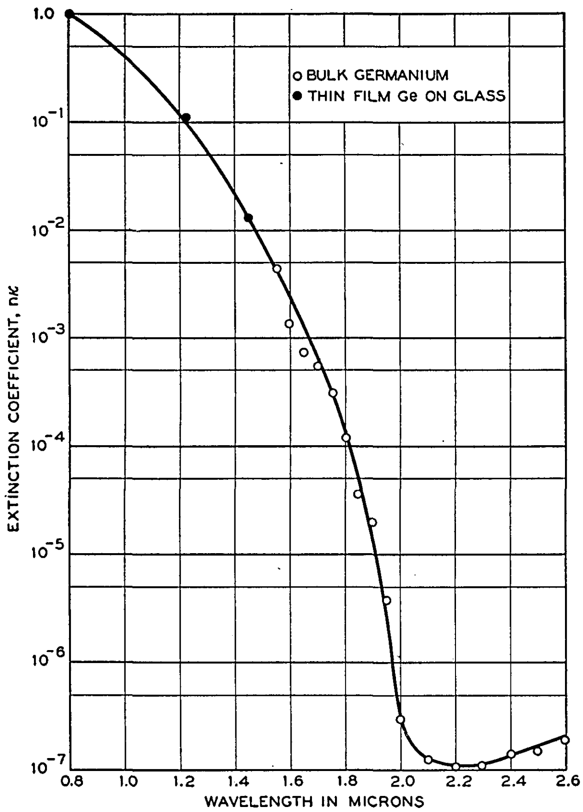


FIG. 1. Extinction coefficient $n\kappa$ *versus* wavelength for high purity single-crystal germanium.

ohm-cm single-crystal germanium of nearly balanced n- and p-type impurities were used in obtaining the data for this figure. The samples were 0.054 cm and 0.70 cm in thickness. Negligible absorption occurs out to 11μ, where a broad absorption band begins and extends into the far infrared.[4] As shown in the figure, definite structure with minima at 11.8μ, 13.25μ, 15.5μ, etc., appears within this band. Silicon shows a similar broad band extending from 6.5μ to 21μ, with definite structure, notably the pronounced minima at 9μ and 16.5μ. These broad absorption bands with their characteristic structure appear in the purest germanium and silicon now available; they do not appear to be related to any impurity in the specimens that affects the resistivity.

Free carriers, such as are provided by normally ionized donors and acceptors, absorb light, the absorption index increasing with the wavelength. Normally neutral donors and acceptors also may contribute to the absorption. An examination of free carrier absorption is in progress and it is planned to report on it at a later date.

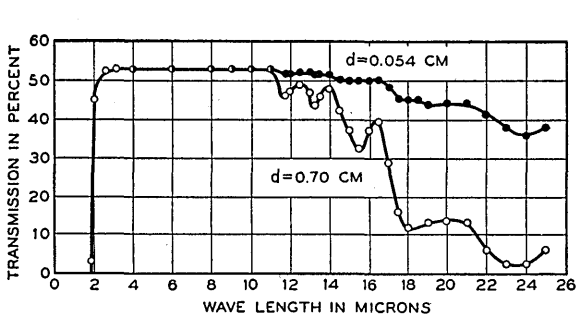


FIG. 2. Transmission *versus* wavelength for two samples from the same melt of high resistivity single-crystal germanium. (Sample thickness d.)

1 The single crystals used in this work were prepared by E. Buehler of these Laboratories.
2 W. H. Brattain and H. B. Briggs, Phys. Rev. **77**, 1705 (1949).
3 H. B. Briggs, Phys. Rev. **77**, 727 (1950); H. Y. Fan and M. Becker, Phys. Rev. **78**, 178 (1950).
4 R. C. Lord, Phys. Rev. **85**, 140 (1952).

Book Reviews

IES Lighting Handbook (The Standard Lighting Guide)

Illuminating Engineering Society, 1860 Broadway, New York, 23, New York, 1952. Second Edition, 987 pp. Price $8.00.

An almost complete revision of the first edition published in 1947, the second edition of the IES Lighting Handbook meets its objective of supplying information on light and lighting in simple terms and condensed style. The published material was supplied by the various technical committees of the Illuminating Engineering Society and accordingly is comprehensive and authoritative.

Of its 18 sections, especially noteworthy are the sections on Light and Vision, The Measurement of Light, Color, and Light Sources, which supply information and data of fundamental importance to anyone who designs or is responsible for maintaining lighting systems. Although the section on Light and Vision does not so state, the data therein indicate that background luminances of 100 to 1000 times threshold are necessary if acceptable degrees of visual performance are to be attained. The section on Light Sources, includes information on all currently available types of lamps, both incandescent and electric discharge, and includes 46 tables listing the operating characteristics of hundreds of sizes and types of lamps.

The sections on Light Control and Lighting Calculations describe methods of applying the fundamental information to the solution of specific lighting problems. In addition to the time-honored methods of computing the illumination to be expected from a lighting system, methods are given for calculating and predicting luminances of walls, ceilings, floors, and task.

The handbook includes a group of sections including the following which deal with lighting application from the point of view of both initial design and maintenance: Interior Lighting, Exterior Lighting, Daylighting, Sports Lighting, Street and Highway Lighting, Aviation Lighting, and Transportation Lighting.

A large section of the book is given over to Manufacturers' Reference Data. Although this section adds a commercial flavor to the publication, it undoubtedly enables the Illuminating Engineering Society to publish the Handbook at a much more modest price and thereby attain much broader distribution than otherwise would have been possible. These pages of data are predominantly of a technical nature so that they tend to add something of value to the publication, but whether they add more than they detract by having names and trademarks of manufacturers on each page is questionable.

A complete index enables one to use the Handbook to obtain desired information with ease.

L. E. BARBROW
National Bureau of Standards
Washington, D. C.

Laboratory Instruments, Their Design and Application

A. ELLIOTT AND J. HOME DICKSON. Chapman and Hall, Ltd., 37 Essex Street, W. C. 2, London, 1951. 414 pp. Price 32 shillings.

This book may be briefly described as a mechanical engineer handbook type of work designed to be used by the research scientist who is called upon to make recommendations or designs for new types of instruments. The subject matter refers almost entirely to mechanical, optical, and photographic apparatus and does not enter the field of electronics. A surprisingly large variety of information is presented in accessible form, and this book will be read with interest by anyone who to some degree is interested in the design or development of new instruments.

The first five chapters discuss the accuracy attainable in machining operations, methods of producing parts, and the standardized methods for preparing mechanical drawings. The next five chapters set forth a well-organized theory of instrument design under the following headings: Constrained Motion and Constraints; The Magnification of Small Displacements; Sensitivity and Errors of Instruments; Isolation of Apparatus from Disturbing Influences; and Damping. The eleventh chapter describes methods for testing ". . . straightness, flatness, and squareness." Methods described include the use of interferometers, collimators and levels, and mechanical gauging. The remaining five chapters discuss the design, construction, and properties of optical instruments, and the aspects of photography concerned with the recording of scientific results. The appendix contains a method for designing a Schmidt corrector plate, tables of the index of refraction of crystals, the equations of ray tracing, and conversion tables for the different methods of measuring angles.

Necessarily, the treatment of so great a variety of material is very much condensed. Paradoxically, the less one needs the assistance of such a book, the more useful one will find it because it is so worthwhile to have this material codified and readily accessible. To me the chapters dealing with the theory of instrument design are the most satisfactory in that they present a systematized and organized treatment of related information that has not been previously assembled in this convenient and compact form. The treatment of the different subjects in this book is somewhat uneven. A few of the chapters seem to miss their aim, being too elementary and general for the informed and not sufficiently complete for the uninformed. The tabulated material and the drawings are well selected and many will find this material of great use. Furthermore, each chapter is followed by a well chosen and complete list of references. This does much to compensate for the superficial character of some of the chapters to which reference has been made.

IRVINE C. GARDNER
National Bureau of Standards
Washington, D. C.

Technical Notes

Groupement pour l'Avancement des Méthodes d'Analyse Spectrographique des Produits Métallurgiques

(Group for the Advancement of Spectrographic Methods for the Analysis of Metallurgical Products)

The collection of papers presented at the 14th conference (June 20–22, 1951) of the Groupement pour l'Avancement des Methods d'Analyse Spectrographique des Produits Metallurgiques (Group for the Advancement of Spectrographic Methods for the Analysis of Metallurgical Products) has now been published. Inquiries concerning this publication should be addressed to Secretariat du Groupement, Laboratoire Central de L'Armement, 1, Place Saint-Thomas d'Aquin, Paris (7°), France.

The following papers are reproduced:

E. V. ROUIR AND A. M. VANBOKESTAL.—Spectrographic Assay of Traces of Aluminum in Tin-Bronzes.

M. MACQ.—Electron Photomultiplier Tubes and Mountings Used in Direct Analysis.

M. G. BRUCELLE.—Spectrographic Assay of Minor Constituents in Steel.

R. BRECKPOT AND C. DE CLIPPELEIR.—On Spectro-Oscilloscopy. On Pulsating Currents which Depend on Electron Photomultipliers (abstracts only).

F. MALAMAND.—Spectrographic Analysis of Surface Metallic Layers. Application to Layers Obtained by Thermal Diffusion of Chromium in Iron and Steel.

M. PASVEER.—Spectrographic Calculations Using a Nomogram.

A. H. GILLIESON AND BIRKS.—Application of Hollow Cathode Source in Analysis.

CARLO MUSSA AND M. DE MALDE.—Assay of Divinylacteylene in Acrylonitrile by Ultraviolet Absorption with a Simple and Convenient Apparatus.

B. VALLANTIN AND R. HERVE.—Quantitative Spectrographic Analysis of the Nickel Used for Cathodes of Electronic Tubes.

R. RICARD AND M. A. DUFOUR.—Observations on Emission Spectra of Arcs in Various Atmospheres.

J. ROMAND, V. SCHWETOZOFF, AND B. VODAR.—Possible Utilization of Absorption Spectra in the Schumann Ultraviolet for the Detection and Assay of Gas and Application to the Detection of Leaks in Vacuum Apparatus and to the Measurement of Low Pressures.

J. VERBESTEL, A. BERGER, AND J. PIROTTE.—Chemical Examination of Rust by the Method of Internal Reference.

J. COJAN.—A New Spectrograph for Qualitative and Quantitative Analysis.

M. BEAUDOUIN.—Zirconium Arc Lamp.

Colloquium on Crystal Sensitivity and Photographic Emulsions

The papers presented at the Colloquium on Crystal Sensitivity and Photographic Emulsions (Paris, September, 1951) and the related discussions will be published by the *Revue d'Optique*, Paris, France. The publication will be approximately 600 pages in length and is expected to cost about 5000 francs. The collection may be obtained in successive volumes, the first of which will appear in September, 1952, or as the complete work in a single paper bound volume which will be available the first quarter of 1953.

The publication will contain:

Chapter I, Group I, **Crystals.** Contributions from H. Pick, J. W. Mitchell, J. Teltow, O. Stasiw, D. W. Pashley, P. Selme.

Chapter II, Group II, 1st part, **Emulsions.** Contributions from A. Hautot, Narath and Wasserroth, J. W. Mitchell, N. J. Morgan, L. Falla, H. Bäckström, P. Faelens and P. de Smet, H. Belliot, H. Sauvenier, Fujisawa and Misuki, H. Sauvenier, Tellez-Placencia.

Chapter III, Group II, 2nd part, **Optical Sensitization.** Contributions from G. Kornfeld, H. O. Dickinson, H. W. Wood, James and Vanselow, Vanselow, Quirk and Carrol, Cohen-Solal.

Chapter IV, Group II, 3rd part, **Chemical Sensitization.** Contributions from Lorenz, Th. Krummenerl, G. W. W. Stevens, E. E. Loening, H. W. Wood, Collins and Dickinson, H. Amman, Farnell and Loening, Loening, Pouradier and Roman, Pouradier and Chateau, J. Eggert, G. Kornfeld.

Chapter V, Group III, **Development.** Contributions from M. Weissberger, H. Gauvin, Kikuchi, Levenson and Tabor, Jobling, Narath and Schimmel, R. Debot, M. Meulemans.

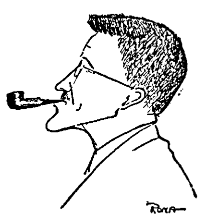
Chapter VI, Group IV, **Nuclear Emulsions.** Contributions from Occhialini, W. K. Barkas, Winand, L. van Rossum, Kristiansson and Von Friesen, R. W. Berriman, Haenny and Gailloud, J. Cüer and J. Jung, L. Vigneron, H. Lonchamp and Braun, P. Demers, L. Vigneron and Chastel, H. Faraggi, M. J. Blum, Albouy, Schopper, S. Magun and Braun, P. Cüer and Lonchamp, Chastel, Renardier, and Avignon, Desprez. Herz.

Chapter VII, **Miscellaneous.** Contributions by Narath, J. Blum.

Laboratory of Astrophysics Established at Johns Hopkins

A new Laboratory of Astrophysics and Physical Meteorology has been established at The Johns Hopkins University, according to Dr. Detlev W. Bronk, president of the University.

Dr. John D. Strong, professor of physics at The Johns Hopkins University since 1946, has been named director of the laboratory. In 1933 Dr. Strong gained international prominence in the field of astrophysics by developing a process for coating telescopic mirrors with aluminum. This process is now used on the 200-inch telescope at Mt. Palomar. The new Laboratory of Astrophysics at Hopkins will be devoted to the application of the results of experimental physics to celestial sciences, with special emphasis on solving astrophysical and meteorological problems. In the laboratory Dr. Strong will continue to produce and develop diffraction gratings, for which The Johns Hopkins is internationally known. Dr. Strong has been a member of the Optical Society since 1940 and is currently serving on the Board of Directors.



John D. Strong

Tinted Optical Media

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In the last year and a half the public has had offered to it any number of types of "tinted" glasses designed for various and sundry purposes. The public also has been bombarded with articles in lay, semiprofessional, and professional magazines and journals, as to the pro's and con's of the propriety and authenticity of the use of tinted lenses. These articles and reports, coming from good, bad, and indifferent sources, are frequently contradictory in whole or in part, leaving the public, and often professional people, completely confused.

In view of this situation and in view of the highly technical nature of the subject, the Joint Committee of Industrial Ophthalmology representing the American Academy of Opthalmology and Otolaryngology and the Section of Ophthalmology of the American Medical Association was requested to set up a Sub-Committee, to study the problem of "tinted optical media." This Sub-Committee of world famous scientific authorities on filter lenses and "tinted optical media" was instructed to clarify the basic principles involved, by definition, and to answer certain specific questions.

The following report of the Sub-Committee is based on long hours of exacting scrutiny of each and every work and implication and on the best scientific information available. It is being presented simultaneously in the *Transactions of the American Academy of Ophthalmology and Otolaryngology*, in *National Safety News*, and in the *Journal of Industrial Medicine* and *Surgery*.

A. D. Ruedemann, M. D., *Chairman*,
Hedwig S. Kuhn, M. D., *Secretary*
Glenn H. Harrison, M. D.
John B. Hitz, M. D.
E. B. Spaeth, M. D.
Col. Victor A. Byrnes, (MC)

Report of the Subcommittee

1. Categories

In the consideration of any discussion of "tinted optical media" (i.e., lenses, plano or prescription, made up into glasses and carrying a tint) it is obvious that these fall into several categories.

- A. Sunglasses
  1. Neutral
  2. Colored
  3. Polarizing
  4. Reflecting
- B. Tinted glasses for constant wear.
- C. Colored glasses for industrial, military, or other specialized purposes. This category is not discussed.

2. Definitions

It is important to have clear definitions of these categories in mind during this discussion:

- A. Sunglasses are lenses designed primarily for wear in sunlight of high intensity.
  1. Neutral lenses absorb all wave lengths of the visible spectrum (light) in approximately equal degree. The light transmitted by such lenses is reduced in intensity but its color is essentially unchanged.
  2. Colored lenses absorb the light rays of the various wave lengths, in unequal degree. Light transmitted through such lenses is reduced in intensity, and its color is modified by the unequal absorption.
  3. Polarizing lenses absorb light rays which vibrate in some planes. Light vibrating in other planes is transmitted.
  4. Reflecting lenses depend on a thin metallic coating which reflects a portion of the light. The intensity of light reaching the eye is thereby reduced.

The principles of absorption, polarization, and reflection can be combined in a single lens.

- B. Tinted glasses for constant wear are mildly colored lenses marketed for use in optical prescriptions. In general, these lenses transmit a high percentage of light.

Questions and Answers

A number of very definite questions were given the Sub-Committee with reference to "tinted optical media"; these are presented exactly as given.

Q. Does the wearing of tinted lenses increase visual acuity by reducing chromatic abberation or by eliminating scattered violet, blue, and green light?

A. This Sub-Committee does not believe that acuity can be appreciably improved by the wearing of any tinted lenses and is not aware of any accepted study which supports such a thesis.

Q. Do sunglasses diminish ocular discomfort?

A. Sunlight of even high intensity will produce no discomfort in some people. Where discomfort exists, it is frequently diminished by wearing sunglasses.

Q. Do sunglasses affect the perception of color?

A. Colored sunglasses (in contradistinction to neutral sunglasses) affect perception of color to some extent. Under ordinary circumstances the distortion of color perception by the color-normal person is not significant. However, at least 5 percent of our population is not color normal. The use of colored lenses by these people may exaggerate their defects and pose a serious problem. Even color-normal individuals frequently encounter situations in which colored glasses may constitute a hazard. (Example: The recognition of colored traffic signals viewed against the bright background of a sunset.)

Q. Are there spectacles which absorb the wavelengths responsible for cataract?

A. There is no conclusive evidence that daylight in any intensity, or over any period of time, produces a cataract.

Q. Objections to tinted glasses arise when they are promoted with unfounded advertising claims. What claims can be permitted?

A. The primary function of a sunglass is to reduce brightness. Therefore, the proper and principal claim that can be made for a sunglass is that it reduces glare in proportion to the density of glass. Additional descriptive claims may be made, such as: that the glasses are cosmetically pleasing, that they reduce ultraviolet and/or infrared radiation, that they are essentially neutral, or that they have certain physical properties of shape, size, polish base curvature, or color. However, advertising statements must not imply that any of these characteristics are of physiological benefit.

We (the Sub-Committee and Joint Committee) cannot anticipate the multiplicity of claims that may be made and therefore every type of claim must be considered individually. *The common practice of distorting scientific information for promotional and sales purposes is to be deplored.*

Q. Will you give a list of minimum requirements for the acceptability of sunglasses.

A. Recognizing that inexpensive sunglasses have a definite usefulness, this Sub-Committee believes it unwise to establish requirements which might eliminate these glasses from the market. However, to inform and protect the purchaser, sunglass manufacturers should be encouraged to *label* their products with respect to the following properties:

1. Transmission of visible light expressed in percentage, together with the tolerance of deviation from the standard. (Example: transmission 20 percent$\pm$1 percent.)
2. Type of manufacture, (Example: "Ground and Polished," "Bentplate," "Blown," etc.).
3. Base Curve (example: "6 Base Curve").
4. Optical Tolerances:
   a. Power (as worn)—stated in fraction of a diopter.
   b. Prism (as worn)—stated in fraction of a diopter. (Example: "Tolerance": Power 1/16: Prism 1/16 A.)
5. An expression of the percentage neutrality when a standard acceptable to the ophthalmic professions is developed.

General Comments

In considering the use of glasses to reduce overhead brightness either indoors or out, it is to be remembered that a visor or broad-brimmed hat is a most effective shield, and will frequently obviate the necessity for sunglasses.

This Sub-Committee condemns the use of any type of "night-driving lens." Any such lens, whether colored, reflecting or polarizing, reduces the total light transmitted to the eye and renders the task of seeing at night more difficult. Similarly, it condemns the use of colored windshields (which may prove a hazard at night) or the promotion of removal filtering or polarizing shields as a useful aid in night driving.

As applied to the general civilian population, this Sub-Committee endorses the thesis that sunglasses should be worn only when the intensity of light produces discomfort, and that the penalty for their wear otherwise is the reduction of the individual's tolerance to bright light. Unless indicated by definite ocular pathologic processes, the habitual use of sunglasses indoors is most objectionable.

It is emphasized that no commercially marketed sunglass is sufficiently dense to permit direct gaze at the sun. Much denser filters are required for safe view of a solar eclipse.

With respect to the mildly tinted lenses designed for constant wear, it is recognized that the more dense of this group are useful in the presence of photophobia due to pathologic conditions. In the absence of pathology those more dense tints should not be prescribed for constant wear. The total light transmission of the lighter tints differs so little from that of crown glass that they are not considered effective filters in pathologic states. The Sub-Committee has no objection to the use of the very mildly tinted lenses if the patient desires them and can afford the additional cost. It is emphasized, however, that we do not agree that they offer physiologic advantage over crown glass for use under fluorescent lighting or other lighting situations.

The Sub-Committee is aware of the investigations which have shown that prolonged exposure to bright sunlight impairs night vision subsequently. This factor is of extreme importance in certain military situations but of very questionable importance in civilian life. The motorist viewing the road ahead under headlights is dependent upon photopic vision; and we are not convinced that photopic vision is appreciably improved by the use of sunglasses. Rather, we believe that the inadvertent wear of sunglasses at dusk constitutes a far greater hazard in driving on the highways than any possible decrement in vision at low levels of illumination.

The Sub-Committee agrees in general with the statements contained in the article by Dean Farnsworth: "Standards for Sunglasses," published in *Sight Saving Review*, Vol. XX, No. 2, Summer 1950, pp. 81–87.

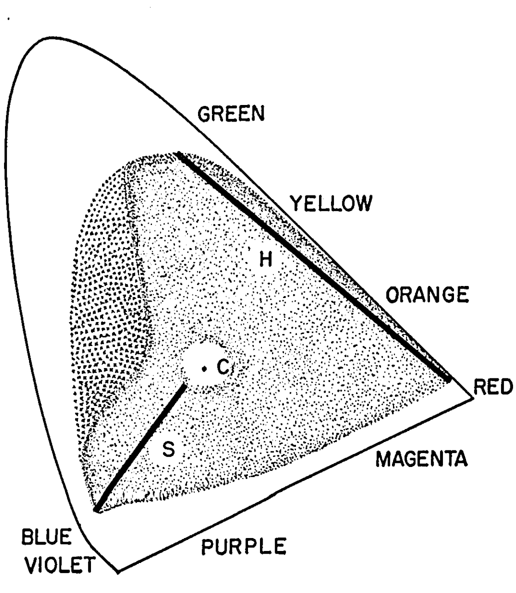
SUB-COMMITTEE
John L. Matthews, M.D., *Chairman*
Lieut. Commander Dean Farnsworth, USN
Everett V. Kinsey, Ph.D.
Col. Victor A. Byrnes (MC)
(From Joint Committee)

Society for Applied Spectroscopy

The newly elected officers of the Society for Applied Spectroscopy for the year 1952–1953 are: President, E. J. Rosenbaum; Vice-president, Van Zandt Williams; Secretary, Charles Jedlicka; and Treasurer, Charles H. North.

Variable-Color Filters

The Polaroid Corporation has announced the availability of a new type of color filter in which the saturation, the hue, or both, can be altered merely by rotating one or more components of the several-filter ensemble. Thus a compact device is available for readily changing the hue and saturation of a beam of light. This device is built around dichroic dye filters—that is, dyes which polarize to a different extent in different parts of the visible spectrum (or, more accurately, dyes whose dichroic ratio varies strongly with wavelength within the limits of the visible spectrum). If such a polarizing dye filter is used in combination with an ordinary neutral polarizer, the orientation of the polarizing axis of the latter determines the relative amount of white light that is transmitted by the combination. By rotating the polarizer through 90° around the beam of light, different saturations are obtained, as shown in Curve *S*, for a blue filter that can be varied



from practically neutral to the deepest saturation of which the filter is capable.

If two different dichroic dye filters are used together, sometimes laminated into a single filter, but always with their polarization axes at right angles, a so-called variable-hue (doubly-dichroic) filter is obtained. Curve *H* illustrates the smooth transition from a red to a green, obtained by rotating the neutral polarizer through 90° as before.

With an additional polarizer, and by adjusting two components, hue and saturation can be changed simultaneously. The most complicated situation includes three color filters and two polarizers. By suitably orienting the components, one can match, in hue and saturation, almost any color within the shaded area on the chromaticity diagram. The darker shading indicates the area in the blue-green (cyan) for which dyes have not yet been fully investigated.

Sample kits of color filters and polarizers are available on loan from the Polaroid Corporation for scientists and technical people who have an interest in exploring the uses of this new type of variable-color filter.

"Color is How You Light It"

Sylvania Electric Products, Inc. has recently published a 24-page booklet on the subject "Color Is How You Light It," with a popular discussion of color and the appearance of color swatch samples under different types of incandescent and fluorescent lights. The booklet is available to Optical Society members at special member price of 50 cents per copy from the Sylvania, Electric Products, Inc., Department L-4006, 1740 Broadway New York 19, New York.

Technical Calendar

September

1–2 Mathematical Association of America, East Lansing, Michigan
1–5 Combustion (International Symposium), Cambridge, Massachusetts
1–6 International Conference on Beta- and Gamma-Radioactivity, Amsterdam, Holland
3–5 International Council of Scientific Unions (6th General Assembly) Amsterdam, Holland
3–10 British Association for the Advancement of Science, Belfast, Ireland
3–13 American Society of Civil Engineers, Chicago, Illinois
4–6 American Physical Society Division of Electron Physics, Princeton, New Jersey
4–9 Second International Congress on Analytical Chemistry, Oxford, England
4–13 International Astronomical Union, Rome, Italy
8–10 Third National Standardization Conference, Chicago, Illinois
8–11 American Society of Mechanical Engineers, Chicago, Illinois
8–12 Instrument Society of America, Cleveland, Ohio
8–12 International Council of Scientific Unions, Joint Commission on Spectroscopy, Columbus, Ohio
8–15 Nineteenth Session of International Geological Congress, Algiers, Africa
11–12 American Geophysical Union, Chicago, Illinois
14–19 American Chemical Society, Atlantic City, New Jersey
22–30 Conference and Exhibition "Instruments and Measurements," Stockholm, Sweden
23–24 The Institution of Mining and Metallurgy, London, England
29–October 1 National Electronics Conference, Chicago, Illinois
29–October 1 International Union of Pure and Applied Physics Colloquium, Chicago, Illinois
30–October 3 International Council of Scientific Unions, Amsterdam, Holland

October

9–11 Optical Society of America, Boston, Massachusetts
17–18 American Physical Society, Ithaca, New York

November

6–8 American Association of Textile Chemists and Colorists, Boston, Massachusetts
10–12 National Academy of Science, St. Louis, Missouri
10–13 American Petroleum Institute, Chicago, Illinois
19 American Standards Association, New York, New York
28–29 American Physical Society, St. Louis, Missouri

December

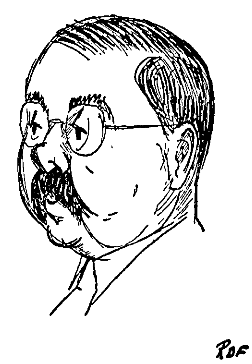
26–31 American Association for the Advancement of Science, St. Louis, Missouri
30 Mathematical Association, St. Louis, Missouri

Local Section News

Edited by Stanley S. Ballard, Secretary for Local Sections, Optical Society of America

Two New Local Sections

The Optical Society family has recently experienced a substantial increase in size through the addition of two new local sections, one in southwestern Connecticut, and the other in southern California, with installation dates of May 8 and June 4, 1952, respectively. Both of these groups were formed in areas of considerable optical activity, where a need was felt for an organization that would serve as a focal point for optical discussions, and a clearing house of optical news and views. Both groups have the broad base of diversified interests which characterizes the national society, although they lean in the direction of technical optics and optical manufacturing. All members of the national society, and of the other six local sections, surely join in welcoming these two new groups into the fold.



STANLEY S. BALLARD

Southwestern Connecticut Section

Most organizations owe their existence to the enthusiasm and good hard work of a small group of interested individuals. Thus the organizing committee of the Optical Society of Stamford is largely accountable for initiating this organization, which subsequently became the Optical Society of Southwestern Connecticut, and finally the Southwestern Connecticut Section of the Optical Society of America. This committee consisted of F. Kimball Loomis, Oscar W. Richards, and Van Zandt Williams. A quiet but a very important role was played by Alva H. Bennett of the American Optical Company's Research Laboratory in Stamford. It was Mr. Bennett who, as a Director-at-Large of the Optical Society, informed the Board of Directors of the

Society regarding the growing interest in the Stamford area in forming an optical group. He mentioned his own laboratory and those of the Perkin-Elmer Corporation, the American Cyanamid Company, and the Time-Life publishers as organizations which would back such a movement and would provide many optical scientists to make up its membership.

The officers of the Optical Society followed with interest the development of this local group, which met first on May 2, 1951, under the aegis of the above-noted organizing committee. The second meeting was held on June 5, when the Optical Society of Stamford was organized and officers were elected: A. H. Bennett as President, T. G. Rochow as Secretary, and a three-man program committee which was identical with the original organizing committee. Meeting activities were resumed in the fall, with meetings being held in October, November, and December. Monthly meetings continued during the winter and the spring of 1952, and at the "gala tenth meeting," on May 8, the organization was formally installed as the seventh local section of the Optical Society. There are now about 120 regular members, with a considerably larger potential to draw from. Meetings are ordinarily held in the Stamford Museum, and are attended by between 40 and 80 persons. A wide range of topics has been covered by the several speakers selected thus far. For instance, at the tenth meeting there was a brief tour of the Springdale Laboratories of Time, Inc., followed by a panel discussion of "color in the graphic arts" by three members of the technical staff of this modern laboratory. At other meetings such subjects were discussed as electron microscopy, technical photography, the manufacturing and testing of optical glass, and topics in physiological optics and biophysics.

Officers elected to guide the new section through the 1952–1953 activity year are F. K. Loomis as President, P. W. Collyer as Vice-President and Treasurer, and M. D. Bennett as Secretary; P. A. Wilks serves as Program Chairman. Seven local industries and laboratories have indicated their interest in supporting this venture by listing themselves as sponsors of the section and making contributions to its operating expenses. An innovation which other local sections might well consider is the inauguration of a program aimed at interesting promising high school students in optics and related subjects. To this end, the supervisor of science work in the Stamford school system has been invited to sit with the Board of Directors of the section.

Southern California Section

As long ago as the winter of 1949–1950 there was correspondence between Dr. W. E. Williams of Pasadena and Dean G. R. Harrison concerning the fact that the Pacific Coast should indeed have a local optical group to serve the many persons in that region who are involved in the theoretical and applied aspects of optics. Organizational activities got underway in the greater Los Angeles area in the fall of 1950, thanks to the efforts of Eugene K. Thorburn and Felix Bednarz of the Northrop Optical Laboratory in Pasadena. Henry A. Knoll of the Los Angeles College of Optometry was about to proceed along similar lines when he heard of the other activities, and so the two efforts were pooled. Appropriately enough, Thorburn and Knoll are both alumni of the University of Rochester's Institute of Optics.

In February, 1951, 125 circular letters and return post cards were sent out to sample the amount and the nature of optical interest in southern California. The results were sufficiently encouraging so that an organizing committee was formed in June, which committee included the three men just named plus Armin J. Hill and Howard Cary. The first meeting, called by this committee for September 26, was attended by about 90 persons, thereby amply confirming the hopes of the organizers. At the second meeting, on November 7, an equally large number attended and temporary officers were elected: Howard Cary as President, Armin J. Hill as Vice-President, Felix Bednarz as Secretary, and Eugene Thorburn as Treasurer. Also, three counselors were elected: Ira S. Bowen, W. Ewart Williams, and Walter Wallin. The third meeting was held on December 5, the fourth on January 3, 1952, the fifth on February 6, and the sixth on March 5, with attendance continuing near the 100 mark.

The formal organization of the Optical Society of Southern California was completed on March 25, 1952, when its articles of incorporation were approved by the California Secretary of State. The society met on April 10 at the U. S. Naval Ordnance Test Station, Inyokern, heard several technical presentations, and made a tour of the Michelson Laboratory. The last meeting of the year was held on June 11, jointly with the Instrument Society of America (California Section), at the Corona Laboratories of the National Bureau of Standards, and was attended by over 200 persons.

As a result of a formal petition received from the Optical Society of Southern California, this group was accepted as the eighth local section of the Optical Society of America. Unfortunately, the Secretary for Local Sections could not arrange a visit to California so as to perform the usual official installation at a regular group meeting. However, these formalities were concluded at a dinner meeting held in Los Angeles on July 17 and attended by the officers, directors, and committee chairmen of the local group. The traditional gavel was presented to Howard Cary, who turned it over to the newly-elected president, Armin J. Hill. Other officers elected at the annual business meeting of May 6 to serve for the coming year are Eugene Thorburn as Vice-President, Reed C. Lawlor as Secretary, and Michael E. Stickney as Treasurer. The three counsellors were re-elected, and J. W. Kemp was appointed Program Chairman.

The Southern California Section presently has over 100 paid-up members; in the usual fashion of California activities it will doubtless continue to grow, and at a rapid rate. It can be expected to contribute to the intellectual life of its members, and to serve effectively as our westernmost American center of organized optics.