INTER-SOCIETY COLOR COUNCIL News Letter No. 72

SEPTEMBER 1947

News Letter Committee:

I. H. Godlove, Editor-in-chief Research Laboratory, General Aniline & Film Corp., Easton, Pennsylvania

For matters of business, Subscription price to non-members: \$3.00 annually

Faber Birren Charles Bittinger, Editor for Art Carl E. Foss, Editor for Industry H. Phelps Gage Deane B. Judd, Editor for Science

Dorothy Nickerson, Circulation Manager P. O. Box 155, Benjamin Franklin Station Address the Circulation Manager Washington 4. District of Columbia

ISCC ANNUAL MEETING

Remember the date and place! March 2 and 3, 1948; Hotel Pennsylvania, New York City.

NOMINATIONS FOR 1948-49 OFFICERS

The following nominations for officers and counsellors to serve in 1948-49 have been submitted by the Nominating Committee, Forrest L. Dimmick, Sidney M. Newhall, and

Deane B. Judd, Chairman:

For Chairman: I. H. Godlove

For Vice-chairman:

For Secretary: For Treasurer: Norman Macbeth For Counsellors:

I. A. Balinkin, R. S. Hunter

(One to be elected)

Dorothy Nickerson

A. H. Croup, R. M. Evans, W. C. Granville,

K. L. Kelly, H. Helson, D. L. MacAdam,

E. I. Stearns

(Three to be elected)

In accord with Article V, Section 5 of the Articles of Organization and Procedure, this will serve as the required 30-day notice to all voting delegates before ballots are forwarded to them. Additional nominations may be made at the request of 10 accredited delegates, individual members and/or sustaining members, provided they are forwarded to the Secretary within twenty days after this notice is sent out. Ballots will be mailed before the end of October so that 30 days may elapse before ballots are counted, the election being required to take place in November.

A HUEFUL TALK TO YOU

About a decade ago the present Editor-in-chief undertook the chief editing of this News Letter. At first the going was tough; there was a lot of hard work, punctuated at

intervals by critical knocks. Recently, the situation has changed; we have had many pleasant letters (the most recent from Captain Backer) to file in our "Compliments and Slams" folder. We could reply to these only on the rare occasions when we could get time to answer any letters, by reminding our correspondents, in apparent modesty, that the News Letter is made by a committee. We shall pass over the

slams, except to say that they complained of neglect or of our complete failure to answer letters. Only once did we offer the defense that for eight years of the eleven, the time we spent on our editorial, committee and bibliographical work exceeded by thirty percent that put on our bread-and-butter job.

We began our editorship with a talk: "A Hueful Talk to You; an Apologia -- or Is It?" As one approaches old age, he contemplates with increasing attraction reducing his work-day to say, twelve or even ten hours. One way of doing this comes to mind: by painting for younger persons a picture of the allure of one's beloved field, as a lissom lassie whose bright eyes beckon. Indeed, just before 1937, we had hoped to begin such a course with the above-titled article. We waxed eloquent and poetic (so we thought) on the coming Age of Color, borrowing our own earlier words used, with more taste there, over the radio There too, however, we promised a course which we have been unable to realize because of lack of space, help and time -- et toujours la guerre! You have seen how far behind has fallen our bibliography, a feature you tell us vociferously you like. Another among some which fell by the wayside, comprised answers, in "popular" language, to such questions as: "Why is the froth of amber beer white"; and "Are the colors of cherries and beets chemical cousins?" But we had at least two strikes on us from the start. For our Hueful Talk was buried by mistake. So we repeat a portion of that article. Again we have no space to reprint it all (if you wish a copy, please let us know). After 2 pages about the coming Age of Color (and Science), we said:

With Industry and Art co-passengers, and Science in the driver's seat, we must harness the rainbow to serve our practical needs as well as to satisfy our sense of the beautiful. Industry must flirt with Art, and Art must come to Industry! And Science must not stand scornfully aloof, frowning on such human frailties; it must beam upon this radiant courtship, like a benign, conniving and blessed benedict.

But we were inditing our Apologia -- or were we? We are not long given to the modest mood. The attitude is strange and makes our joints creak. There is too much exhilarating color in the world! Nor do we hesitate to cast off shame-lessly the toga pura of the Roman, that stern mantle of the scientist, to don the freer chlamys of the classical Athenian. We shall forget we were scientists -- or were we (?) -- and seek to deck out the dry bones and solid meat of our scientific facts about color, with color. We mean to wallow in the soft pleasant mud of scientific inaccuracy a little, hoping we'll be pardoned if we bathe in exactitude much more. In fact, as color scientists we must recognize that white is whitest when in simultaneous and successive contrast with black.

The scientist, you know, is a man who will spoil a good story by telling the truth! We hope to introduce a few stories about color, or colorists, and fib gleefully, if we must. We shall not wince if you damn us; we shall wail in belly-aching pain if you ignore us, if you don't read us. We were once a teacher, cajoling that most naive of all animals, the college student, into contemplating the beautiful symmetry inherent in the structure of organic chemistry amidst its obnoxious odors; and we learned that they saw most when we camouflaged the facts with a little flimsy adornment of glorified nonsense.

Then we went on to say how we hoped to entice readers, especially among our non-scientist cousins in the industrial and design-and-art fields.

We have four purposes in writing now. First, we want to warn the members of the News Letter Committee that, now that the war is over (- or is it?), we shall expect their active help. (One member has been active from the start, and another almost as long.) Second, will those of you who have been so kind as to send contributions, accept now the Editors' thanks, en masse. It is quite impossible for the Editor-in-chief, at least, to write to thank you individually and also get much sleep or diversion. Third, have we been too unscientific in our reporting, or too scientific perhaps, especially in the feature articles which fell by the wayside? And fourth, we remind our readers of a long-established policy of the ISCC: that the personnel make-up of Council officerships and committees is determined chiefly by desire, willingness and available time to serve. In a decade or two the Editor will have to cut down tennis to three hours'a day week-ends (taking up painting or singing again) and give up hard jobs like editing and bibliography-compiling, if he has not been thrown out by a new administration. If he and others have succeeded in painting a more alluring picture of Color, that glamorous lady, a decade ago or since, they may have enticed some of you to take our places on the News Letter. Personally, we do not feel senile, perhaps just senescent; at least, to misquote the Pinafore's captain, not always, just hardly always. Tell us, any of you, are you willing?

VISITORS FROM CALIFORNIA COLOR SOCIETY On Saturday, August 16, the secretary had the pleasure of meeting Mr. and Mrs. Herbert B. Palmer of the California Color Society, who stopped in Washington on their way to New England. Mr. Palmer is Executive Correspondent of the

California group.

NEW COMMITTEE ON PROBLEM 14 Problem 14, A Study of Transparent Standards Using Single-Number Specifications, has been set up for Council Study. The purpose is to study the interrelation of transparent

standards that make use of single-number specifications, as suggested by Dr. R. H. Osborn at the 1947 annual meeting. As noted in the annual report (pp. 24 and 25) there are now many well-known systems of color standards specified by a single number that are used in color grading. Most of these are not yet measured in I.C.I terms, and many overlap for the very reason that not enough colorimetric data are available to forestall the development of new sets of standards made for the same, or slightly different, purposes. The standards referred to are usually set up in liquid, plastic or glass form and are used in grading oils, naval stores, honey, etc. Among these are the Gardner standards, the U.S. rosin standards, the Hazen standards, the new set recently suggested by Osborn and Kenyon, and others. should serve a useful purpose to study the existing standards so that colorimetric data on them may be exchanged, and perhaps to study also some of the many problems that arise in the preparation or use of such standards so that a report covering the evaluation of all well known systems could be made through use of the I. C. I. system, with recommendations regarding the limitations of single-number specifications. This problem is intended to apply to the limited field of transparent (or related) series of material standards set up to provide a comparison for color grading by means of reference to a single member of the series, each series following a single and continuous path in color space.

The following sub-committee of the Problems Committee has been appointed by the Executive Committee to study and report on Problem 14, with other members to be appointed later: Dr. Robert H. Osborn, Hercules Powder Co., Wilmington, Del., Chairman; Blanche R. Bellamy (Pfund Honey Grader of Munsell Color Co.), B. A. Brice

(resin standards), C. C. Hartman (National Bureau of Standards, paint section), R. S. Hunter (Gardner standards), Francis Scofield (National Paint, Varnish & Lacquer Assoc.) and A. J. Werner (Corning Glass Works).

COLOR HELM INC. AND THE BRITISH COLOUR COUNCIL We have recently received information that Mr. Joseph P. Gaugler, Painter and executive of Color Helm, Inc., when in England last fall concluded an arrangement with the British Colour Council whereby that firm would be the U.S.A. head-

quarters for the "official colour family" of Great Britain. We are happy to congratulate Color Helm on this connection.

We are told that pre-war subscribers of the Council are being contacted from lists supplied from London to point out the common features shared by the two organizations in color co-coordination and color leadership and the design of color devices and standards. From Color Helm, Inc., with headquarters at 201 East Ridgewood Ave., Ridgewood, N. J., we received a brochure on the New Center of the British Colour Council at 13 Portman Square, London W 1. We are told, too, that Color Helm will soon be ready to release brochures featuring additional services: dictionaries of colors for interior decoration, etc. Copy of a letter to Lord and Taylor of New York, a former subscriber, gives further details of proposed services. Art Director of the American company is Professor William P. Hudson. Incidentally, we have received also announcement of an exhibit of 39 water colors and a dozen oil paintings by Joe Gaugler which took place July 12th to 21st at The Guild Hall, East Hampton, N. Y. Mr. Gaugler studied with several excellent teachers.

OUR RECENT GENIAL HOST From Newsweek of August 11, 1947, we learned the details of the "sifting formula" used by the Navy to select personnel to assure "sanity in the subs," as described by Captain C.

W. Shilling, our recent host in the color conference at New London. We understand that Captain Shilling is now in Washington. The informed and understanding program of psychological studies on prospects and candidates, described by Capt. Shilling, wartime head of the United States Naval Research Laboratory at the Naval Research Base, New London, Conn., is outlined in the Medicine section (P. 54) of Newsweek. It gives some idea of the fine work of our navy physicians and psychologists along these lines.

FABER BIRREN As this News Letter goes to press, we have been unable to get a copy of the August American Magazine, which we understand has a spread about our News Letter committeeman, the

well known color engineer, Faber Birren. We are told that the publishers thought the article so interesting that they sent out advance notices; and this may account in part for the issue being sold out in the local shops.

CAN YOU HELP THESE ARTISTS At the New London Color Conference we were asked by Captain Charles Bittinger, our Editor for Art, whether we knew of any paintings of the spectrum earlier than (or even other

than) that in the portrait of the announcing angel of Jan van Eyck's "The Annunciation" in the Mellon Collection of the National Gallery of Art, Washington. Later Capt. Bittinger sent us a post card reproducing the picture. As our reputation for knowledge of the history of art is largely undeserved, we pass along this question to our artist or other readers.

On the eighteenth of August we had another communication from Captain Bittinger,

written as always in his interesting style and enclosing a letter from (Mrs. L. T.) Caroline F. Gardner, Box 229, Cumberland Hill, Manville, R. I., in which information about another bit of art history is requested. Mrs. Gardner says that an older sister about 1924 paid \$700.00 for a "Monet Mirror," which was claimed to have been made at the request of Monet himself to scale down the brilliance of a sunlit landscape to the potentialities of the artist's palette. "It is supposed to be made of onyx and has an optical lens ground into it. It is encased in a case similar to those used for daguerrectypes..... It was said that Monet was so well pleased by his own mirror that he had three or four others made up for his artist friends." Mrs. Gardner asked Mr. Bittinger (and how he asks us in turn) for information about the Monet Mirror. He apparently wished to call the gadget the Money Mirrow and asks whether we can cast any reflections from or on it. In passing he told us that he executed a "mild gas attack" over the Schenectady W G Y Science Forum on the relation of Science and Art, and offered to let us have the script, since we "had the good fortune to miss this talk." Knowing him for many years, we shall certainly ask for this script. Captain Bittinger's summer home is at Duxbury, Mass.

GRANVILLE

In our haste to pick up the great backlog of bibliography in the July issue of the News Letter, we overlooked a correc-CORRECTS US tion sent to us by Walter Granville on June 4. He says that in the May issue report on possible future ISCC meetings, the summary of his report on Item #13 stated that there was no answer to the question as to what problem members felt it would be especially desirable to have solved. We beg pardon. This was a misinterpretation of his report. All of the answers under question 13 (pages 3-5 of Addendum to Sect. 2 of Appendix) apply to both questions 13 and 14. Incidentally, he sent us an item about a color-blind hunter which gave us both a chuckle which we hope to pass on to you when we have more space in a later issue.

WRIGHT'S BOOK "RESEARCHES ON COLOUR VISION" In the review of this book published in the January 1947 issue of the News Letter, from advance information which later proved to be incorrect, we stated that the price is "about "\$6.00." A letter from the publisher now gives the

price as \$10.00. Under Wright's name in the bibliographical section of this issue we list, in addition to that by the ISCC Secretary, reviews by "V.G.J.", "J.G." and "W.S.S." These initials comprise those of very well known and competent authorities, so that any further remarks by us would be superfluous in reference to this excellent book. We shall say only that though we might, as these reviewers did, find some minor details more felicitously expressed, our understanding and appreciation of this fine "must-read" work was greatly enhanced when we fully assimilated the spirit of the author as expressed in his preface. We found particularly instructive his description of the Researches, in military phraseology, as intended to achieve "deepest penetration by a spearhead attack on a narrow front." Viewed in this light, the attack and report are milestones in the history of color vision.

GREAT TCCA ACTIVITY

The absence of reports on the doings of the Textile Color Card Association from two recent issues of the News Letter must not be taken to mean inactivity of that association.

In fact, we have some 14 pages of material on hand describing the Spring 1948 Women's and Men's Shoe and Leather Colors, Woolen Colors, Rayon Colors, A Fashion Coordinating Guide, and so on. But we have reserved their condensation for the next issue, in order to bring up to date our present accumulation of bibliography. and the state of the section of the

- R. S. Hunter; J. Opt. Soc. Amer. 36, 717 (1946); a null-method haze BIBLIO-GRAPHY And the state of t
- M. L. Hurwitz; Amer. Dyestuff Rptr. 35, 83-4 (1946); a low-cost reflectometer and method for comparing detergency
- W. S. Huxford & J. R. Platt; J. Opt. Soc. Amer. 37, 10-15 (Jan. 1947); spectral and modulation characteristics of the concentrated arc
- I. G. Farbenindustrie (Frankfurt a. M.); O. P. B. Report PB-19933, n. d. (392 pp.); microfilm, \$6.00; photostat \$37.00; through Bib. Sci. & Indus. Reports 1, 1217 (May 31, 1946); properties and application of Indanthrene dyes
- J. W. Illingworth; Text. Rec. 63, April, 50-51; May, 54-6 (1946); dichroism of dyed
- Illuminating Engineering Society; Illum. Engin. 17, 54-86 (Jan. 1947); I. E. S. Report (on Illumination)
- International Polaroid Corp.; Brit. Pat. 570,837 (1945); light-polarizing sheet
- A. Ivanoff; Comptes rendus 223, 170-72 (1946); method for measuring the chromatic aberrations of the eye
- A. Ivanoff; Comptes rendus 223, 557-8 (1946); chromatic aberration of the eye
- A. Ivanoff; Comptes rendus 223, 1027-9 (1946); influence of accommodation on the spherical aberration of the eye
- J. E. B. Jacob et al; J. Brit. Kinemat. Soc. 10, 28-35 (Jan. 1947); colour television
- R. W. Jacoby; Amer. Dyestuff Rptr. 35, P 56-8 (1946); some aspects of color (effect of mercerization on dyeing and "depth of shade")
- T. L. Jahn; J. Opt. Soc. Amer. 36, 595-7 (1946); color vision and color blindness; a mechanism in terms of modern evidence
- T. L. Jahn; J. Opt. Soc. Amer. 36, 659-65 (1946); kinetics of visual dark adaptation
- E. E. Jelley & L. S. Wilder (to Eastman Kodak Co.); U. S. Pat. 2,403,722 (1946); color film for camouflage detection
- F. A. Jenkins & I. S. Bowen; J. Opt. Soc. Amer. 36, 617-23 (1946); transparency of ocean water
- B. K. Johnson; "Practical Optics"; (add to reference in News Letter No. 69:) review by S. Q. Duntley in J. Opt. Soc. Amer. 36, 182 (1946)
- G. I. Jones et al; Anal. Chem. 19, 142-3 (Feb. 1947); adaptation of the Beckman Quartz Spectrophotometer for measurement of vitamin A by the Carr-Price reaction
- L. A. Jones & G. C. Higgins; J. Opt. Soc. Amer. 37, 217-63 (April 1947); photographic granularity and graininess; III, some characteristics of the visual system important in the evaluation of graininess and granularity

- R. N. Jones; J. Amer. Chem. Soc. 67, 2021-7, 2127-50 (1945); some factors influencing the ultraviolet absorption spectra of polynuclear aromatic compounds; I, a general survey; II, the spectra of aryl carbinols and polybenzofluorenes
- D. B. Judd; J. Research Natl. Bur. Stand. 35, 245-56 (1945); color standard for ruby mica
- D. B. Judd; J. Opt. Soc. Amer. 36, 120 (1946); units in the trichromatic system (reply to Moon and Spencer, letter on same page)
- M. Juhn; J. hered. 36, 355 (1945); through Nature 158, 274 (1946); colour changes in feathers (brief note in Nature)
- E. E. Jukkola & R. Cohn; Indus. Engin Chem. 38, 927-30 (1946); color stability of olive-drab infra-red-reflecting camouflage finishes (includes "before" and "after" Munsell specifications)
- H. J. Keegan; J. Opt. Soc. Amer. 36, 367 (1946); specification of the colors of the A. S. A. Safety Color Code; see also Indus. Standardization 18, 92 (1947); Committee asks comment on Safety Color Definitions
- R. H. Kienle, E. I. Stearns & P. A. Van der Meulen; J. Phys. Chem. 50, 363-73 (1946); correlation of structure with fastness to light of monoazo dyes
- P. L. Kirk, R. S. Rosenfels & D. J. Hanahan; Anal. Chem. 19, 355-7 (May 1947); capillary absorption cells in spectrophotometry
- H. A. Knoll, R. Tousey & E. O. Hulburt; J. Opt. Soc. Amer. 36, 480-2 (1946); visual thresholds of steady point sources of light in fields of brightness from dark to daylight
- W. Koch & D. Kaplan; Nature 159, 273 (Feb. 22, 1947); a new unit in photoelectric colorimetry (- it is "half-value," the concentration transmitting half the incident light- Ed.)
- E. Kornreich; J. Soc. Dyers Col. 62, 318 (1946); the colour changes of vat and azoic dyes by wet and dry heat (anomalous color of soaped mixture of vat dyes)
- A. Kossiakoff & D. V. Sickman; J. Amer. Chem. Soc. 68, 442-4 (1946); cupric complexions; I, absorption spectra and equilibria in the cupric-nitrite system
- S. V. Kravkov & L. P. Galochkina; J. Opt. Soc. Amer. 37, 181-6 (March 1947); effect of a constant current on vision
- A. van Kreveld; J. Opt. Soc. Amer. 36, 412-5 (1946); improvement of photographic color-rendering by correction filters
- W. D. Kumler; J. Amer. Chem. Soc. 68, 1184-92 (1946); absorption spectra of some substituted aniline derivatives; the presence of x' ("second order") bands
- E. S. Lamar, S. Hecht, S. Shlaer & C. D. Hendley; J. Opt. Soc. Amer. 36, 714 (1946); size, shape and contrast in the daytime detection of targets
- E. H. Land; J. Opt. Soc. Amer. 36, 349 (1946); plastic optics

- S. A. Leader; Brit. Pat. (1947); an iris for an artificial eye wherein colored inert non-plastic materials are disposed in a matrix of resinous material
- Y. Le Grand; "Optique Physiologique: La Dioptrique de l'Oeil et sa Correction"; Revue d'Optique; Paris (1946); pp. 356 and 105 diagrams; review by W. D. Wright in Proc. Phys. Soc. 58, 624 (1946)
- Avenir Le Hart; "Color Harmony Spectrum"; American Photographic Publ. Co., 353. Newbury St., Boston 15, Mass.; 64 pp., paper \$1.50
- D. R. Lemin, E. J. Vickers & T. Vickerstaff; J. Soc. Dyers Col. 62, 132-50 (1946); Amer. Dyestuff Rptr. 35, 402-6, 419-22, 431-9 (1946); dyeing of direct dyes on cotton (classification)
- S. Levy & O. W. Christine; J. Opt. Soc. Amer. 36, 503-6, 707 (1946); use of heterochromous lines in spectrographic photometry; correction, p. 707
- B. H. Lincoln & C. A. Neilson (to Continental Oil. Co.); U. S. Pat. 2,370,552 (1945); prevention of discoloration of hydrocarbons during chlorination
- E. Ludvigh & V. E. Kinsey; Science 104, 246-7 (1946); effect of long ultraviolet radiation on the human eye (Abstr.-Radiations of wavelength longer than 320 mu, of intensity greatly in excess of those usually found in nature, in up to one hour exposure, did not significantly change the foveal light-difference sensitivity or the critical flicker frequency)
- L. G. Luker; Brit. Printer 58, 60-62 (1945); luminescent pigments and fluorescent inks
- D. L. MacAdam: J. Opt. Soc. Amer. 36, 365 (1946); macular pigmentation and color discrimination
- D. L. MacAdam; J. Opt. Soc. Amer. 37, 308-09 (April 1947); note on the number of distinct chromaticities
- D. McConnell; Silk & Rayon, July 1946; p. 855; stroboscope's use in textile mills (lecture)
- D. Macfie; Minicam Photog. 10, 20-4, 138-40 (Feb. 1947); Ansco Color Printon
- H. C. McKay; Amer. Photog. 40, No. 10, 38-9 (1946); eye and camera (includes some discussion of terminology)
- I. Mann & A. Pirie; "The Science of Seeing" (Pelican Books; Penguin Books, Harmondsworth, Middlesex, England and New York; price 1/-; short review in Brit. J. Photog. 94, 54 (Jan. 31, 1947)
- L. C. Martin & W. Kaniowski; Nature 159, 25-6 (Jan. 4, 1947); flash visual acuity
- G, E. Matthews; Photog. J. 87 A, 79-80 (April 1947); colour photography (progress in 1946)
- G. Meister & R. Nagy; J. Opt. Soc. Amer. 36, 696-701 (1946); causes of early loss of light output of fluorescent lamps

- P. L. Meunier; Text. Manuf. 72, 99-102 (1946); pad-steam continuous dyeing processes (add to other references under this title)
- W. E. Meyer & R. M. Roberts (to Parker-Wolverine Co. & Owens-Corning Fiberglas Corp.); U. S. Pat. 2,371,458 (1945); features in a machine for fabricating camouflage
- H. E. Millson; Amer. Dyestuff Rptr. 34, P 284-90 (1945); current aspects of interest in wool dyeing
- G. I. Minkoff & A. G. Gaydon; Nature 158, 788 (1946); Christiansen ultraviolet-light filter
- D. E. Mitchell & R. Tousey; J. Opt. Soc. Amer. 36, 362 (1946); photometer for (measuring) visual transmission of extremely dense filters
- C. G. & D. D. Montgomery; J. Franklin Inst. 241, 55-8 (1946); integrating radiation meter
- P. Moon & D. E. Spencer; J. Opt. Soc. Amer. 34, 765 (1944); reply to Arthur Pope
- P. Moon & D. E. Spencer; J. Opt. Soc. Amer. 36, 120 (1946); units in the trichromatic system (with criticism by D. B. Judd, on the same page) (see next entry)
- P. Moon & D. E. Spencer; J. Opt. Soc. Amer. 36, 306 (1946); trichromatic units (reply to D. B. Judd)
- P. Moon & D. E. Spencer; J. Franklin Inst. 242, 465-501 (1946); lighting design by the interreflection method (including many tables and graphs of calculated results)
- P. Moon & D. E. Spencer; Amer. J. Physics 14, 285-93 (1946); internationality in the names of scientific concepts: a method of naming concepts
- P. Moon & D. E. Spencer; Amer. J. Physics 14, 431-8 (1946); internationality in the names of scientific concepts: a proposed international photometric system
- P. Moon & D. E. Spencer; Amer. J. Physics 15, 84-92 (Jan.-Febr. 1947); internationality in the names of scientific concepts: comparison of photometric systems
- P. Moon & D. E. Spencer; J. Opt. Soc. Amer. 36, 427-8 (1946); international names in colorimetry
- P. Moon & D. E. Spencer; J Opt. Soc. Amer. 36, 666-75 (1946); study of photometric nomenclature
- R. L. Mooney; J. Opt. Soc. Amer. 36, 256-60 (1946); theory of an efficient interference filter
- C. D. Moriarty; Genl. Elec. Rev. 50, 39-42 (Feb. 1947); X-ray flicker photometer
- T. H. Morton; J. Soc. Dyers Col. 62, 272-80 (1946); dichroic behavior of substantive dyes; molecular theory of the dyeing of cellulose
- S. B. Myers; J. Appl. Physics 18, 221 (Feb. 1947); parallel-plate optics

- S. M. Neale; J. Colloid Sci. 1, 371-9 (1946); fundamentals of dye adsorption . . .
- C. N. Nelson & M. H. Sweet; J. Photog. Soc. Amer. 12, 394-8 (1946); new transmission-density standard basis for photography measurements (use of diffuse density)
- D. Nickerson; Illum. Engin. 40, 159-171 (1945); Munsell standard colors specified for four illuminants
- D. Nickerson; Illum. Engin. 40, 373-386 (1945); spacing of the Munsell colors
- D. Nickerson; Misc. Publication #580, U.S. Dept. Agric. (62 pp., illus., March, 1946); color measurement and its application to the grading of agricultural products; a handbook on the method of disk colorimetry; review in Textile Research J. 16, 345 (July 1946)
- D. Nickerson; Illum. Engin. 41, 549-560 (1946); Munsell color system . . .
- D. Nickerson; Text. Research J. 16, 441-449 (1946); color measurements of standards for grades of cotton
- D. Nickerson; processed publication, U.S. Dept. Agric. (45 pp. illus., Feb. 1947); interrelation of color specifications
- D. Nickerson; processed publication, U.S. Dept. Agric. (26 pp. illus., April, 1947); effect of cleaning on grade and color of cotton
- E. I. Noble; Text. J. Australia 20, 433-4 (1945); through Chem. Abstr. 40, 3267 (1946); colored ("tone-in-tone" and two-colored) effects on wool by new methods
- J. A. Norling; J. Soc. Mot. Pict. Engin. 48, 129-44 (Feb. 1947); light control by polarization and the application of polarizers to the stereoscopic process
- B. O'Brien; J. Opt Soc. Amer. 36, 506-9 (1946); theory of the Stiles and Crawford effect
- B. O'Brien; J. Opt. Soc. Amer. 37, 275-8 (April 1947); Stiles and Crawford effect in polarized light
- B. J. Ochsner; Camera 69, 34-41, 97-8 (May 1947); the carbro (photographic) process
- K. N. Ogle; J. Opt. Soc. Amer. 36, 20-32 (1946); theory of the space-eikonometer
- L. W. Oliver; Photog. J. 86 A, 200-201 (1946); colour in technical training films
- L. A. Olney; Amer. Dyestuff Rptr. 36, P 34-5 (Jan. 27, 1947); the Colour Index (note on its revision)
- F. J. O'Neil; Amer. Dye stuff Rptr. 36, P 329-30 (June 16, 1947); illumination for textile color matching (ISCC problem report)
- J. W. Crelup; U. S. Pat. 2,419.851 (1947); colored signalling smoke comprising a dye, an ignitable compound and urea
- H. Osterberg; J. Opt. Soc. Amer. 36, 469-77 (1946); inhomogeneous light-polarizing systems

- J. L. Parsons & A. H. Croup; Paper Trade J. 123, TAPPI Sect., 199-201 (1946); color matchers; color-aptitude test
- C. C. Paterson; Endeavor 5, 18-23 (1946); fluorescent electric lamps: principles and efficiency (1003-Tel 100 . set . seek . trues . t
- C. Pecher (to Research Corp.); U. S. Pat. 2,407,381 (1946); invisible messages, later made visible by contact with radiation-sensitive photographic material and developed i. Ellisser (at al. Sept. Soc. Amer. 47. Sure (April 1947); actor on as 6. 9H 7 at
- R. H. Peckham; J. Opt. Soc. Amer. 36, 365 (1946); military sun glasses
- C. Peyrou & H. Piatier; Compt. rend. 223, 589-91 (1946); use of statistical methods in studying the sensitivity of the eye

Physical Society Colour Group Committee; Report on Defective Colour Vision in . . . Industry (Physical Society, 1, Lowther Gardens, London S. W. 7; price 3/6 post free); review in Brit. J. Photog. 94, 65-6 (Feb. 7, 1947) and by A. G. Tull in Photog. J. 87 B, No. 3, 71 (May-June 1947)

- R. W. Pickford; Nature 159, 268-9 (Feb. 22, 1947); binocular colour combination to the street of the contract of the second street of
- F. B. Pidduck; Phil. Mag. 37, 280-87 (1946); theory of diffraction
- H. Pieron; L'année psychol. 41-2, 148-67 (1945); some observations on the postadaptive recovery of color sensitivity
- F. J. Pittock; Photog. J. 84, 219-22 (July 1944); use of color filters in photomicrography storios of other times to the transfer of the storios of the sto
- A. Pope (review of his ideas by the editor); Inter-Society Color Council News Letter No. 60 (July 1945), 9-10; color harmony
- J. A. Prins & J. J. M. Reesinck; Physica 12, 396-401 (1946); trichromatic specification of interference colors
- W. H. Rees & L. W. Ogden; J. Text. Inst. 37, T 113-20 (1946); some observations on the effect of colour on the absorption and emission of radiation by a textile fabric the bendunce of contract bathy for the con-
- G. L. Royer & C. Maresh; J. Biol. Photog. Assoc. 15, 107-19 (March 1947); photography of fluorescent phenomena
- W. R. Ruby & P. W. Vittum (to Kodak Ltd.); Brit. Pat. 565,929 (1944); reducing the discoloration in a photographic layer of unused color-coupler by coating with a nen-sensitive layer transmitting not more than 30 % of the light at or below 350 mu and not less than 70 % at or above 450 mu
- G. V. Rylsky (to Bendix Aviation Corp.); U. S. Pat. 2,417,704 (1947); system for using the scanning beam of light for instruments
- W. Schweisheimer; Indian Text. J. 66, 439-40 (1946); colors of clothing and heat absorption Filtering, A. Telmen v. L. Strongfor di Oct. Soc. Amer. II. 188 (1961) i
- J. H. Shaxby; Phil. Mag. 37, 33-40 (1946); colour vision

R. G. Shepherd Jr. & C. D. West (to Polaroid Corp.); U. S. Pat. 2,418,605 (1947); . filter transparent to infrared (and opaque to the visible range, using a mixture of green and red vat dyes)

the mark of the first the state of the state

- S. E. Sheppard & A. L. Geddes; J. Amer. Chem. Soc. 66, 1995-2002, 2003-9 (1944); effects of solvents upon the absorption spectra of dyes; IV, water as solvent: a common pattern; V, water as solvent: quantitative examination of the dimerization hypothesis
- L. Silberstein; J. Opt. Soc. Amer. 37, 292-5 (April 1947); notes on W. S. Stiles' paper entitled: "A modified Helmholtz line-element in brightness-colour space"
- "Simon"; Silk & Rayon 21, No. 3, 380, 382 (March 1947); nature's dye works; complexity of cornflower blue
- L. L. Sloan; Air. Surg. Bull. 2, No. 6, 166-8 (1945); deficient color perception; new tests
- S. M. P. E. Committee on Color; J. Soc. Mot. Pict. Engin. 45, 397-400 (1945); report of the Committee on Color
- Society of Chemical Industry, Basle; Brit. Pat. 581,176 (1946); improving (with melamine) the fastness of dyeings on cellulose esters which have been delustered with titanium dioxide A PERSONAL PROPERTY CARRY CONTROL CHARACTER (1941) 14
- E. I. Stearns; Text. Research 14, 326-32 (1944); selected-ordinate method for interpretation of spectrophotometric data

19 1 19 1

- F. Straubli; Textil-Rundschau 131-6 (Nov. 1946); selvage defects and off-color effects in wool and mixed fabrics
- H. H. Strain; J. Chem. Educ. 23, 262-7 (1946); indispensable yellow leaf (the xanthophyll and carotinoid yellow natural pigments)
- F. J. Studer; J. Opt. Soc. Amer. 37, 288-91 (April 1947); method for measuring the spectral energy distribution of low-brightness light sources
- STREET STREET C. M. Tarlet (to Société des Usines Chimiques Rhone-Poulenc); French Pat. 913,962 (1946); lumine scent objects of which the activated surface is composed of a magnesium cement containing a phosphorescent or fluorescent compound
- J. Terrien; Compt. rend. 218, 43-5 (1944); photoelectric measurement of the factors of transmission and of regular reflection
- R. Thomas (to Lever Brothers & Unilever Ltd.); Brit. Pat. 584,436 (1947); increasing the apparent whiteness of a material by washing in an aqueous bath with a detergent and a substantive blue-fluorescent substance otherwise colorless; Brit. Pat. 585,549 (1947) to the same assignor and assignee is very similar
- F. Urbach; J. Opt. Soc. Amer. 34, 592-4 (1944); note on specular densities and
- F. Urbach, A. Urbach & M. Schwartz; J. Opt. Soc. Amer. 37, 122 (1947); brightness of apparent fluorescence as a function of the exciting intensities

- J. Waser et al; J. Chem. Physics 14, 43 (1946); light scattering of high polymer solutions
- E. C. Watson; Amer. J. Physics 15, 277-8 (May-June 1947); the scientific paintings of Joseph Wright (1734-97)
- Wm. Watson; "Textile Design and Colour"; 5th Ed.; pp. xii + 513; Longmans, Green & Co., London and New York (1946); brief review by A. M. Latham in Nature 159, 7 (Jan. 4, 1947)
- R. Weil; Nature 158, 672 (1946); reflectivity of nickel
- W. M. Wentz; U. S. Pat. 2,369,696 (1945); the "multi-lap" dyeing machine (The inventor of this much-discussed machine died an untimely death recently. Ed.)
- L. K. Whyte; J. Amer. Oil Chem. Soc. (Oil & Soap) 24, 137-40 (May 1947); photometric determination of the color of certain glyceride oils
- W. D. Wright; Science Progress 34, 681-95 (1946); study of colour (concise account of color science)
- W. D. Wright; "Researches on Normal and Defective Colour Vision," with a foreword by L. C. Martin; pp. 383; Henry Kimpton, London, and C. V. Mosby, 3207 Washington Blvd., St. Louis 3, Mo.; reviews by "V. G. J." in The Dyer & Text. Printer 97, 181 (Feb. 14, 1947), by Dorothy Nickerson in Inter-Society Color Council News Letter No. 68, pp. 7-8 (Jan. 1947), by "J. G." in Nature 159, 180-1 (Feb. 8, 1947), and by "W. S. S." in Proc. Phys. Soc. 59, 326-7 (March 1947)
- E. Q. Adams; J. Opt. Soc. Amer. 36, 717 (1946); developments of the concept of chromatic value
- J. E. Bates; Ansconian 10, 10-14 (May 1946); improved Ansco Color film in processing procedures (reference incorrectly given in News Letter No. 71)
- A. Becker & F. Becker; Ann. Physik (5) 43, 598-606 (1944); decay of phosphorescence, II
- N. C. Beese; J. Opt. Soc. Amer. 36, 555-60 (1946); cesium vapor lamps
- N. C. Beese; J. Opt. Soc. Amer. 36, 493-8 (1946); fluorescence of phosphors in rare gases
- R. R. Bradshaw (to Dow Chemical Co.); U. S. Pat. 2,363,765 (1945); a molded plastic article consisting mainly of polystyrene is given a nacreous sheen (irridescence)
- G. B. Buck & R. N. Thayer; Illum. Engin. 42, 415-34 (April 1947); color technology of fluorescent lamps
- W. H. Cady; Amer. Dyestuff Rptr. 36, 253-4, 279 (May 19, 1947); dyenomenclature: a plea for more system
- R. O'B. Carpenter; J. Opt. Soc. Amer. 36, 676-8 (1946); new light-balancing circuit for the non-recording densitometer

- B. Collie et al (to Imperial Chem. Indus. Ltd.); U. S. Pat. 2,416,380 (1947); improving the resistance to fume-fading of colorations on celulosic materials
- J. F. H. Custers; Photog. J. 87 B, No. 3, 59-63 (May-June 1947); note on the measurement of specular and diffuse photographic density
- G. L. Dimmick (to R. C. A.); U. S. Pat. 2,420,168 (1947); reflecting and transmitting mirrors (transmitting red or blue light according to thickness of one layer)
- R. T. Ellickson; (correction to reference at the bottom of page 11, News Letter No. 71: change date from 1936 to 1946)
- W. E. Forsythe, E. Q. Adams & B. T. Barnes; J. Opt. Soc. Amer. 36, 720 (1946); radiation sources for photoelectric radiometry
- G. A. Fry; (correction to next-to-last reference on page 12 of News Letter No. 71: change "broder" to "border")
- Geigy A. G.; Brit. Pat. 576,562 (1946); increasing the fastness to light of direct dyeings
- C. H. Giles & D. G. Wilkinson (to Imperial Chem. Indus. Ltd.); U. S. Pat. 2,369,122 (1945); retarding the fume-fading of dyeings on cellulose acetate
- I. H. Godlove; Text. Research J. 17, 185-98 (April 1947); relation of color perception to chemical structure: a critical bibliography (94 critical abstracts and explanatory introduction)
- I. H. Godlove; Indus. Engin. Chem. 39, No. 2, 8A, 10A, 12A ("Reports" Section; 1947); colorful thoughts; report by "R.L.D." on lecture: relation of color perception to chemical structure
- I. H. Godlove; Rayon Text. Monthly 27, No. 12, 670 (December 100) (1946); the color of your eyes
- I. H. Godlove; Rayon Text. Monthly 28, 289-91 (May 95-7), 339-40 (June 93-4), 390-91 (July 92-3) (1947); color and chemical structure (general review)
- H. Gordon; Brit. J. Photog. 93, 138, 147-9 (1946); dominant colours in integral tripack films and their correction by chemical means
- L. V. Grover; Amer. Photog. 41, No. 7, 18-9 (July 1947); copying color transparencies
- H. von Halban & K. Wieland; Helv. Chim. Acta 27, 1032-8 (1944); spectrographic standardization solution (using astraphloxin perchlorate)
- G. Hansen; (correction to third-to-last reference on page 13 of News Letter No. 71: change date from 1936 to 1946)
- V. G. W. Harrison; J. Sci. Instr. 24, 21 (Jan. 1947); goniophotometer for gloss and colour measurement

- N. Heimbach (to General Aniline & Film Corp.); U. S. Pat. 2,390,707; Canadian Pat. 439,669 (1947); hydroxy-aza-indolizine filter-dyes
- H. H. Hodgson; J. Soc. Dyers Col. 62, 176-8 (1946); color and structure of indigo, indanthrene and similar compounds from the standpoint of modern resonance theory (NOTE: other papers by Hodgson and his collaborators on "color" and chemical structure will be both indexed and discussed in the near future)
- H. H. Hodgson & E. Marsden; J. Soc. Dyers Col. 60, 210-14 (1944); an electronic interpretation of substantivity based on dye structure; I, azo dyes and their intermediates
- H. P. Hood (to Corning Glass Works); U. S. Pat. 2,416,392 (1947); infraredtransmitting glass (sharply cutting off visible light between 0.7 and 1.1 micron)
- H. van de Hulst; (correction to next-to-last reference on page 14 of News Letter . No. 71: change van de Helst to van de Hulst)
- A. Ivanoff; Compt. rend. 224, 226-7 (Jan. 20, 1947); chromatic aberration of the eye
- I. M. Klotz & F. M. Walker; J. Phys. Colloid Chem. 51, 666-80 (May 1947); spectral changes in some dye ions and their relation to the protein error in indicators
- A. A. Kruithof & H. Zijl; Philips Tech. Rev. 8, 242-8 (1946); illumination intensity in offices (and homes)
- A Kuhl; Z. Instrumentenk. 61, 278 (1941); adaptation as a regulator of visual perception
- G. O. Langstreth et al; Canad. J. Research 25, 49 (Jan. 1947); laboratory study of visibility through clouds
- G. O. Langstreth et al; Canad. J. Research 25, 58 (Jan. 1947); recognition of objects nearly obscured by a cloud
- R. Le Blan; Compt. rend. 224, 383 (Feb. 10, 1947); new type of photometer
- Y. Le Grand & E. Guillemot; Nature 159, 132-3 (Jan. 25, 1947); measurement of visual acuity with blurred tests
- A. Lelong; Photo-Revue 58, 137-40, 149-52, 163-5 (Oct.-Dec. 1946); present processes of color photography
- E. H. Nelson; Genl. Elec. Co. J. 14, 73-82 (1946); development of the high-intensity mercury-vapor arc lamp
- J. H. Nelson; Brit. J. Indus. Med. 2, 224-32 (1945); through J. Text. Inst. 38, A 132 (1947); lighting system: efficiency: ideal seeing conditions
- A. Polak; Compt. rend. 224, 158-9 (Jan. 13, 1947); the photochemical substance of retinal cones and the theory of color sensation

- J. M. Preston & P. C. Tsien; J. Soc. Dyers Col. 62, 368-72 (1946); the cellulose-dyestuff complex; III, the effect of orientation on the reflection of polarized light
- R. B. Rice, E. F. Fiedler & J. J. Pyle; Modern Plastics 24, 156-7 (May 1947); spectral transmission of transparent plastics (in near ultraviolet and near infrared)
- A. G. Tull; Photog. J. 87 B, No. 3, 71 (May-June 1947); review of "Report on Defective Colour Vision in Industry," by a committee of the Physical Society Colour Group, the Physical Soc., London (pp. 52)
- J. J. Van Wyk & W. M. Clark; J. Amer. Chem. Soc. 69, 1296-1301 (June 1947); luminosity and chromaticity of indicators as a function of pH
- J. W. T. Walsh; Endeavor 5, 142-8 (1946); through J. Text. Inst. 38, A 131 (1947); coloured light: measurement
- R. Weil; Nature 159, 305 (March 1, 1947); reflectivity of steel
- H. J. Williams; Machinist 90, 1535-50 (1946); lighting of factories
- W. D. Wright; Rayon Text. Monthly 27, 558-9, 612-3 (1946); dyes: color measurement