Bartholomew Anglicus's encyclopedic comments on everything in general. "Color accordyth to lyghte as the doughter to the moder," wrote John in 1398, which we may rephrase as "Color is the daughter of light." The daughters of men still seem to be less restrained and more articulate in their response to color than the men, at least in the matter of personal adornment, but changes are creeping in.

One bastion against frivolous change that has not fallen before feminine delight in exotic colors dates from 1933 when the Oxford English Dictionary gathered up loose ends in a supplementary volume to the monumental labor of fifty years of word study. Forty-three new words among those submitted for the supplement were used only to describe contemporary colors for ladies' hosiery; the editors rejected them all because they needed the space for new scientific terms. Carnation growers have skirted this problem by assigning such names as cocoa, champagne and tangerine to unusual new tints; horticulturists, decorators and designers of fabrics have done likewise.

Makers of synthetic fibers maintain 15,000 different shades based upon 600 pigments, while the spectroscope identifies two million different colors, only 17,000 of which are discernible by the human eye. It is not known whether this list includes the hair tint designated as "golden apricot" or the hosiery color, "elephant's breath."

And now let us look for those trees where nature reflects her own nameless varieties in nothing more complicated than autumn sunshine. N. Y. Times, Oct. 23, 1965.

REPRINTS ENCLOSED Enclosed are the following reprints:

"Precision of Color Measurement with the G. E. Spectrophotometer I. Routine Industrial Performance," by Fred W. Billmeyer, Jr., and "An International Comparison of Working Standards for Colorimetry," by A. R. Robertson and W. D. Wright; reprinted from Journal of the Optical Society of America, pages 694-717, June 1965.

"Color Symposium," by Norman Macbeth, John N. Ott, Dorothy Nickerson and Charles W. Jerome, and Deane B. Judd; reprinted from Illuminating Engineering, pages 253-278, April 1965.

LIST OF ARTICLES ON COLOR RECEIVED BY NEWSLETTER

"Counting Metameric Object Colors," W. S. Stiles and G. W. Wyszecki, J. Opt. Soc. Amer., 52, No. 3, pp. 313-328 (March 1962).

"The Creation of Comprehensive Colour Ranges by Computer," J. R. Bell, I. Gailey, and S. Oglesby, J. S. D. C., 79, p. 613 (1963).

"Critical Examination of Colour-difference Formulae Representing the Fading of the Standards in Lightfastness Tests," A. Berger and A. Brockes, Die Farbe, 11, pp. 263-274 (December 1963). Abstract in Lab Notes, 5, No. 3, p. 101 (December 1964).

"Current Practical Uses of Instrumental Color Matching in Industry," F. J. Rizzo, Am. Dyestuff Reptr., 52, p. 365 (1963).

"Custom Spectral Filters," Charles S. Glickman, Color Engineering, 2, No. 7-8, pp. 18-19 (July-August 1964).

"Daylight Fastness Testing by the Langley System," C. H. Schmitt, Am. Dyestuff Reptr., 51, p. 664 (1962).

"Daylight Fluorescent Colors," Z. Kazenas, Paint Industry, 77, No. 9, pp. 12-16 (1962).

"'Degree of Polarisation Spectra' Provide New Insight into the Electron Structure of Dyes," Part 1, Günter Scheibe, Friedrich Dörr, Palette, No. 12, pp. 30-33 (Spring 1963); Part 2: No. 13, pp. 27-33 (Summer 1963).

"The Determination of the Light Fastness of Coloured Materials Faster than Standard 8," SDC/OCCA Joint Light Fastness Extension Committee, J. Oil & Colour Chem. Assoc., 47, No. 4, pp. 301-304 (April 1964).

"Developments in Phthalocyanine Pigments," D. M. Varley, Paint Manuf., 31, No. 11, pp. 373-379 (1961).

"Direct-Reading Tomato Colorimeter," Richard S. Hunter, J. Opt. Soc. Amer., 51, No. 5, pp. 552-554 (May 1961).

"Discrimination of Color, Part I: Comparison of Three Psychophysical Methods," Michael H. Siegel, J. Opt. Soc. Amer., 52, No. 9, pp. 1067-1070 (September 1962); Part II: "Sensitivity as a Function of Spectral Wavelength, 510 to 630 mu," Michael H. Siegel and Forrest L. Dimmick, pp. 1071-1074; Part III: "Effect of Spectral Bandwidth," Michael Siegel, 53, No. 7, pp. 874-877 (July 1963).

"Does Anomalous Color Vision Imply Color Weakness?" L. M. Hurvich and D. Jameson, Psychon. Sci., 1, pp. 11-12 (1964).

"The Early History of the Synthetic Dye Industry,"Part I: "The Chemical History," R. D. Welham, J. S. D. C., 79, p. 98 (1963); Part II: "The Industrial History (1956-1960)," p. 146; Part III: "The Industrial History (1900-1914)," p. 181; Part IV: "The Reasons for British Failure," p. 229.

"Effect of Contrast on CFF and Apparent Brightness," Harris Ripps, Ira T. Kaplan, and Irwin M. Siegel, J. Opt. Soc. Amer., 51, No. 8, pp. 870-873 (August 1961).

"Effect of Processing Temperature on Pigments and Color of Spinach," C. T. Tan and F. J. Francis, J. of Food Science, 27, No. 3, pp. 232-241 (1962).

"Effects of Chromatic Adaptation on Normal and Dichromatic Red-Green Brightness Matches," Roseanne G. Speelman and John Krauskopf, J. Opt. Soc. Amer., 53, No. 9, pp. 1103-1107 (September 1963).

"The Effects of Dyes on the Opacity of Paper," Mason Hayek, Albert S. Deutsch, and Joseph P. Neary, Tappi, 45, No. 8, pp. 149A-154A (1962).

"Effects of Dyes on the Optical Properties of Paper," Mason Hayek, Tappi, 46, No. 5, pp. 196A-200A (May 1963).

"Elements of Paint Technology," Part 7: "Color Standards and Colored Pigments," R. F. Toomey, Paint Industry, 77, No. 7, pp. 33-36 (1962).

"Elements of Paint Technology--Pigments," R. F. Toomey, Paint Industry Mag., 77, No. 5, pp. 35-37 (1962).

"Empire State Numerical Evaluation of Color Employing Suitable Instrumentation," Leonard R. Dearth, Tappi, 46, No. 10, pp. 146A-151A (October 1963).

"Energy-Recording Spectrofluorimeter," Walter Slavin, J. Opt. Soc., Amer., 51, No. 1, pp. 93-97 (January 1961).

"An Evaluation of the Hunterlab Color and Color Difference Meter, Model D 25," Part IIa, Therese R. Commerford, Lab Notes, 2, No. 3, pp. 18-29 (December 1961).

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