

INTER-SOCIETY COLOR COUNCIL

NEWS LETTER

NUMBER 158-159

March-June 1962

ISCC 31ST ANNUAL MEETING, NEW YORK CITY

147 registered for the 31st Annual Meeting at the Statler Hilton Hotel, New York City, March 12-13, 1962. All active Problems Subcommittees met on Monday, and the regular meeting was held on Tuesday. (Details of the meeting will appear in the next issue of the NewsLetter, the Annual Meeting Issue.)

It was expected that Professor Isay Balinkin, University of Cincinnati, would be the Guest Lecturer at the banquet Tuesday evening. Unfortunately, due to an illness, Professor Balinkin could not present his lecture. Ordinarily, cancellation on such short notice would be a catastrophe. In this instance, however, Mr. Ralph Evans, Director, Color Technology Division, Eastman Kodak Company, and Secretary of the ISCC, pulled a lecture "out of the hat". His topic was Hue, Saturation and Lightness in Photography and Television. The pinch hitting was so professional that the audience soon forgot that anything was amiss in the program.

At the meeting the new officers and directors for the next two-year term were announced. They are:

President	William J. Kiernan, ASTM
Vice-President	Ralph E. Pike, FSPT
Secretary	Ralph M. Evans, SMPTE
Treasurer	Norman Macbeth, IES
Directors	Mrs. Blanche R. Bellamy, OSA
	Hugh R. Davidson, AATCC
	Randall M. Hanes, APA
	Richard S. Hunter, TAPPI, OSA

According to the By-Laws, the vice-president is the president-elect and succeeds to the presidency, and the retiring president (G. L. Erikson, NAPIM) automatically becomes a director for a period of two years.

The President announced that the 1963 and 1964 meetings will be held in New York City. Topic for the 1963 meeting will be "instrumentation." Topic for the 1964 meeting will be "Color in Education." (The New York World's Fair is expected to open in April.)

The meeting was made all the more interesting by a number of ingenious touches. Among them were the distribution of samples of metameric pairs.

The following members cooperated to produce samples in textiles, printing ink, artists' colorants and paint:

Roland Derby, The Derby Co., Dir. ISCC, Chairman, Problems Committee
G. L. Erikson, Braden-Sutphin Ink Co., Past Pres. ISCC, Director
Walter Granville, Consultant, Past President
Ralph Pike, duPont Company, Vice President ISCC
Warren Reese, Macbeth Corporation, Program Co-chairman (1962)

**TWO ORGANIZATIONS BECOME
NEW MEMBER BODIES**

At the Board meeting preceding the annual meeting, the Officers and Board of ISCC approved and recommended acceptance of the applications of two organizations: the Dry Color Manufacturers' Association and the Society of Plastics Engineers. Their acceptance, by vote of the delegates at the annual meeting, brings the number of Member Bodies to 29. Both will be included in the new directory along with their delegates.

Chairman of the Delegation to ISCC from the Dry Color Manufacturers' Association is Max Saltzman, National Aniline Division, Allied Chemical Corporation, 40 Rector Street, New York 6, N. Y. Chairman of the Delegation to ISCC from the Society of Plastics Engineers is Dr. Fred W. Billmeyer, Jr., Plastics Department, E. I. duPont de Nemours and Company, Inc., Wilmington 98, Delaware.

**DRY COLOR MANUFACTURERS'
ASSOCIATION**

The objects of the Association as stated in the By-laws, are to promote the common welfare of those engaged in the manufacture of pigment colors in the United States, and to undertake by such means as may be proper and lawful to furnish trade information and to afford service. This is of course a rather perfunctory statement and does not in any manner indicate the work that is actually being undertaken.

As you are aware, the Association has recently set up a Technical Committee, of which the very competent Max Saltzman is Chairman, and whose work would comprehend the development of information and the solution of problems of interest to the customers of our members. The Association is now about 34 years old, having been formed originally in 1928. Included in its membership are 23 producers of pigments of both inorganic and organic origin. It is estimated that the total value of the business of the members is not greatly less than one hundred million dollars which appears to be the measure of the entire industry. The Association does not concern itself with black pigments, white pigments, or with the natural earth colors. The industry has about 53 plants located in sixteen different states, largely centered in New Jersey and in New York, New Jersey having 19 plants and New York 11.

Just at the present time our efforts are directed largely to the tariff situation which is very critical to this industry. Mr. C. Kenneth Egeler of the Sherwin-Williams Company, Chairman of our International Relations Committee, is appearing on April 9th before the Ways and Means Committee of the House of Representatives, in opposition to H. R. 9900. The efforts of this same com-

mittee in connection with the GATT hearings recently completed at Geneva, were quite successful in preventing serious reductions in tariff rates on pigments. The preparation of the necessary data for presentation to the Tariff Commission and to the Committee for Reciprocity Information entailed a great deal of very comprehensive study in collaboration with counsel, Barnes, Richardson and Coburn.

The foregoing will give you some idea of the nature of the work which this group is undertaking and the fields in which its interests lie from the Association point of view. We are very hopeful that as time goes by the accomplishments of our Technical Committee will prove to be very real contributions to the sum total of knowledge in the use and application of color pigments.

Clyde D. Marlatt
Secretary

SOCIETY OF PLASTICS ENGINEERS

The Society of Plastics Engineers, Inc. became a member-body of the ISCC at the annual meeting in New York, March 13, 1962. The SPE is an international scientific and educational organization of some 9,000 individual members in the U. S., in Canada, and abroad. The primary objective of the Society is to promote scientific and engineering knowledge related to plastics and to develop and disseminate such knowledge as it relates to plastics materials - their structure and properties; plastics products - their fabrication and applications; and the machinery and equipment used in plastics processing.

The SPE was founded in 1941, and has grown with the industry to sponsor today 45 geographical sections in this country and abroad. It is actively and effectively advancing plastics scientific theory and fundamental engineering technology and, by such activity, enhancing the status of the plastics engineer and scientist.

Realizing that each technical specialty within its field requires its own specific and specialized technical fundamentals, the Society serves particular segments of the industry through Professional Activity Groups - PAG's. Each PAG offers a means by which those interested in a particular technical aspect may work together to find solutions to mutual problems and advance their particular phase of plastics engineering. The PAG's also serve as the Society's major source of authoritative data in their individual technical field.

In 1960 the Coloring in Plastics PAG was formed as the 16th such group within the SPE. While its first members were largely plastics processors and colorant suppliers unschooled in color technology, the PAG subsequently requested affiliation with the ISCC and has established close relations with members of the ISCC. Recognizing as its major objective the dissemination of information on color technology at a level useful to the plastics engineer, the PAG has undertaken an educational program including the presentation of papers at the SPE's national, regional, and local meetings, and other appropriate activities. ISCC members have played a prominent part in this program, which is successfully satisfying a recognized need in the plastics industry. Address of the National Office is: 65 Prospect St., Stamford, Conn.

F. W. Billmeyer, Jr.
Chairman
SPE Delegation to ISCC

NEW MEMBERS The following applications for individual membership were accepted at the last Board of Directors' Meeting held in New York City on March 11, 1962.

Individual MembersParticular Interests

Mr. Richard G. Alexander
4710 Stenton Avenue
Philadelphia 44, Pennsylvania

Formulation and production of paint and specialty decorative coatings.

Mr. George E. Baer
408 North George Mason Drive
Arlington 3, Virginia

Functional and decorative uses of color in architecture, particularly interior design. Color in furniture and furnishings. Transmission of color requirements, by specification, to suppliers and contractor.

Mr. C. Wesley Bullock
2802 Thomas Street
Flint 4, Michigan

Applying principles of color technology to color development, styling, manufacture, and control of automotive paint products.

Dr. Chester E. Claff, Jr.
M. B. Claff & Sons, Inc.
506 N. Warren Avenue
Brockton 55, Massachusetts

Control of color in printing; color in advertising; printing ink technology.

Dr. Stewart Clare
503 1/2 East Eastwood
Marshall, Missouri

Interested in all aspects of color: art, physical, chemical, psychological, etc. Although I paint-design in color "abstractions" my approach is scientific in point of view.

Mr. Grant E. Davidson
Research Division
Ontario Hydro
200 Kipling Avenue South
Toronto 18, Ontario

Spectrophotometry, color calculations and computations and allied color measurements, colorimetry.

Mr. B. B. Dieter, Editor
Better Homes and Gardens
1716 Locust
Des Moines 3, Iowa

Graphic arts.

Mr. Howard Kenn Elliot
18 East 48 Street
New York 17, New York

I am interested in color from a psychological standpoint, as far as creating backgrounds and atmosphere for living.

Mr. Simão Goldman
Av. Borges de Medeiros, 340
8. andar - Conj. 84
Porto Alegre, Brazil

Color as main factor of the daily lives environment. I may start in package design.

(Cont'd.)

Individual Members

Mr. Ken Helms
2110 South Ash Street
Denver 22, Colorado

Mr. Charles H. Keen
P. O. Box 724
Norristown, Pennsylvania

Mr. Henry W. Levison
2700 Highland Avenue
Norwood Station
Cincinnati 12, Ohio

Mr. Warren G. Lewis
Code 2122
U. S. Navy Electronics Laboratory
San Diego 52, California

Miss Sara Little
111 East 56 Street
New York 22, New York

Mr. Richard Lurie
c/o Taubmans Home Decoration
Services
T. & G. Building
Stanley Street
Townsville, Australia

Dr. Sidney M. Newhall
Route 1
Long Lake, Minnesota

Mr. Malcolm D. Paterson
1202 6 Street, Apt. 1
Santa Monica, California

Mr. Lloyd R. St. Romain
201 Cassel Drive
Kingsport, Tennessee

Particular Interests

The use of color as applies to all building and furnishing materials and the further coordination with furnishings on both commercial and residential type work.

What affects paint color variations and how this is perceived.

Pigments, permanency, especially in art use. Basic present investigational work-standardized test for fading of artists' colors, simple method of reporting percent fade.

Color vision and color blindness.

Home furnishings, food, medical, etc.

Its effect on the individual and its application in interior decoration. Color preference and color theory application tie up, is the major present study.

Color perception, color appearance specification, color consultation.

Color notation systems, color harmony and color vision. As I am going to be a professional photographer, I feel that the greater my knowledge of color theory the greater the possibility to use color photography creatively.

Color control of solution dyed yarns.

(Cont'd.)

Individual MembersParticular Interests

Mr. Robert B. Sankey
804 Glenhaven Avenue
Fullerton, California

Instrumentation for color determination.

Mr. Robert E. Sherman
775 Lonita Street
Baton Rouge, Louisiana

Home furnishings industry, building industry, display.

Mr. Roy C. Trammel
Belk Stores Service Inc.
308 E. 5th Street
Charlotte 1, North Carolina

Color for use in retail department stores as selling tool and decor.

The following applications for individual membership were accepted at the last Board of Directors' Meeting held in Flint, Michigan, on June 18, 1962.

Mr. Robert A. Charvat
B. F. Goodrich Chemical Co.
Development Center
P. O. Box 122
Avon Lake, Ohio

Its use in plastics to obtain desirable products. Also, the technical and commercial facets of colorants in plastics.

Mr. Robert A. Corbitt
151 Baycrest Drive
Rochester 22, New York

The successful use of color photographic systems in industrial, commercial, portrait, scientific, school and press applications.

Mr. Robert P. Dryden
122 College Avenue
Lancaster, Pennsylvania

Control of color, color differences.

Mr. Donald L. Dunklee
School of Architecture
University of Manitoba
Winnipeg, Manitoba

Teaching, application and control of color in architecture and interior design.

Mr. Robert Eppinger
Baumritter Corporation
145 East 32nd Street
New York, New York

Standard systems for naming colors and a workable system for determining color popularity.

Dr. Martin E. Everhard
Squibb Institute for Medical
Research
New Brunswick, New Jersey

Stability of dyes.

Mr. Robert L. Feller
Mellon Institute
Pittsburgh 13, Pennsylvania

Color in art objects, ancient colors, fading.

(Cont'd.)

Individual Members

Mr. Gilbert M. Garte
175 Dartmouth Street
Boston 16, Massachusetts

Mr. William D. Hall
407 Arlington Avenue
Elmhurst, Illinois

Mr. Edward Kallop
Cooper Union Museum
Cooper Square
New York 3, New York

Mr. Edward L. Lewis
Instrument Development Labs.
67 Mechanic Street
Attleboro, Massachusetts

Mr. Reese H. Lewis
1804 Broadway Street
San Francisco, California

Mrs. Sally C. Liberman
Liberman Associates
510 Madison Avenue
New York, New York

Mrs. Angela C. Little
Dept. of Nutritional Sciences
313 Hilgard Hall
University of California
Berkeley, California

Mr. V. L. Marquart
6252 Calle Camellia
Scottsdale, Arizona

Mr. John A. Maurer
116-118 West 29th Street
New York 1, New York

Particular Interests

1) The creating of "atmosphere" thru color and light. 2) The psychology of color and light as applied to sick persons and special situations interiors such as operating rooms and submarine spaces, etc. 3) Photographic research to determine the existence of "color constants" in painted art.

Its application to printing processes.

Research in specific areas of color as they are independent, and interdependent, with particular interest in color exhibition at Cooper Union in 1964.

Color measurements with "Color-Eye" differential and absolute - all applications of Color-Eye.

As it relates to design, form and personal psychology to color.

Color psychology, trends in the industry, effect of light upon color in interiors, and more technically, the human eye and color.

Specification of color, color changes and color tolerances in foods and food products.

Photomechanical color separations and color printing.

Sound color motion pictures.

(Cont'd.)

Individual MembersParticular Interests

Mr. Constantin J. Monego
Course Brook Road
Sherborn, Massachusetts

Color matching through measurement;
metamerism; effect of light and surround
on color matching.

Mr. Christian Rohlifing
334 East 25th Street
New York 10, New York

The projecting in exhibition form of the
interrelationships of color interests for
the Cooper Union Museum, and the possible
organization of a Color Center for the
Museum.

Mr. Laurence R. Sherman
Imperial Color & Chemical
Department
Hercules Powder Company, Inc.
Glens Falls, New York

The application of chemical pigment
colors to all types of surfaces and
matrices.

Mr. James E. Simpson
Ferro Corporation
4150 East 56th
Cleveland 5, Ohio

Develop and promote new products.

Mr. David L. Spooner
FMC Corporation
P. O. Box 580
Santa Clara, California

Industrial color instrumentation and
control development and application.

Mrs. Harvey E. White
12812 Friar Street
N. Hollywood, California

Color as used in interiors, house,
schools, etc.

Mr. Karel Yasko
5313 Russett Road
Madison 11, Wisconsin

Architecture.

MARTIN H. FISCHER
1879-1962

The Inter-Society Color Council lost a valued friend
and enthusiastic supporter when Dr. Martin H. Fischer
died on January 19, 1962, in his eighty-third year.

Dr. Fischer was a man of diverse talents - doctor of medicine, professor of physiology, chemist, lecturer, artist, biographer and philosopher, "never weary of discussing any or everything under the sun." For more than forty years he started the freshman medical students on the road to medicine. His beautiful lecture room with its fifteenth century Italian apothecary shop on the second floor, south, of the College of Medicine, University of Cincinnati, was the setting for his "Socratic dialogues" with more than 4,000 students. He endeavored to stir up his young charges to clearer and better thinking. His job, as he saw it, was to convert these students into mature citizens with a tolerance for their fellows, a reverence for life and their profession, and a tireless zeal for the work which they had chosen.

Some of Dr. Fischer's classroom "asides" were collected by two of his students, and appeared in a small book entitled, Fischerisms. Samples are: "Facts are not science - as the dictionary is not literature. -- Whenever ideas fail, men invent words. -- All the world is a laboratory to the inquiring mind. -- Equipment discovers nothing. -- Education should be exercise; it has become massage. -- Surgery is the cry of defeat in medicine. -- More imagination with quiet thinking is needed. -- Only an artist with a part of God in him can see beauty in the commonplaces of life. -- When the flag rides at half-mast for me, restrain your tears. I'll be rejoining the company of God's men and my dog."

Dr. Fischer's interest in color and pigments developed in the early 1920's and came to a head with the publication of The Permanent Palette in 1930. As an art lover and amateur oil painter, he observed how soon some paintings lost almost completely their brilliance, and how others survived years as living examples of the artist's design. In the Preface, Dr. Fischer says: "I painted for several years before any professional tried to teach me and I took up the matter originally not because I thought myself capable of painting pictures but because I had a scientific interest in the materials of which pictures are made and the principles underlying their production."

Early in 1931 he gave a series of lectures on "permanent painting" under the auspices of the American Artists Professional League and the Fine Arts College of New York University. He was made a member of the National Committee on Technic and Education, AAPL, in January of 1933, in which post he was active for many years. February 22, 1947 he was awarded its Gold Medal of Honor at their annual meeting in the Salmagundi Club.

Dr. Fischer was long interested in the activities of the Inter-Society Color Council, serving for several years as a delegate from the AAPL. On February 8, 1952, he took part in the program of our annual meeting -- "Color in Science, Art and Industry" -- by presenting a paper on "Artists and their Pigments." It gave Dr. Fischer the opportunity to expound on his many years of work leading to the possibility of providing fine arts painters with colorants which will endure.

Wolfgang Ostwald (the son of Wilhelm Ostwald, originator of the well-known color system) paid tribute to Dr. Fischer on presenting him with the International Prize of the Kolloid-Gesellschaft at Innsbruck in 1924. Ostwald remarked that he had had the good fortune to know many great minds but that a great heart did not always accompany them; when the two are found remarkably well-developed, and together, we hail that man as great. This term aptly fits Dr. Martin H. Fischer.

Isay Balinkin

BONUS With this issue of the Newsletter is enclosed a copy of the duPont "Refinisher News." It describes the color facilities at the Color Research Headquarters maintained by the duPont Company in Flint, Michigan, for the automotive industry. The Officers and Directors of ISCC held their last meeting in Flint and visited the center. These arrangements were made through the courtesy of Ralph Pike, ISCC Vice-President. Ralph also made available copies of the enclosed periodical describing the center. Readers will also be interested in Mr. Norman Mooney's look into the future. Mr. Mooney is duPont's Color Advisor.

The membership of the Council was recently sent under separate cover a manual entitled Attitudes on Color and Light which was made available to the Inter-Society Color Council by the American Marietta Company. The manual was designed and prepared by Walter Granville, Industrial Color Consultant. Readers may recall the manual Wood Color in Relation to Illumination and Color Environment also produced by Walter Granville, and made available to ISCC through the courtesy of the American Marietta Company.

**SOCIETY OF PLASTICS
ENGINEERS HOLDS COLOR
CONFERENCE**

The Rochester section of the Society of Plastics Engineers held a Regional Technical Conference on "Color and Coloring of Plastics" April 12, 1962, in Rochester, N. Y. The Rochester Section has 250 members, and 300 individuals registered for the Conference. Maret Bacci, Vogt Manufacturing Company, was Chairman of the Conference. Most of the talks were published in a preprint which was distributed at the meeting. The speakers and topics were:

R. M. Evans	Color Principles - Physics, Physiology and Psychology
G. H. Moede	Color Selection for Telephones
T. G. O'Brien	Color Quality Control
G. W. Ingle	FDA Regulations
H. C. Felsher	Color Principles and New Color Effects
H. R. Davidson	Color Matching
R. H. Zabel	Titanium Dioxide Pigments
F. W. Billmeyer, Jr.	An Objective Approach to Coloring

**JOURNEES INTERNATIONALES
DE LA COLEUR**

The Sixth International color meeting was held in Evian, France, June 26 through 29, 1962. It was organized by the Centre D'Information De La Couleur, 23 Notre-Dame-Des-Victoires, Paris. Session topics were: Colorimetry, Physiology-psychology-esthetics, Colloquium of Colorists-Consultants, Teaching-Bibliography-Documentation, and Practical Applications of Color.

**THE COLOUR COUNCIL
OF CANADA**

The first half of the tenth year of The Colour Council of Canada has been a colorful one. The anniversary was celebrated at the Annual Meeting, May 8, 1962. W. E. Carswell, Past President of the Council, was the principal speaker. His topic was "Colour in Pictorial Composition (can you enjoy abstracts?)."

A progress report on mass testing of pupils in elementary schools for color-vision deficiencies was the topic of the February meeting. Speakers were Dr. A. G. S. Heathcote and Mr. D. S. Macpherson. This project was reported in NewsLetters No. 147 and 148. During 1960-61, more than 13,000 sixth grade pupils in Toronto were tested. The purpose of the test is largely vocational, being an attempt to discover those with color vision defects at a sufficiently early age to dissuade them from study courses, leading to some trades or professions where such a defect would be a handicap to employment.

It was strongly emphasized that it is quite impossible to diagnose the presence of a color vision defect on the results of the group test alone. Individual testing with the original test plates must be done where applicable. A short abstract of the statistics shows:

	<u>Boys</u>	<u>%</u>	<u>Girls</u>	<u>%</u>
Number tested	6,906	100.0	6,559	100.0
Minimal unclassified defects	113	1.64	63	0.96
Red-Green defects	331	4.82	13	0.2

A few cases of apparent achromatic vision have been referred to the Defense Research Medical Laboratories for further study, the results of which are not yet available.

Other meetings of the Council in 1962 were:

- January "Adventures in Colour", Mr. E. Victor Gringer
- March "A Plan for Colour Education to Develop Early Sensitivity to Colour", Mr. Frank R. Halliday
- April "Colour in Ceramics", Mr. John Sullivan.

**THE COLOUR GROUP
(GREAT BRITAIN)**

The first Annual Meeting of the Incorporated Colour Group was held May 2, 1962, at the Imperial College of Science and Technology, London. The Group was formerly incorporated as part of the Physical Society. The officers and committee of the new group are:

Chairman	Dr. R. W. G. Hunt
Vice Chairman	Mr. G. J. Chamberlin
Honorary Secretary	Mr. F. J. B. Wall
Honorary Treasurer	Mr. J. M. Adams
Ordinary Members of Committee:	Mr. G. E. V. Lambert
	Dr. J. D. Moreland
	Miss M. Morris
	Mr. G. B. Townsend
	Mr. M. H. Wilson
	Professor W. D. Wright

The Colour Group (Great Britain) was incorporated to continue the work of The Colour Group of the Physical Society. From 1940 to 1960 this Group provided for those interested in the science of color opportunities to hear and discuss papers of mutual interest, and take part in various other activities such as visits and exhibitions.

A synopsis of the aims of the group may be stated as follows:

- 1) to promote the study of color in all its aspects, and also the related aspects of vision;
- 2) to provide an opportunity for the various groups of people concerned with the scientific, industrial, aesthetic, and educational aspects of color to meet and become familiar with each others' problems;
- 3) to enable a representative opinion to be formed on various questions of standardization, specification, nomenclature, etc., in order to assist research;
- 4) generally to encourage investigations of color phenomena and the measurement of color, to ensure that this country shall keep abreast of developments abroad, and to assist in the dissemination of color knowledge;
- 5) to issue publications and to hold meetings and organize conferences, exhibitions, and such other activities as may be considered necessary or desirable to achieve the above objects or any of them.

The address of the registered office is: Institute of Ophthalmology, Judd Street, London, W.C.1.

In addition to the Annual Meeting, the group has held four Science Meetings:

December, 1961	Dr. B. H. Crawford	Colour Vision and Adaptation.
January, 1962	Mr. G. E. V. Lambert	Liquid Filters.
	Prof. W. D. Wright	Russian Proposal for Redefinition of Standard Sources for Colorimetry, S_B and S_C .
	Mr. G. T. Winch	Photon Counting in Precision Photometry and Colorimetry
February, 1962	Dr. E. Atherton and	High Speed Electronic Computers in Colour Matching.
	Mr. D. Tough	Characterisation of Solvent Soluble Dyes by Optical Transmission Methods.
	Mr. I. F. Trotter	
March, 1962	Mr. P. S. Carnt and	Colorimetry in Secam and N.T.S.O.
	Mr. G. B. Townsend	Colour Television Systems.

At the Annual Meeting, May 2, Mr. S. S. Gindy discussed "Colour Contrast Effects and Their Measurement." Mr. I. Nimeroff's topic was "Variability in Colorimetry."

Unusual summer opportunities were open to members of the Colour Group. On July 4 they were invited to visit Tintometer Ltd. to see colored glass made and to observe the manufacture of colorimeters. During the week of June 18-22, the Battersea College of Technology held a Summer School on Colour Reproduction. The course was intended to meet the needs of those concerned with color printing, color photography and color television. The first part of the course covered the fundamentals of color reproduction, vision and color rendering, and pigments and dyestuffs in a general way. The second part dealt with the three main topics in detail. Lectures were followed by discussions, visits to laboratories and works concerned with color reproduction.

THE COLOR SCIENCE ASSOCIATION OF JAPAN
ISSUE ACTA CHROMATICA

The Color Science Association
of Japan (c/o Prof. R. Hioki,
Department of Applied Physics,

Faculty of Engineering, Tokyo University, Motofuji-cho 1, Bunkyo-ku, Tokyo, Japan) which has been working for the development of color science, has decided to publish Acta Chromatica, a publication in European languages, once a year. It will contain an essay introducing the present status of the science of color in Japan and works by specialists in psychology, physiology, physics, engineering and aesthetics.

The editing committee (Chairman: Prof. R. Hioki) has decided that contributions to it from wide international circles would be welcome. For its first number Dr. G. Wyszecki of the National Research Council of Canada has contributed a paper. The contents of Volume 1, Number 1, the issue of which is expected to be August 1962, are as follows:

1. G. Wyszecki Metameric Object Colors
2. L. Mori, H. Sugiyama and N. Kambe Influences of Illuminating and Viewing Condition and Gloss of Surface upon Colorimetric Results
3. T. Fukuda and Y. Sugiyama The Evaluation of the Whiteness of Samples Whitened by Fluorescence
4. R. Taguti and M. Sato Exponential Color Coordinate System
5. H. Masaki Recognition of Blue-Purple Signal Light
6. R. Hioki and H. Takasaki Some Studies on Human Visibility

Dr. Shigeharu Uchida

LETTER TO THE EDITOR

Dear Editor: If the Newsletter is interested in information of an activity of two South American members of the Inter-Society Color Council, here it is:

"For the first time in Brazil, and we presume it is unique in South America, 'Color Dynamics' is the subject of lectures at a university.

"On the 24th of March this year at the Institute of Psychology of the Faculty of Philosophy of the Catholic University of Rio Grande do Sul, Pôrto Alegre, Brazil started a course on 'Color Dynamics' as a postgraduation course and as official subject of the third year of psychology students.

"The teachers are:

Dr. Simão Goldman - color in environment.

Mr. Hanns P. Struck - color how it affects human behavior and color as communication media in publicity."

I would also like to inform you that I am teaching "Color Dynamics" at the regular Communication Media Seminars held by the Ministry of Education of Brazil in cooperation with the US AID, under the district coordinator, Mr. James Grazier.

Hanns P. Struck

NEW COLOR STANDARDS FOR
CHECKING TRISTIMULUS INTEGRATORS

Sets of standards for checking the performance of spectrophotometers with tristimulus-integrator attach-

ments have been developed by the National Bureau of Standards, Washington, D.C. Each set consists of five glass filters: A selenium orange red, a signal yellow, a sextant green, a cobalt blue, and a selective neutral. They will become available in April as standard-sample item 2101-2105 at a price of \$250.00 per set. Each set will be issued with a report of tristimulus values for CIE sources A, B, and C, representing incandescent-lamp light, noon sunlight, and average daylight respectively. It is intended that through the use of these standards the user of a spectrophotometer integrator combination will be able not only to determine when his instrument goes out of adjustment, but also, from the pattern of the discrepancies between measured and reported tristimulus values, to obtain some clue as to the type of maladjustment. To assist the user in his interpretation of this pattern, information has been supplied on the changes in tristimulus values of these glasses caused by errors in the 100% and zero adjustments of the photometric scale, wavelength scale errors, slit-width errors, errors from stray energy, and inertia errors of the recording mechanism. This information is given in a paper, "Glass filters for checking performance of spectrophotometer-integrator systems of color measurement," by Harry J. Keegan, John C. Schleter, and Deane B. Judd, which is scheduled to appear in the May-June 1962 issue of the Journal of Research of the National Bureau of Standards, Section A. A preprint of this paper is to be issued with each set of standards.

Deane B. Judd

ANOTHER COLOR LECTURE
BY RALPH EVANS

Hue, Saturation and Lightness in Photography and Television is the title of a new lecture by Ralph M. Evans, Director of Color Technology, Eastman Kodak, and Secretary of ISCC. While Mr. Evans was in Flint, Michigan, for the Board of Directors meeting, eight societies interested in color arranged for him to present his lecture.

The lecture is a tutorial paper covering a number of perceptual factors as they affect color photography and color television. There is first a discussion on the perceptual variables hue and saturation, followed by a somewhat detailed discussion of the concepts involved in the terms lightness and brightness. This discussion is in the terms of the "modes of appearance" of colors. This is followed by consideration of the consequences of the facts of metamerism and color and brightness adaptation. The paper concludes with a study of the relationship of the above variables to the C.I.E. System.

JAPANESE STUDIES
OF COLOR

Volume 8, Number 2, 1961 of Studies of Color by the Japan Color Research Institute contains two articles on color and one which might be of interest to colorists.

Paper 1. "The Application of CdS Photoconductive Cells to Photometry," by Genro Kawakami, Yoshihiro Hashimoto, and Yasuhiko Kawasumi. A CdS photoconductive cell has been widely used for automatic switches, counters, etc., but it is generally said that it is not yet easy to use for photometry. The authors take interest in it because its detecting area is smaller and its impedance is higher than the photo-cell. A receptor with a small area may be used to produce a compact and portable instrument, and a receptor with high impedance may be easy to amplify.

"This article includes the following two reports: an investigation of the photoconductive spectral characteristics of CdS on the market, and an experimental result of the trial manufacture of a color-temperature meter and a turbidity meter. The electric circuit of both meters consists of the wheatstone bridge which contains CdS cells in the two branches.

"Ratio of incident light intensity on both of the CdS cells is measured by variable resistors in the other branch.

"The color-temperature meter, which could be produced in very compact size, was very convenient for measurement of subjects of low illuminance within 50 lx.

"The turbidity meter was convenient for an examination into an optical state of semi-opaque subjects without cutting a part of them, such as human skin, butter, plastics, etc.

"A part of the research expenses conferred from the Ministry of Education of Japan was spent on this study."

This article starts with a discussion of the solid-state physics of CdS, different types of receptors of this material, and graphs showing the "photo current - irradiation characteristics, voltage dependency of photo current and spectral sensitivity curves" of four cells. Pictures of the two meters are given along with their electric circuits and other diagrams.

Paper 2. "Study on the Memory of Color," by Miyo Shiba. The memory of saturation of color is determined by experiments conducted by using the method of average error and the method of constant stimuli. The material of the experiment consists of pieces of colored paper of Munsell notation hue 5R value 5 which vary in gradual degrees of saturation only.

"By the 'method of average error' used, it can be found that low-saturation colors are remembered at a lower level than the original. The converse is true for high-saturation colors which are remembered at a higher level. The degree of memory deviations from the original color prove to be almost linear in function to the norm. The point at which there appears to be the minimum amount of deviation is near 3.5 chroma of Munsell notation.

"By the 'method of constant stimuli' used, it can be found that all stages of saturation are remembered at a higher level than the original. Memory deviations fall into the following three major categories: 1) low saturation stages show a very small amount of deviation; 2) high saturation stages show a fairly large amount of deviation; 3) middle saturation stages show the amount of deviation to be almost constant.

"Comparing the results of both the methods, the author concludes that the general tendencies (trends) coincide but that the levels of memory deviation are different from one another."

Figure 1 of this paper appears to be the same as Figure 6 of Newhall, Burnham, and Clark's paper. The Bibliography is interesting and is reproduced here:

- 1) Hering, E.; Grundzuge der Lehre von Lichtsinn. 190.
- 2) Koffka, K.; Principles of Gestalt Psychology. 1935.
- 3) Katz, D.; The world of colour. 1935.
- 4) Bruner, I. S., Postman, L., and Rodrigues, I.; Expectation and the perception of color. Amer. J. Psychol. 64 (1951) 216-227.
- 5) Baker, K. E. and Mackintosh, I.; The influence of past associations upon attributive color judgment. J. Exp. Psychol. 49 (1955) 281-286.
- 6) Hanawalt, N. G. and Post, B. E.; Memory trace for color. J. Exp. Psychol. 30 (1942) 164-172.
- 7) Burnham, R. W. and Clark, J. R.; A test of hue memory. J. Appl. Psychol. 39 (1955) 164-172.
- 8) Newhall, S. M., Burnham, R. W., and Clark, J. R.; Comparison of successive and simultaneous matching of color. J.O.S.A. 47 (1957) 43-56.
- 9) Hellmig, E.; Versuche über das Farberinnerung svermögen II. Die Farbe 9 (1960) 73-111.

Paper 3. "The Color Planning of a Recreation Ground - 'Dream Land' in Nara, Japan," by Hakuichiro Oizumi, Takashi Hosono, Kiyoshi Okawara, Takaaki Sasaki, Yoshio Ooi, Takako Nakada, and Terunari Imamura.

There is no abstract of this paper, unfortunately, but from the perspective drawing and other illustrations, it is very similar to Disney Land. "Dream Land" station and "Benkei" the locomotive engine bear a close resemblance to their counterparts in California. Other illustrations show a main street, obviously a main street in a small American town with a Dry Goods store and Coca Cola sign, a side street obviously English, and another side street, obviously German.

The colors of the various parts of the buildings, carriages, etc., are specified in terms of the "D.C." system which appears to have 236 colors. These colors are shown (in black and white) in the form of a fan such as the Nickerson Fan and in separate samples. A considerable study was made of the stability of these "D.C." colors for use in Dream Land and the results are given in an impressive table in which the stability is described as very good, good, and bad.

Kenneth L. Kelly

COLOUR AND PERCEPTION

A recent paper by M. H. Wilson and R. W. Brockelbank, reprinted from Contemporary Physics (3, 91-111, Dec. 1961) contains an outstanding discussion of several aspects of color and perception, and of the essential difference between color as it is measured and specified (all colors that look alike under specified conditions must have the same specification), and color as it is perceived (the appearance of colors, which includes "discounting the illuminant"). While "the work of Edwin Land in the Light of Current Concepts," the subtitle of the paper, is the basis for the paper, the discussions themselves are so fundamental, and so clearly put, that no student of color perception and its relation to modern colorimetry should fail to study this paper carefully.

The authors conclude that when textbooks come to be rewritten we can expect changes that will direct more attention to problems of perception, and to making quite clear the distinction between color as a characteristic of light, and as a perceived property of objects. The paper contains a clear outline of Land's experiments, and provides references to papers by a number of scientists who have investigated Land's work and published their findings. It discusses confusions in terminology, color measurement, and color perception.

This reviewer agrees with the authors that while it has become increasingly clear that Land's assumptions about classical color theory were erroneous, nevertheless his demonstrations, and the questions they raise, have been a big help in turning the spotlight on the subject of color perception to such an extent that many careful and thoughtful discussions published as a result of the Land's demonstrations, are calling the attention of color scientists of the present and coming generation to many important and little understood problems that still must be answered in this field.

This Wilson-Brockelbank report is recommended reading for any serious student of color science.

Dorothy Nickerson

**NEW SERVICE CENTER FOR BUSINESSMEN
OPENS IN WASHINGTON**

center at which visitors to the Nation's Capital can get answers to their queries on the functions and activities of the U. S. Government relating to business.

The U. S. Department of Commerce has inaugurated a new service for business--a "one stop" information

The Business Service Center is located in the foyer of the auditorium on the first floor of the Main Commerce building, Fourteenth Street, N. W., between E Street and Constitution Avenue. Its telephone number in Washington is Worth 7-5201.

The Center was formally dedicated to the service of business by Secretary of Commerce Luther H. Hodges on Tuesday, November 14, 1961.

"The need for a facility of this sort, in a central location, long has been recognized," Secretary Hodges said in announcing plans for the opening.

"The Government is so big that visiting businessmen and others seeking information on business problems are likely to be at a total loss in locating desired sources. To make the businessman's path smoother, our small but knowledgeable professional staff will be at his service, answering his queries on the spot or arranging contacts for him elsewhere in the Department of Commerce or in other Federal departments. We expect to speed up the businessman's contacts with his government and to save him lost motion which can be put to more productive use in behalf of economic growth."

J. Richard Queen, of Waynesville, N. C., has been appointed Manager of the Business Service Center. He joined the Commerce Department last March as legislative liaison for the Bureau of Public Roads after serving as a staff aide on Capitol Hill to Senator B. Everett Jordan, of North Carolina. Louis A. Traxel, of the Department's Business and Defense Services Administration, will serve as the Center's business analyst.

The Center will be open five days a week, from 8:30 a.m. to 5:00 p.m. with staff members available to put the visitors in touch with Government people with the wanted information.

Secretary Hodges emphasized that the Center will coordinate its activities with other departments so that its activities will supplement and complement the regular operations of those departments, and promote their services.

The Center will also serve the embassies and other representatives of foreign governments as a referral center for business information. In handling inquiries from foreign sources, the Center will draw on a roster of nearly 400 employees with foreign language skills.

Another task of the Center will be the coordination and scheduling of out-of-town requests from high school and college classes for educational seminars at the Department of Commerce.

"COLORATION"
SYMPOSIUM REPORTED

The December 1961 Journal of the Society of Dyers and Colourists (Great Britain) is devoted to the proceedings of their September 1961 symposium: "Science and Craft in both Textile and Non-Textile Coloration." One of the outstanding features of the program was the use of the Eidophor color television system in the presentation of four of the papers. One of the papers, "Modern Physical Techniques in Colour Formulation," discussed the possibilities of using modern physical instruments (filter colorimeters, spectrophotometers, and high speed digital computers) in color control and formulation. It reported that visual assessments can be used to calibrate colorimeters so that measurements of small-differences may be expressed in the colorists' terminology, and showed how use of an electronic computer makes rapid color matching calculations possible. Another paper discussed control and specification of fluorescent whites and colors. A paper on "Pigments, Colour, and Paint" seems excellent. It includes 4 pages of electron micrographs of various paint particles and films.

Fourteen papers, plus discussion, are included in this number of the journal (77, 12). It is highly recommended to ISCC readers, both for information and reference.

REFLECTIONS AND
TRANSMISSIONS

The Newsletter received Number One of a new publication, Hunterlab Reflections and Transmissions. The first issue is dated June, 1962. In addition to information about Dick Hunter's instruments, the publication will contain information on the technology of appearance. (Gloss, luster, opacity, texture, haze, transparency, translucency, etc.) Fields covered in the periodical are: Paint, paper, plastics, textiles, food, graphic arts, cosmetics, soaps, detergents, waxes, metals, ceramics, pigments, leather. According to the introduction, Reflections will feature specimen preparation, measurement, meeting schedules (appearance technology) and data on new technical articles. For more information, write to Hunter Laboratories, 5421 Briar Ridge Road, McLean, Virginia.

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LIST OF ARTICLES ON
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"Photoelectric Color Difference Meter," R. S. Hunter, J. Opt. Soc. Amer., 48, No. 12, pp. 985-995 (1958).

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"Principles of Illumination," N. Cotton, John Wiley & Sons, Inc., New York (1960).

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