Inter-Society Color Council *News*

NUMBER 268 SEPTEMBER-OCTOBER 1980

ISCC 50TH ANNUAL MEETING

The ISCC will celebrate its 50th Anniversary at its annual meeting on April 26-28, 1981 at the Hotel Roosevelt in New York. In addition to the Project Committee Meetings, we plan three special symposia:

- 50 Years of Progress in the Use of Color
- Future Trends in Color
- Color Education

The symposia will discuss all aspects of color in art, science, architecture, industry, etc. We are pleased to announce that Miss Dorothy Nickerson has agreed to keynote the Symposia with a historical perspective on 50 years of the ISCC.

Other events planned include:

- A Sunday night reception at the Fashion Institute of Technology and featuring a Textile Printing exhibition by Mariano Fortuny.
- A Monday night slide presentation by Mr. & Mrs. Yale Foreman on Color in China.
- A Monday night banquet.

We can all be proud of our organization having achieved its 50th year. Let's have a great turnout to celebrate it!

Allan B. J. Rodrigues
Program Chairman

APPROVED INDIVIDUAL MEMBERSHIPS

at Board of Directors Meeting
October 17, 1980

Mr. Frank J. Alban 2500 Moundview Drive Norwood, Ohio 45212	SPE. Color formulation, stability, hands-on solving of practical problems in synthetic latex and acrylic-sheet-casting manufacture (Novamont corp.)
Mr. Robert L. Brumfield 4732 St. Clair Avenue Cleveland, Ohio 44103	ASTM. The proper technique to use in measuring fluorescent colors and the building of a fluorescent computer matching program. (Day-Glo Color Corp.)
Mr. Thomas L. Cummings 8343A Greensboro Drive McLean, Virginia 22102	Instrument calibration problems, sample and testing problems. (Collaborative Testing Services)
Mr. G. Franklin Dean 144 Wanless Avenue Toronto, Ontario Canada M4N 1W2	IES. Visual effect of all light sources on objects. (Retired member)
Mrs. Phyllis Farrell Pantasote, Inc. 250 Hamburg Turnpike Butler, New Jersey 07405	CMG, H&G. Printed vinyl for home furnishings.
Mr. John E. Hammond General Foods Tech. Ctr. 250 North Street White Plains, New York 10625	IFT. Natural colorings applied to food.
Mr. David N. Johnson A. Schulman Inc. 790 E. Tallmadge Avenue Akron, Ohio 44309	Production color matching and maintenance of the colors during processing, effects due to raw materials, process equipment, and manner of processing: eg. time and temperature.
Mrs. M. Susan Krach Monsanto 730 Worcester Street Indian Orchard, Massachusetts 01151	Formulation of new colors and control problems associated with production of colored plastic.
Mr. Raymond Guido Lauzzana 470 Columbus San Francisco, California 94133	AIA. Artificial and natural mechanisms for parsing images into "significant" segments and the relationship between this parse and natural color names. (IEEE, SPIE, Assoc. Computing Machinery)
Mr. Wai-Mun Lee Radiant Color 2800 Radiant Avenue Richmond, California 94804	ACHS, ASTM. Fluorescent color.
Mr. William R. (Rick) Mathew 2038 Main Street Cuyahoga Falls, Ohio 44221	SPE. Color difference calculations IR-identification of pigments in a plastic system. Computer colorant formulations, pigment performance in plastic systems.
Mr. E. Melse PO Box 15639 2502 BP S-Gravenhage Netherlands	How to present simple information on general color subjects to the public. (Art student, member NVVK)
Mrs. Heather A. Michaud E. I. du Pont de Nemours & Co. Textile Research Laboratory Chestnut Run Wilmington, Delaware 19898	Computer assisted shade matching and evaluation of shade and strength differences.
Dr. Howard L. Needles Division of Textiles & Clothing University of California Davis, California 95616	AATCC, ACHS, ASTM. The nature of dye-fiber interactions and their effect on color. Use of dyes as probes to discover information covering the internal morphology of fibers and polymers.

Mr. Kenneth A. Palmer Dye Laboratory Mobay Chemical, Dyestuff Division PO Box 10288 Charleston, South Carolina 29411	Mathematical and instrumental methods: Reflectance and transmittance measurements used in production color matching and quality control. Digital computer programming.
Mr. Robert Roberts Sandoz Inc. Route 10 East Hanover, New Jersey 07936	FSCT, SPE. Color measurement, quality control methods.
Ms. Sarah Rudin 15051 Joycedale Street La Puente, California 91744	Developing new materials for the graphic arts.
Mr. Paul A. Tudder Glidden Pigments 2700 Hollins Ferry Road Baltimore, Maryland 21108	DCMA, NPCA, SPE. Applications, testing. Psychology, marketing, color trends.
Mrs. Patricia Verlodt Color Communications Inc. 4242 W. Fillmore Chicago, Illinois 60624	CMG. Color styling, computer color matching in color-card systems.

For Information: New Delegates

Dr. Charles R. DuFort 1543 Mesquite Street Wichita Falls, Texas 76302	ACP. Color matching in dentistry, and formulating a complete range of tooth shades.
Mr. A. John Geis 4615 Forbes Avenue Pittsburgh, Pennsylvania 15213	GATF. Reproduction via printing methods.
Mr. Stan Newman Lewis Roberts Inc. 72 Union Street Newark, New Jersey 07105	NAPIM. Multiple color printing, history of color printing, color matching, metamerism.
Mr. John E. Peters 4615 Forbes Avenue Pittsburgh, Pennsylvania 15213	ACHS, GATF. High quality color printing.
Mr. Edward J. Rinalducci School of Psychology Georgia Institute of Technology Atlanta, Georgia 30332	APA/C, ASTM, EIS, OSA. Color vision, selective chromatic adaptation, color defectiveness.
Mr. Arnold C. Schieman 155 - 58th Avenue Laval, Quebec Canada H7V 2A5	SMPTE. Color storage and dye fading and those things that might well affect their keeping.
Dr. Stanley G. Wellso USDA SEA AR Department of Entomology Michigan State University East Lansing, Michigan 48824	ESA/V. Related to the development of a color standard chart that biologists can use when they talk about color (so that we mean the same thing when we say "indigo," etc.)

CHANGES IN 1980 MEMBERSHIP LIST TO OCTOBER 15, 1980

A. Changes in Status

Prof. Alessandro DeGregori: add IDSA
Mr. A. J. Pentz: change SPE to SPE/C
Mr. Danny C. Rich, IMGS: change to Dr. Danny C. Rich, IMG, Sherwin-Williams Company, A. W. Steudel Tech. Ctr. 549 East 115th Street, Chicago, Illinois 60628
Dr. Thomas G. Webber: change SPE/C to SPE

B. Additions

The following members, dropped for lack of address, should be added with the new addresses indicated:
Mr. Sy Commanday, IMG, Hercules Fibers, PO Box 8, Oxford, Georgia 30267
Mr. Charles W. Fletcher, IMG, 99 MacDougall Street, New York, New York 10012
Dr. Sidney Stecher, IMG, Psychology Department, Lehigh University, Bethelehem, PA 18015

The following were inadvertently omitted from the membership list due to computer error and should be added:
The Book Home, Inc., Periodical Department 187, 220 East Monument Street, Colorado Springs, CO 80903
The Colour Group (Great Britain), c/o Dr. Michael R. Pointer, Kodak Limited, Research Division, Colour Laboratory W-93, Harrow, Middlesex HA1 4TY, England
The Colour Group (India), c/o Indian Woollen Mills Fed. Churchgate Chambers, 7th Floor, 5 New Marine Lines, Bombay 400 000 India
Detroit Colour Council, c/o Mr. James E. Grady, E.I. du Pont de Nemours & Co., C-D-P Department, 7187 White Pine Drive, Birmingham, MI 48010
European Gemological Laboratory, 20 West 47th Street, New York, New York 10036
Mr. Guillermo Marconi, IMG, Graphica Editora Color, SA, Apartado 6-2797, Estafeta el Dorado, PMA, Rep de Panama

C. Deletions

Mr. Ronald Bostick, IMG (no address)
Mr. Gideon Fiat, SMPTE (no address)
Prof. John E. Flynn, AIA (deceased)
Mr. L. F. C. Friele, IMG (retired and resigned)
Mr. Thomas J. Keane, IMG (no address)
Dr. Don R. Morris, IMG (no address)

C. Changes of Address

In each case the new address is shown.
Col. Ronald B. Blackman, ACP, IMG, 13235 Hunters Spring San Antonio, Texas 78230

Dr. Michael E. Breton, IMG, Visual Psychology Department, Wills Eye Hospital, Ninth and Walnut Streets, Philadelphia, PA 19107

Mr. Camille Brouillet, AIC, IMG, 350 Cote Vertu, Apt. 408, St. Laurent, Quebec, Canada H4N 1E2

Mr. Richard E. Chartrand, IMG, 452A Roxbury Lane, Jamesburg, New Jersey 08831

Dr. C. G. Crawforth, IMG, Blundell Permoglaze Ltd., Sculcoates Lane, Hull, Yorkshire, England

Mr. Charles DuFort, ACP, 1543 Mesquite Street, Wichita Falls, Texas 76302

Mr. Russell H. Gray, SPSE/C, 9 Circle Drive, Rumson, New Jersey 07760

Mr. Roger Habib Haddad, IMG, J P Stevens & Co., Inc., 141 Lanza Avenue, Garfield, New Jersey 07026

Mr. A. M. Keay, DCMA/C, Harmon Colors Corp., PO Box 419, Hawthorne, New Jersey 07507

Mr. Raymond A. Kinmonth, Jr., IMG, Atlas Electric Devices Co., 4114 N. Ravenswood Avenue, Chicago, Illinois 60613

Mr. Nicos M. Komodromos, IMG, 1438 Woodnoll Drive, Flint, MI 48507

Mr. Hugh Laverie, IMG, 1080 Kingswell Parkway, Suite 210, Columbus, Ohio 43229

Mr. John T. Smith, Jr., IMG, 2923 Marshall Blvd., Sullivans Island, S.C. 29482

Mrs. Bonnie K. Swenholt, IMG/C, 5717 Gulick Road, Honeoye, New York 14471

Ms. Jacqueline Welker, IMG/V, PPG Industries, 151 Colfax Street, Springdale, Pennsylvania 15144

EARL I. SUNDEEN

Earl I. Sundeen, graphic arts educator with Eastman Kodak Company, died unexpectedly at his home near Rochester on June 14. He was 65.

Sundeen, in a career with Kodak spanning more than 41 years, became widely known in the graphic arts industry for his work with the company and with trade associations.

Sundeen began his career at Kodak as a physicist following graduation from Clark University. He became a graphic arts publications editor in 1952 and went on to a number of posts in that field. At the time of his death, he was educational markets associate, marketing publications, graphics markets division. He was widely known as editor of a series on graphic communication.

Sundeen joined TAGA in 1952 and acted as Publications Chairman from 1956 to 1960. He assumed the office of Executive Secretary in 1960 and for 20 years coordinated and guided the affairs of the association. He will be greatly missed.

In recognition of his outstanding ability, his enthusiastic support of TAGA, his achievements at Eastman Kodak Company, and his contributions to the graphic arts industry, he was selected to receive the 1977 TAGA Honors Award.

His wife Claire, his daughter Donna, and his sons David and Robert have generously designated the TAGA Fellowship Fund as recipient of memorial gifts.

Editor's note: Earl Sundeen was TAGA's liaison officer to the ISCC for many years.

NEWS OF MEMBER-BODIES

American Society of Interior Designers

For 1980 the American Society of Interior Designers is focusing on limited goals. The development of professional practice criteria, public education regarding ASID's mission and membership recruitment have been given priority. This year's national conference held August 20-24 in New York City reinforced this program with the theme, "Design Power 1980." Leading designers and experts in many fields also examined critical issues confronting our society and their impact on interior design.

Our delegation has made several proposals seeking greater emphasis on color in the long range plans of ASID, and will work for greater involvement of the membership in the 50th anniversary of ISCC.

GRAVURE TECHNICAL ASSOCIATION

The Gravure Technical Association's GTA 32nd Annual Convention will be held in Chicago at the Drake Hotel April 7-9, 1981. For further information telephone Warren Daum at GTA headquarters 212-661-8936.

THE COLOUR GROUP (GREAT BRITAIN)

Golden Jubilee of Colour in the CIE 1931-1981 September 28-29, 1981

All enquiries and correspondence should be sent to:

Miss M.B. Halstead, Symposium Secretary, Thorn Lighting Limited, Jules Thorn Lighting Laboratories, Great Cambridge Road, Enfield, Middlesex EN1 1UL, England.

COLOR ASSOCIATION OF JAPAN

Officers of the Color Science Association of Japan (CSAJ) for 1980-1982 are the following:

President – Prof. Tamotsu Fukuda, Ohtsuma Women's University

Vice-President – Prof. Yasuo Ohta, Tokyo Medical College; Prof. Hiroshi Nakamura, Nagoya Institute of Technology; Mr. Shuji Kojima, Osaka Branch of Japan Color Research Institute

The address of CSAJ is as usual: c/o Japan Color Research Institute, 1-19, Nishiazabu 3-chome, Minato-ku, Tokyo 106, Japan.

Acta Chromatica, Vol. 3, No. 5

Special Issue: AIC Midterm Tokyo Symposium '79

Session I

Chromatic Adaptation
C.J. Bartleson

Uniformity of CIELAB and CIELUV Space under Illuminant A
Y. Nayatani, K. Takahama, and H. Sobagaki

Discussion for Session I

Session II

The Effect of Lights of Long Wavelength upon Discriminations Mediated by the Blue-Sensitive Mechanism
R. M. Boynton and J. J. Wisowaty

Direct Psychometric Scaling of Color Rendering
L. Sivik
Discussions for Session II
Session III
Major Attributes in Colour Appearance and Their Quantification
R.W.G. Hunt
Individual Differences in Perceiving Whiteness
E. Ganz
Perceptual Components in Munsell Colors
T. Indow
Discussions for Session III
Session IV
Colour Recognition of Signal and Surface Colours
P. L. Walraven
Unique Hues
M. Akita, Y. Ejima, and N. Osaka
Spectral Sensitivity Functions Determined by the Rapid Scan Technique
P. K. Kaiser
Discussions for Session IV
Session V
Line Elements of Color Space
G. Wyszecki
Experimental Determination of a Perceptively Equidistant Scale in the Color Space
A. Nemcsics
New Description of Color Discrimination Properties of Light Sources
J. Schanda and G. Czibula
Discussions for Session V
Session VI
CIE 1976 Color Spaces and Proposals for Modification
K. Richter
Color Space vs Color Relations Space—Aspects on the Psychometrics of Color
A. Hard
Discussions for Session VI

This is the final issue of *ACTA CHROMATICA*, which was first published in 1962. *ACTA CHROMATICA* was the official publication of the Color Science Association of Japan, devoted to original papers on all branches of the science of color and cognate subjects. *ACTA CHROMATICA* was published annually, five issues making a volume.

The Color Science Association of Japan is now mapping out a program to become an Endorsing Society of *Color research and application*, like the ISCC, the Colour Group (Great Britain), and the Canadian Society for Color. Thus, our Editorial Board would like to advise the members of our Association to contribute to *Color research and application.*

Applications for back numbers and business communications should be addressed to Japan Publications Trading Co., Ltd., at any of the following addresses:

P. O. Box 5030 Tokyo International, Tokyo, Japan; 1255 Howard St., San Francisco, CA 94103, U.S.A.; 200 Clearbrook Road, Elmsford, NY 10523, U.S.A.

Bankers checks, personal checks, international money orders, and UNESCO coupons are acceptable for remittances.

Mamoru Noraka
Editor, Acta Chromatica

PUBLICATIONS NOTED

Dyes and Pigments, I.D. Rattee, ed., an international journal published quarterly by Applied Science Publishers.

The journal covers the scientific and technical aspects of the chemistry and physics of dyes, pigments and their intermediates. Emphasis is placed on the properties of the colouring matters themselves rather than on their applications or the system in which they may be applied. Thus the journal accepts research and review papers on the synthesis of dyes, pigments and intermediates, their physical or chemical properties, e.g. spectroscopic, surface, solution or solid state characteristics, the physical aspects of their preparation, e.g. precipitation, nucleation and growth, crystal formation, liquid crystalline characteristics, their photochemical, ecological or biological properties. However, papers will be considered which deal with the more fundamental aspects of their interactions with substrates or media. The journal is in English but will accept some papers in French or German.

Dyes and Pigments will interest a wide variety of workers in a range of disciplines whose work involves dyes, pigments and their intermediates, and provide a common platform for investigators with common interests but diverse fields of activity such as cosmetics, reprographics, dye and pigment synthesis, medical research, polymers etc.

For further information, write to Applied Science Publishers Ltd., Ripple Road, Barking, Essex, England.

Color changes mark polymer reactions. J. H. Krieger, *Chemical and Engineering News*, pp. 24-25, August 4, 1980.

It is reported that Gordham N. Patel of Allied Chemical believes that color changes in polydiacetylenes have educational value. All of the following processes are accompanied by distinct changes in color.

Polymerization; Polymer conversion increases; Extraction of unreacted monomer; Phase change in a partially polymerized diacetylene; Melting of a polymer; Crystalization; Dissolution; Precipitation, gelation; Drying.

PRODUCTS AND SERVICES

Natural Color System

A COLOR ORDERING AND SCALING SYSTEM that assigns a unique code to each of some 1400 shades of color has been adopted as a national standard by the Swedish Standards Institution (SIS). It is called the Natural Color System (NCS) and was developed by the Scandinavian Color Institute after 15 years of research. The system is published in the *SIS Colour Atlas NCS* and contains text sheets in English and five other languages. Also provided are some practical aids such as a register with color cards, color samples in various sizes, and a lightness meter. Contact: SIS, Tegnergaten 11, Box 3 295, S-103 66 Stockholm, Sweden.

Reprinted from *ASTM Standardization News.*

Graphic Arts Research Center

The seminars listed below are scheduled for the first three months of 1981 at Rochester Institute of Technology's Graphic Arts Research Center. The seminars cover a wide range of topics in the graphic arts.

January:
- 05-07–Commercial Web Offset Workshop
- 12-14–Black & White Tone Reproduction
- 20-23–Color Seminar for Pressmen
- 27-30–Basic Quality Control for Graphic Arts

February:
- 02-05–Non Heatset Web Offset Production
- 09-12–Color Control for Cost and Quality
- 09-12–Quality Control for Photographics Processing
- 16-20–Printing Systems for the Paper Industry
- 25-27–Understanding Bindery Operations
- 25-28–Phototypesetting for In-Plant Managers

March:
- 02-04–Preservation of Photographic Images
- 02-04–Screen Printing Seminar for Electronics Industry
- 09-11–Commercial Web Offset Workshop
- 16-18–Photomechanical Preparation for Flexographic Printing
- 16-18–Black & White Tone Reproduction
- 16-20–Photographic Science
- 24-27–Color Seminar for Pressmen
- 30-01–Color Control for Cost and Quality

COLOR RESEARCH AT YORK UNIVERSITY

Although some work on the subject of color occurs in the Faculty of Fine Arts and in the Physics Department, the description herein covers only that work being conducted in the Department of Psychology. The work done on color in this Department is concentrated primarily in my laboratory. Two of my colleagues, Professor Hiroshi Ono and Professor Stuart Anstis have on occasion touched on color-relevant research. However, I believe it is fair to say that these forays into color research were incidental and do not comprise the main thrust of their research endeavours.

The research in my laboratory centers primarily on trying to understand how the human processes color information. A major corollary to this endeavour concerns using this information for the purpose of implementing visually meaningful measurements of light. My colleagues in these research efforts include Keiji Uchikawa (post-doctoral fellow), Hiromi Uchikawa (research associate), Deborah Bodinger and Steven Nusinowitz (graduate students).

Over the last 12 years, color research from this laboratory has been published in *Journal of the Optical Society of America, Vision Research, Color Research and Application, Applied Optics, Canadian Journal of Ophthalmology, Behavior Research Methods & Instrumentation, Investigative Ophthalmology,* and *Visual Science.* Our research efforts have included work on minimally distinct borders as a criterion of visual photometry, the determination of luminous efficiency functions by heterochromatic brightness matching, flicker photometry of equally bright lights, the saturation of spectral lights, additivity failures and heterochromatic brightness matching, and measuring human spectral sensitivity.

Current research efforts are concerned with finding improvided means for equating differently colored stimuli for saturation, measuring wavelength discrimination functions for stimuli equal in brightness as well as saturation, chromatic discrimination as a function of brightness and chromatic adaptation, saturation discrimination as a function of the interstimulus interval between the presentation of test and reference fields, and spectral sensitivity of point sources.

The various studies dealing with spectral sensitivities and wavelengths discrimination are an effort to better understand the functioning of the color vision system and also to better understand the capabilities of the various mathematical color vision models available in the literature. This work also has direct application towards attempting to find a suitable means for converting CIE luminance and colorimetric data into a measure of brightness that is visually meaningful. The chromatic discrimination study is an effort to better understand some of the basic vision properties, primarily as related to the opponent processing system and also to better understand the limits of our ability to match different colors in the presence of small spectral distribution differences. A lot of this work is directly coordinated with the CIE subcommittee on color differences.

An interesting new addition to our laboratory is the work on discrimination between two fields which are temporally separated. This is work being conducted by Dr. Uchikawa, who notes that fields in real life are rarely seen precisely juxtaposed one next to the other. The more frequent condition is looking first at one field then at another. This necessarily involves small time delays between viewing each field. Dr. Uchikawa's work in Japan dealt primarily with wavelength discrimination and now he will extend this work to include saturation discrimination. Mrs. Uchikawa will continue her work originally started in Tokyo with Dr. Ikeda on trying to understand our ability to detect colors in the peripheral vision in the presence of other complex colored patterns.

The color vision research in my laboratory has been generously supported over the last 12 years by the Natural Sciences and Engineering Research Council of Canada (formally National Research Council of Canada). The research activities in my laboratory are done in conjunction with the York University graduate program.

P. K. Kaiser
Department of Psychology
York University
Downsview, Ontario
M3J 1P3

COLOR SYSTEMS AND STANDARDS

As part of the Faber Birren Collection of Books on Color Art and Architecture Library – Yale University, New Haven, Connecticut (Listings are in chronological order)

An Exposition of English Insects with Certain Observations and Remarks. Moses Harris, 1776, Robson & Co., London, 172 pages, 8½ x 10½. This rare work named some 72 colors drawn from a hand-tinted color circle of pure hues, tints, shades and tones. Text was in English and French. It was one of the earliest efforts at color identification and naming.

Werner's Nomenclature of Colours, Patric Syme, 1814. Published by James Ballantyne & Co., Edinburgh, for Wm. Blackwood, John Murray, Robert Baldwin. An early, key work, 5 x 8, designed chiefly for naturalists. Has 13 plates with 108 color samples named and numbered in terms of animal colors, vegetable, mineral. (This elaborated an earlier system by A. G. Werner, a Scotch mineralogist.) Here is another early pioneer work in its field.

Des couleurs et de leurs applications aux arts industriels à l'aide des cercles chromatiques, M. Chevreul, 1864, J. B. Ballière, Paris. This is a magnificent work, 11 x 14. It contains a beautiful fold-out spectrum, a color circle of continuous tones, both of which were remarkable lithographic reproductions for their time. Eight plates, each with 60 steps, scale spectral colors from purity to blackness. Further, 12 color scales show value steps of principal hues.

A Nomenclature of Colors for Naturalists and Compendium of Useful Knowledge for Ornithologists, Robert Ridgway, 1886, Little, Brown & Co., Boston. This is a rare and highly significant key work. It preceded Ridgway's later and well known presentation of 1912 by some 26 years. A total of 190 colors were hand-applied to ten 5½ x 8½ plates. Color names were given in English, Latin, German, French, Spanish, Italian and Norwegian-Danish. Ridgway was Curator, Department of Birds for the United States National Museum. He referred to Werner's Nomenclature.

Répertoire chromatique, Charles Lacouture, 1890, Gauthier-Villars, Paris. Contains a series of 28 beautiful color plates 9¾ x 12, based on some 1300 optical mixtures. Different tones were accomplished through the use of fine lines – a new device at the time.

Répertoire de Couleurs, Société Francaise des Chrysanthémistes, 1905. An important and famous system for the color identification in horticulture. Contains over 1400 printed colors in two volumes, 6½ x 10. Widely used for the identification of colors in flowers, foliage, fruit, etc.

The Mastery of Color, Charles Julius Jorgensen, 1906, published by author, Milwaukee. An interesting work, 7 x 9. Has 22 thick die-cut plates with air-brushed gradations. All colors are named. There is a separate booklet of text of 83 pages. Designed as a "Simple and Perfect Color System . . . for Educational Purposes."

Color Standards and Color Nomenclature, Robert Ridgway, published by the author, 1912, Washington, D. C. (See earlier edition, A Nomenclature of Colors for Naturalists, 1886.) Ridgway's work was highly important in scientific circles and has become a classic in the field of color notation. It is 5½ x 8¾ in size and has 53 plates with 950 samples of coated paper. All colors are named.

Ostwald Color Album, Winsor & Newton, London, 1933. Contains 11 color charts 6 x 8½, with about 900 mounted chips. Published originally to accompany Wilhelm Ostwald, Colour Science, Parts I and II, Winsor & Newton, London, 1933.

British Colour Council, Dictionary of Colour Standards, 1934, London. Boxed collection of 240 samples of dyed silk ribbons, 5½ x 9¼. Used for color identification and color names in the textile industry. (Also published in wool yarns.)

British Traditional Colours, British Colour Council, 1937, London. Published for the coronation of King George VI and Queen Elizabeth. Dyed samples of heraldic colors. standards for the Union flag, robes, knighthood ribbons, tartan colors, standards for the army, navy and air force are contained in a 9½ x 11½ volume.

Historical Color Guide, Elizabeth Burris-Meyer, 1938, William Helburn, New York. Contains 150 color samples mounted on 30 plates 6¾ x 9 and devoted to colors used in ancient and modern times. A useful reference source.

Wilson Colour Charts, British Colour Council, 1938, London. Two volumes, 6½ x 9½, containing 800 printed color samples, with names. Used in horticulture. (Identical to Horticultural Color Charts, London, 1942.)

Standard Color Card of America, originally issued by the Textile Color Card Association of the U. S. in 1941, 6 x 10. On 18 hinged charts 216 colors in dyed satin are presented. This has long been one of the most widely used sources of reference, both for colors and names, by the U. S. Government and American textile industry. (A new edition has been released by The Color Association of the U. S., New York, 1980.)

Horticultural Colour Charts, British Colour Council with Royal Horticultural Society, 1942, London. Two volumes, 7 x 10, with 800 printed color samples. For color identification in horticulture. (Identical to Wilson Colour Charts, 1938.)

Munsell Book of Color, Munsell Color Company, 1942, Baltimore. This is a small, two-volume edition, 3¾ x 6¾, with 41 plates. The colors included are based on the 1929 abridged edition. It represents an early historical Munsell work.

Schneizer Farbenatlas (Swiss Color Atlas), Dr. Aemilius Muller, 1945, Winthur. A large handsome volume, 13 x 13, with 24 charts holding over 1,000 samples of dyed paper in small envelopes. Follows principles of Wilhelm Ostwald.

Plochere, Color and Color Names, Los Angeles, 1946. A large and impressive book of color standards, to be used for identification purposes and for color names. Contains 64 charts, 10 x 12¼, having 1536 mounted chips.

Atlas de los Colores (Color Atlas), C. Villalobos-Domingnez and Julio Villalobos, 1947, Buenos Aires. English text by Aubrey Molyn Homes. A moderately successful system for color identification, 8 x 12, with 7,279 small swatches in printing inks.

Color Harmony Manual, by Egbert Jacobson, Walter C. Granville and Carl E. Foss, 1948, Container Corporation of America, Chicago. This is a third edition. loose leaf, 11 x 17, boxed, with about 900 removable chips. Included is descriptive color names dictionary edited by Helen D. Taylor, Lucille Knoche and Walter C. Granville, 1950. (Later editions of the Manual were issued.)

Dictionary of Colours for Interior Decoration, British Colour Council, 1949, London. A beautiful publication of 378 color samples displayed in two boxed volumes, 8½ x 11, showing gloss and flat paint and pile fabric. Has separate index of color terms and names.

Designer's Color Guide, E. I. du Pont de Nemours & Co., 1950(?), Wilmington. An impressive collection of 1,600 samples of dyed yarns, arranged in analogous order and featuring du Pont dyes. Meant for textile designers and stylists. Over-all size, 11 x 15.

Dictionary of Color, A. Maerz & M. Rea Paul, McGraw-Hill Book Co., New York, 1950. A bound volume, 8½ x 11½, containing 7,000 samples of printed color, with color names based on historical origins and current usage. (Later editions have been published.)

British Colour Council, Dictionary of Colour Standards, London, 1952. Boxed collection of 240 samples of dyed *wool* yarns, 8¼ x 9¼. Used for color identification and color names in the textile industry. (Also published in dyed silk ribbons.)

Farbenordnung Hickethier, 1952, Verlag H. Osterwald, Hannover. This is a beautiful book, 8 x 9½. Hickethier, a color printer, developed an unusual and worthy system of color organization. This work is replete with excellent color plates

and color charts which exhibit some 999 different color variations.

Hesselgren's Colour-Atlas, 1953, Stockholm, Sweden. System consists of Atlas, 9 x 7, having 507 small samples on 26 charts. Extra samples of the colors, 2 x 4, are in two separate boxes, 4 x 8½. A well devised general color order system.

Colorizer Paint System, 1955. Developed by Faber Birren for group of American paint companies known as Colorizer Associates. Large vinyl-covered album, 15 x 15 inches, has a total of 1812 individually coated chips mounted on removable strips. There are 51 separate charts. Includes Color Harmony Selector. System was used nationally in the sale of paint. (Also see Colorizer Systems developed by Faber Birren in 1970 and 1980.)

ISCC-NBS Method of Designating Colors and a Dictionary of Color Names, National Bureau of Standards Circular 553, Washington, D. C. 1955. This important book, 8 x 10, established a system for the *naming* of colors. Simple color names are included using the Munsell system. There are cross references to colors derived from a number of color order systems, such as Ridgway, Maerz and Paul, Plochere, etc. Later edition is dated 1976.

RAL Farbregister 840 R, 1955, Muster-Schmidt, Gottingen. A German system of color for purposes of standardization and identification. Contains 94 standards on 5¾ x 8¼ cards. (Later editions are available.)

Scandinavian Colour Book, 1956, Nordisk Textile Unions, Copenhagen. Three striking loose-leaf volumes contain 1,728 samples of dyed felt in systematic order. Boxed, 7¾ x 9½. One of the most attractive systems ever made.

Pslanzenfarben-Atlas, Prof. Dr. E. Biesolski, 1957, Musterschmidt-Verlag, Gottingen. An interesting series of color charts, 5 x 8, with 375 mounted chips. Designed for the notation of flower colors.

The Friel System, A Language of Color, Edward Friel, 1961, privately printed, Seattle, 79 pages, 8½ x 11. Has color plates and discusses relationships of existing colorants (pigments, dyes) and orderly color organization.

Reinhold Color Atlas, A. Kornerup & J. H. Wanscher, 1961, Reinhold Publishing Co., New York. This is a small and unique book of color standards, 224 pages, 4¾ x 6¾ inches, with 30 double-spread charts showing (and naming) 1440 printed color samples. Its purpose is to provide a source of standards for matching, naming and identification of color. (See Methuen Handbook of Color which repeats the Reinhold version, 1978.)

Colors for Interiors, Historical and Modern, Faber Birren, 1963, Whitney Library of Design, New York. A book of 210 pages, 8 x 10, includes 16 charts having 248 mounted chips. Charts present ancient and period colors: Egypt, Greece, Rome, the Renaissance; French and English period colors; American period colors; Victorian, suggested colors for schools, hospitals, factories, offices, stores, food service. All chips are named.

Plochère Color System, 1965, Los Angeles. This system consists of a boxed set of 1248 colored cards, 3 x 5. It has been successfully used over the years and holds considerable reputation as an American color system.

Advanced Ink Mixing System (AIMS), 1968, Danish Paint and Ink Research Laboratory, Copenhagen. Six plates, 8½ x 11½, show 1200 color variations based on an ink mixing system. Also used for color description and identification. Foreword is in several languages. Devised by Andreas Kornerup (see Reinhold Color Atlas and Methuen Handbook of Colour).

Federal Standard No. 595a, Colors, 1968 edition. Some 26 charts, 8 x 10½, have 437 coated and mounted samples of color in gloss, semi-gloss and lusterless finish. (3 x 5 samples are also available.) The colors are those officially recognized by all branches of the U. S. Government and are to be used as standards by suppliers of colored materials. Issued by Federal Supply Service, Washington, D. C.

Color Mixing by Numbers, Alfred Hickethier, 1970, Van Nostrand Reinhold, New York, 54 pages, 8½ x 8½. This is an abbreviated edition of Hickethier's commendable color order system. Has 384 die-cut color chips which may be pasted on charts for color training. There is a good review of historic color solids.

Colorizer Paint System, Totalcolor Concept. Developed by Faber Birren in 1970 for group of American paint companies. Large vinyl-covered album, 15½ x 17 inches, has a total of 1740 individually coated chips mounted on removable strips. There are 58 separate charts. System was used nationally to sell paint. (See also Colorizer Systems developed by Faber Birren in 1955 and 1980.)

JIS Color Code for Investigation, 1971, Japan Color Research Institute. A Japanese system for color identification and naming. Included are 28 charts, 9 x 11¾ inches, 2 fold-out charts, a set of bound black and white charts, plus a descriptive booklet devoted to color names. Mounted chips are 600 in number, and all is contained in a cloth-covered box and slip case.

Color, Origin, Systems, Uses, Harold Küppers, 1973, Van Nostrand Reinhold, New York, 155 pages, 8½ x 10¼. A beautifully illustrated work. Has 14 charts showing 1400 gradations of colors. Has diagrams of early color systems of Lambert, Rünge, Ostwald and others.

Princeton University Press Color Kit, A Designers' and Printers' Aid for Selecting Two-Color, Solid and Screened Ink Combinations on Assorted Stocks, 1973, Princeton University Press. A series of 18 plates, 18 x 18 inches, demonstrating two-color effects using 16 inks on color stock. Practical in visualizing the influence of colored papers on colored printing inks, solid impressions and screen combinations.

Chart System of Color Names, 1974, Japan Color Research Institute. On 3 large charts which unfold to 14 x 20 inches, 286 mounted color chips are identified with common color names. An accompanying 32 page booklet, 9 x 12 inches, refers to other color-naming systems and identifies the colors on the large charts in terms of them.

Hickethier Color Atlas, 1974, developed by Alfred Hickethier of Germany. Van Nostrand Reinhold Co., New York, 8 x 11½. An impressive and beautiful collection of 1,000 color standards mounted on 40 dye-cut charts. Designed chiefly for purposes of color identification and notation.

Manual of Color Names, 1974, Japan Color Research Institute. A large volume, loose-leaf metal bound, 9 x 11½ inches. Using a color circle of 24 hues the work is then, with separate charts, employed to identify and name (in Japanese and English) some 400 different chips of color tones. There are references and black and white sketches of flowers, birds, fish, vegetables, coral, fruit, berries. This would be an extremely practical reference for anyone endeavoring to associate different colors with common names. (The equivalent in the United States would be the ISCC-NBS Method of Designating Colors which does not include color chips.)

Uniform Color Scales of the Optical Society of America,

1974. This is a very famous and authoritative collection of 552 colors, each 2 inches square, held in individual clear plastic pockets on 30 charts, 8½ x 11 inches, with all contained in a loose-leaf binder. With the loose chips, six entirely different color scales can be arranged. In all cases equal color differences will be noted. Binder includes various reprints of articles related to the scales, a history of their development, colorimetric data, etc. Value at time of issuance, $350.00.

Color Data Manual, 1975, Japan Color Research Institute. This is an impressive undertaking. Some 91 loose charts, 8½ x 12 inches, neatly boxed and held in a slip case, include color chips and word identifications, mostly in Japanese but some in English. Practical use would require a knowledge of the Japanese language.

Color System, 1975, Japan Color Research Institute. A handsome, plastic bound portfolio, 10 x 10 inches. Made for color education in Japan. While text is in Japanese, color identifications and names are also in English. Reviews color order systems of Lambert, Rünge, Chevreul, Von Bezold, Helmholtz, Rood, Hofler, Munsell, Ostwald and others. A series of 21 exquisite charts containing over 1,000 color chips, illustrate three major color systems: P.C.C.S. (Practical Color Co-ordinate System), Munsell and Ostwald – a feature that is quite unusual in one volume.

Harmonic Color Charts, 1975, Japan Color Research Institutes. This is a digest of the Japanese P.C.C.S. (Practical Color Co-ordinate System) and is meant for educational purposes. Included are a large fold-out chart, 11¾ x 40 inches on which about 100 chips of colors are mounted; duplicates of these 100 colors, 1-3/8 x 2-3/8 inches, are filed loose in a separate folder having plastic pockets; plus 2 descriptive booklets. Use of the charts would require a knowledge of the Japanese language.

Chroma Cosmos 5000, 1978. An elaborate color system issued by the Japan Color Research Institute of Tokyo. This is one of the most beautiful and complete color systems ever issued anywhere. Contains 5000 individually coated and individually mounted color chips on 23 charts, with a 24th volume devoted to an explanation. Charts measure 10½ x 14½ inches folded and have vinyl covers. All are contained in a blue cloth-covered box. All 5000 chips are identified in terms of the Munsell Color System and have further designations to agree with the Inter-Society Color Council-National Bureau of Standards (ISCC-NBS) Method of Color Designation. Value at time of issuance, $1,500.00. Box also includes review by Faber Birren in Fall, 1979 issue of Color Research and Application.

DuMont's Farben-Atlas, Harald Küppers, 1978, DuMont Buchverlag, Köln. A paperback edition of a color atlas containing 46 charts, 6 x 8, having over 5,500 printed color variations drawn from 7 basic standards. Based on an intriguing geometric concept of color order.

Methuen Handbook of Colour, by A. Kornerup & J. H. Wanscher, Eyre Methuen, 1978, London (third edition), 4¾ x 6¾. This is a British adaptation and duplication of the original Kornerup-Wanscher work. It introduces names used by British paint manufacturers, printing ink colors and is otherwise well recognized by British organizations concerned with color. (See Reinhold Color Atlas, 1961.)

Color Source Book, Margaret Walch, 1979, Charles Scribner's Sons, New York. This is an attractive work 8½ x 11. It contains a series of 48 charts with 103 mounted color chips meant to show actual samples of historic and period colors, textile and pottery colors, the palettes of famous artists, etc. The book repeats a group of boxed charts originally issued through American Fabrics Magazine in 1970. Copy of this is also at Yale. The author acknowledges help of Yale Art and Architecture Library.

Colorizer Paint System, Colorizer Plus. Developed by Faber Birren, 1980, for group of American paint companies. Large vinyl-covered album, 14½ x 20 inches, has a total of 988 individually coated chips mounted on removable strips, all with names. There are 27 separate charts. (See also Colorizer Systems developed by Faber Birren in 1955 and 1970.)

(Note. There obviously are other color systems and color standards not in the Birren Collection. New material is added when available. There are more recent editions of Munsell, for example. The well known Pantone System of America is not represented, nor is the Natural Colour System of the Swedish Colour Center, Stockholm.)

The Faber Birren Collection of Books on Color is at the Art and Architecture Library, Yale University, Chapel and York Streets, New Haven, Connecticut.

COLOR SYSTEMS AND COLOR STANDARDS

Faber Birren has released an annotated list of color systems and color standards which are in the Faber Birren Collection of Books on Color at the Art and Architecture Library, Yale University in New Haven, Connecticut. These are 54 in number and have been collected over a period of many years.

There are historic items such as the *first* Robert Ridgway collection of colors for naturalists, 1886, the second Ridgway of 1912; Werner's Nomenclature of 1814; Chevreul of France, 1864; plus color systems and standards from England, Germany, Switzerland, Sweden, Denmark, Japan, Argentine.

The list will be forwarded to anyone interested. Address: Faber Birren, 184 Bedford Street, Stamford, Conn. 06901.

LETTER TO THE EDITOR

The Brazilian School of Arts, located in Porto Alegre, the Capital of the State of Rio Grande do Sul, Brazil, is the center of study and research in color in Brazil and in South America as well.

Through its Department of Psychodynamics of Color it offers courses and carry out research dealing with color and its use in different environments such as houses, commerce, industry, health care institutions, schools, in advertising, marketing, etc, including the influence of colored lights on human behavior.

The School collaborates with schools and universities all over Brazil giving orientation to teachers and interested people, and teaching specific courses in Color, and the use of illumination and colored lights.

A research work has just been concluded at the School on the subject of colored shadows. It has proved that shadow is not lack of light, but a mixture of cyan, yellow, and magenta.

An yearly National Seminar on Colors in Hospitals is held at the School for people working in health care institutions, students of architecture, design, decoration, color, etc. all over the country.

In the 1979 Seminar two groups of students presented reports of research carried out during the year. One group composed of Luiza Maria H. Barcelos, Katya Ima Kaiser, and

Anabela Schalch Leal, presented their report on Color in Pediatrics. The second group, reported on Color in Intensive Care Units. Both papers involved visits to hospitals interviews with doctors, nurses, administrators, architects, and people working directly with patients. They were of very high quality and raised great interest among attendees.

Architect Simão Goldman is the Director of the School and the most important expert in color in Brazil. He is the author of "Psychodynamics of Colors" (5th edition), and 8 other works dealing with color. He is the key person in Brazil in the area of colors, and the man responsible for the teaching and carrying out of research in this field. He introduced the teaching of color in universities in Brazil.

The Brazilian School of Arts, active since 1979 – to which the Brazilian color Institute (BRASCOR) is connected – proposes hereafter an exchange of information and papers related to the subject of color with all those interest in collaborating with it.

Sincerely yours,
Olga Marli De Mello Paz
Escola Brasileira De Artes
Rua Mathias Jose Bins. 530
Bairro Tres Figueiras
Caixa Postal, 2400
Porto Alegre – RS
Brasil

COLOR SCIENCE ASSOCIATION OF JAPAN

The following are the officers of the Color Science Association of Japan for 1980-1982.

President – Prof. Tamotsu Fukuda, Ohtsuma Women's University.

Vice-President – Prof. Yasuo Ohta, Tokyo Medical College.
Prof. Hiroshi Nakamura, Nagoya Institute of Technology.
Mr. Shuji Kojima, Osaka Branch of Japan Color Research Institute.

Reserved for contributions from ISCC Member-Bodies.

CALENDAR

ISCC Annual Meetings

1981: April 27-28 – Roosevelt Hotel, NY

Williamsburg Conferences

1981: February 9-11
1982: February 7-10
1983: February 6-9
1984: February 12-15
1985: February 9-13
1986: February 7-12

Dry Color Manufacturers Association

1981: The Greenbrier, White Sulphur Springs, WV, June 14-17

Federation of Societies for Coatings Technology

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

Society of Plastics Engineers, Color and Appearance Division

1981: RETEC, Chicago.

1981: ANTEC, Boston Sheraton, May 4-7

Gravure Technical Association

1981: Drake Hotel, Chicago, April 7-9

1. Any person interested in color and desirous of participating in the activities of the Council for the furtherance of its aims and purposes . . . shall be eligible for individual membership (By-Laws, Article I, Section 2). Application forms for individual membership may be obtained from the Secretary (address given above).

2. The Council re-affirms its community of interest and cooperation with the Munsell Color Foundation, an independent private foundation devoted solely to the advancement of color knowledge in science, art, and industry. It serves as Foundation Associate of the Inter-Society Color Council. The Council recommends and encourages contributions for the advancement of these purposes of the Munsell Color Foundation. For information, write to S. L. Davidson, NL Industries, P.O. Box 700, Hightstown, N.J. 08520.

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

Deadlines for submitting items to be included in the Newsletter are: February 15, April 15, June 15, August 15, October 15, and December 15, in other words, the fifteenth of the even-numbered months.

Send Newsletter items to Editor:
Dr. William Benson
636 Massachusetts Ave., N.E.
Washington, D.C. 20002
301-565-4948

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