Inter-Society Color Council Newsletter

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COVER DESIGN – DONALD M. GENARO AND VALERIE PETTIS OF HENRY DREYFUSS ASSOCIATES, NEW YORK CITY
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CONCERN ABOUT BENZIDINE-BASED DYES AS A CONSUMER HAZARD

Miss Midge Wilson, of the Color Association of the United States, received the following letter and list from Barry I. Castleman, of the Environmental Defense Fund.

We are concerned that benzidine based dyes and pigments may be used in products such as crayons, felt-tip pens, and pencil coatings, giving rise to needless consumer hazards attendant upon the ingestion of benzidine colors. Professor Troll at New York University has shown that rhesus monkeys fed benzidine dyes break the compounds down to benzidine. It has been known for some time that kimono painters in Japan, who typically "point" their brushes with the lips, are incurring an excess of bladder cancer. Benzidine itself has been known as a bladder carcinogen for a number of years, as you probably are aware.

Enclosed is the most complete list of colors based on benzidine and benzidine compounds we have so far compiled. Perhaps your Association would be willing to distribute this list to its members, expressing our concern. We welcome responses from you and your members, particularly if you have additional information to offer. If you can send some materials about your organization to us, that would be much appreciated also.

DYES AND PIGMENTS MADE FROM BENZIDINE AND BENZIDINE COMPOUNDS

Direct Dyes – yellow; 1, 20, 24 – orange; 1, 2, 8, 25, 33; 4(3,3'-dsa) – red; 1, 10, 13, 17, 18, 28, 29, 33, 37, 42, 43, 44, 52, 53, 59, 60, 74, 88. 7 (3,3'-dm), 46, 61 (3,3'-dc) – violet; 1, 3, 4, 12, 17, 22, 27, 36, 38, 42, 43, 45, 85. 13, 32, 37 (3,3'-dm), 25 (3,3'-dsa) – blue; 2, 6, 11, 16, 19, 38, 42, 43, 48, 49, 51, 58, 64, 131, 137. 1, 4, 8, 9, 10, 12, 15, 22, 23, 30, 35, 36, 37, 45, 50, 57, 65, 136, 150, 151, 152, 168 (3,3'-dm); 84, 95, 98, 166 (3,3-dh) – green; 1, 6, 7, 8, 9, 10, 12, 19, 21, 22, 39, 58, 60. – brown 1, 1A, 2, 5, 6, 7, 13, 14, 17, 20, 21, 24, 25, 26, 27, 31, 33, 39, 43, 46, 51, 54, 56, 57, 58, 59, 60, 61, 62, 68, 70, 73, 74, 75, 79, 86, 95, 101, 127, 151, 154, 158, 159, 165, 171, 173, 175, 190. 93 (2,2'-ds), 69, 185 (3-s) – black; 4, 11, 14, 15, 27, 29, 34, 38, 40, 70, 83. 20, 86, 87, 91 (3,3'-dm).

Acid Dyes – yellow; 42, 87 (2,2'-ds) – orange; 45; 56 (2,2-ds) – red; 85; 152 (2,2'-dc); 128 (3,3'-dm), 97, 144 (2,2'-ds) – brown; 32, (2,2'-dc) – black; 66, 69; 4 (3,3'-dsa).

Mordant Dyes – yellow; 36; 21 (2,2'-dn); 26 (2,2'-ds); 48 (2-n) – red; 8 (2-n).

Sulphur Dyes – yellow; 2, 3, 4, 6 – orange; 2, 3 – brown – 19, 24, 55 – green; 10.

Vat Dyes – yellow; 9 – brown; 31.

Pigments – yellow; 12, 13, 14 (3,3'-dc) 17, 84; 15 (2,2'-dc, 5,5'-dm); 76, 83, 87-91 (?) – orange; 13 (3,3'-dc); 14, 16 (3,3'-dm) – red; 39; 38 (3,3'-dc); 37, 41, 42 (3,3'-dm) – blue; 25, 26 (3,3'-dm).

dsa - disulfonic acid; dm = dimethoxy; dc = dichloro; n = nitro; dh = dihydroxy; dn = dinitro.

Additions: benzidine yellow pigments developed since 1957, basic compound not known for all.

COLOR AND RECUPERATION

The late Dr. Ernest Harms, a pioneer in art therapy and former editor of the Pergamon publication, Art Psychotherapy, has quoted the following statement by Florence Nightingale, 1860. (Precise source is unknown.)

"The effect in sickness of beautiful objects, and especially of brilliancy of color is hardly appreciated at all . . . . People say the effect is only on the mind. It is no such thing. The effect is on the body, too. As little as we know about the way in which we are affected by form, by color and light, we do know this, that they have an actual physical effect . . . . Variety of form and brilliance of color in the objects presented to the patients is an actual means of recovery."

To which I heartily agree.

FABER BIRREN

EFFECTIVE USE OF COLOR BY CONSUMERS PRESENTED IN NEW NBS GUIDE

Using color to one's own best advantage is an art and a science. Both aspects are expertly analyzed in *Color in Our Daily Lives,* a booklet just published by the Commerce Department's National Bureau of Standards.

This very colorful and informative booklet, No. 6 in the NBS Consumer Information Series, was conceived by Deane B. Judd and the original text written by him before he died, October 15, 1972. Although many persons made contributions before it was completed, the booklet provides a very fitting tribute to the memory of Dr. Judd and to his ability to explain the complex facets of color in simple understandable terms. There are colorful illustrations on every one of the 32 pages of the booklet. The basic principles involved in color relationships are conveyed primarily by illustration with only a minimum of descriptive text. Color charts and prints of color photographs frequently appear together to show their interrelationships.

Carl Foss, a color consultant and long-time color colleague of Dr. Judd, was asked by NBS to make recommendations on the desired type of technical illustrations. These were synthesized by Mr. Foss under NBS sponsorship and produced quickly by a special procedure so that they could be made available to Dr. Judd for approval.

Anyone with the slightest interest in color will find both education and inspiration in this booklet. The first portion is a review of the fundamental principles of color and light, families of color, influence of colors upon other colors, and color harmony. Practical applications are then discussed in sections on:

- Your Personal Color Plan
- Your Color Environment
- Color Plans for the Home
- Use Color to Dramatize or to Hide
- Color and Illumination
- Experimenting With Color

The text of the section, "Experimenting with Color," is quoted below to illustrate the conciseness of the presentation and the practical nature of the approach.

> "A woodland in spring or fall, or a sunset sky can demonstrate the infinite variety of color combinations that are pleasing and acceptable to the most critical eye. In variety of color, today's marketplace is beginning to rival nature. Fabrics, paints, plastics, pottery, tile – the possibilities are endless.
>
> "Once you have familiarized yourself with the guidelines to color harmony in this booklet, try your hand at new and unfamiliar combinations that will make your neighbors sit up and take notice. You may find that working with color can be challenging, exhilarating, and fun!
>
> "As a start toward your study of new combinations, we present 21 color combinations. They are all abstract color plans, and can apply to kitchens and bathrooms as well as living rooms and bedrooms. They are intended as examples to stimulate you to find new answers of your own."

Color in Our Daily Lives, NBS Consumer Information Series No. 6, is available from the U.S. Government Printing Office, Washington, D.C. 20402, at $1.70 a copy. Use Superintendent of Documents (SD) catalog number C13.53.6 when ordering.

Harry K. Hammond III

CHARLES BITTINGER
1879-1970

With the passing on December 18th, 1970, of Charles Bittinger at the advanced age of 91, the Club lost a charming mild-mannered man whose bright eyes shone with a faintly quizzical expression, and the world lost the author of a thousand pleasantries, a scientist wont to turn amazing tricks in the use of color, including the protection of American warships through deceptive coloration, and a great portraitist whose works included the first Mrs. Woodrow Wilson, the late Gilbert Grosvenor of the National Geographic Society, Admiral Nimitz of World War II fame, and many another great and small personage. His paintings have hung in numerous galleries in Chicago, New York's Metropolitan, Versailles, Paris Salon, St. Louis, Washington, and elsewhere.

He was born June 7th, 1879, in Washington. He attended Woodbury School, then Massachusetts Institute of Technology, moonlighting meanwhile at an art school, but he left MIT before graduation, impatient with being required to study French, going then to France where he studied at the Sorbonne and at L'Ecole des Beaux Arts. (His French remained poor throughout this life, nevertheless!) At MIT at the turn of the century, he acquired the taste for science that influenced his long career as artist and colorist. L'Ecole des Beaux Arts brought out his talent for portraiture. Cosmos members need go no farther afield than the Club precincts to view the beautiful painting of the mansion at Mount Vernon (1946) and the portraits of Samuel W. Stratton (1930) and Matthew Fontaine Maury (the latter a color reproduction of a painting of unknown date). Some may have seen the delicately colored lunar globe at the National Georgraphic Society, painted long before the day of out Apollo astronauts.

He had been prevented by his mother from enlisting in the Spanish-American War, but, in 1917, stirred by the prevalent war clouds, he responded to the call, becoming a Navy Machinist's Mate in the unbeautiful clothes of a bluejacket. The Navy, worried over the submarine menace and the need to camouflage the ships, was casting about for help. At a meeting it was said by a lecturing scientist that the Navy already had a specialist handy in the person of the unassuming Bittinger. Secretary of the Navy Daniels promptly sent for the painter-scientist, and, during a later briefing when Bittinger was standing at the rear, Daniels arrived, grabbed him by the arm, and escorted him up front, to the lifted eyebrows of the assembled brass. From then on, he was lionized in the highest circles, being personally invited to dine at the White House – probably the only such invitation ever issued to an enlisted sailor. All this seemed too much for the proud Washington Society, so it wasn't long before the situation was adjusted by the appearance of gold stripes on those talented sleeves, from which starting point he rose in due course to the rank of Captain.

He was sent to Rochester to work with experts in the use of light. His early work in this period, and later during World War II, were undoubtedly decisive factors in the protection of numerous ships carrying the subtle gray tones of his color schemes. In the second of those wars he was Chief of the Section of Camouflage Design. Notwithstanding his 60 and more years and a previous heart attack, he climbed to dizzy heights on the ships to study coloration, dived in submarines, and jumped into and out of bouncing small boats.

Broken only by periods in New York, and in Washington, where he spent winters after 1929, he lived in Duxbury, Massachusetts, in a house built in 1807 by the famed Gamaliel Bradford – a house of harsh lines rendered soft and beautiful by the gardening work of his talented wife Edith, whom he had met in France and married in 1904 in London. He started the Duxbury Art Association in the 1920's and for a time ran painting classes. The Duxbury house boasted a wealth of paintings, and during fifty years it resounded to the bubbling air and solemn discussions of art world celebrities, Navy officers from five-star rank on down, and of all sorts of other notables. Admiral Nimitz was a frequent caller. Bittinger's popularity with Admirals was bolstered by the love of their wives for the flowers so skillfully raised and arranged by Edith. One Admiral, David Taylor, was so poor a portrait sitter that Bittinger called in his life-long friend and neighbor Gershom Bradford to tell

sea tales to brighten the Admiral's face while he worked feverishly to capture the mood.

During his extensive studies of color, he discovered certain hitherto unknown applications of the invisible spectral differences of color, holding some twenty patents in the field. (This important achievement was later incorrectly claimed by another physicist – a matter that the talented Bittinger could well afford to disregard.) With a brush that knew no formal rules, he created fantastic creations with color. A painting of a white horse by a tree became a gorgeous girl when beheld through a red filter. A theater curtain decorated with a summertime scene became a winter landscape under a different light. His murals at the Franklin Institute are invisible until bathed with ultraviolent light.

His *joie de vivre* impish delight in jokes found expression in many ways. A typical story of Club interest concerns the decorations he and the late Everett Warner ('42) added to the large reclining nude over the bar in the billiard room of the old clubhouse at Madison Place, later painted out because, some say, Bittinger's monkeys peering lasciviously through the foliage at the voluptuous nude had faces too much resembling certain Club members. While he was at Pelham Bay during his early Navy days, the Admiral, hearing that Bittinger was a painter, ordered him to the house to paint a bathtub. With a companion, Charles started on the job, but didn't finish so they had to go another day. This went on for a week, when he had to explain that the sight of the Admiral's two daughters playing about the swimming pool so distracted them that they could proceed only very slowly. Besides, painting all the fishes and mermaids in the tub was slow work. Charles finally admitted that the bathtub was probably the best painted one in creation.

In a 1948 letter to Charles Piggot, of the Club, commenting on the dropping of the word "Joint" from the name of the Joint Research and Development Board, of which Piggot was Executive Director, he waid he was glad because he didn't like the idea of Piggot working in a "Joint." He was once quoted as saying to a prospective sitter, "Now we must get together at Duxbury and start the portrait that will make Reynolds, Gainsborough, and Company 505μ with jealousy!" Gershom Bradford tells of the time when he asked Charles, in Duxbury, to bring a bottle of *Serutan* from the drug store. Charles returned, and, to point up his success, backed the car, instead of driving forward, into the driveway. When he and Bradford, late in life, were invited to ride out to the Gurnet Lighthouse over the sand dunes, Bradford declined, but Charles would not refuse. Cushioned between two husky riders against the jerks and jolts of the Jeep, he made the trip and, when they reached the place, they had difficulty restraining the eager 89-year oldster from climbing the tower for the view.

Throughout life, though inept at most manual tasks, he maintained a deep interest in everything technical – what went on in a geomagnetic observatory, the reasons for the gentle purring of a well-tuned car, the endless procession of the spring and neap tides – as well as in the subtle beauty of a cloud looming in the setting rays of the sun, or the color saturation of a deep blue sky. He painted the corona of a total solar eclipse at Canton Island, working feverishly fast to capture the evanescent details of light and shadow. At Bikini he did the same, producing a remarkable picture of that historic event – one that received wide circulation.

He was an Association of the National Academy of Design, a member of the Paris Beaux Arts, President of the Optical Society and of the Duxbury Art Association, member of the Massachusetts State Planning Board, and he was associated with many other organizations. His club memberships included Washington's Art Club, The Landscape Club, and The Salmagundi and McDowell Clubs of New York.

His numerous medals included one from the St. Louis Exposition of 1904, while he was still a student, the second Hillgarten prize from the National Academy of Design, a silver medal from the San Francisco Exposition of 1905, first prize from the Washington Society of Artists in 1925, and the Legion of Merit from the Navy.

Elliott Roberts ('47)

Editor's note. The preceding item was sent in by Dr. Robert Feller. It is reprinted, with permission, from the Cosmos Club Bulletin, December 1974.

NEWS FROM MEMBER-BODIES

Federation of Societies for Coatings Technology

One item in the program of the Federation's annual meeting this year should particularly interest ISCC members. An abstract of the paper follows.

Preface for "Paint/Coatings Dictionary" – Stanley LeSota, Rohm and Haas Co. After 10 years of considerable effort, a comprehensive updated "Paint/Coatings Dictionary" has been compiled and intensively edited by the Federation's Definitions Committee. Defining the jargon and technical terms of the coatings industry and its interfacing technologies, this dictionary contains about 5,000 definitions derived through research and consensus.

Unique is the classification of these definitions into one or more of 72 categories (color, pigments, additives, etc.). These categories have been number coded and appear as superscripts at the end of each definition. Conversely, all of the terms defined under each category are listed in back of the dictionary and serve as a checklest for key words, research papers and literature searches. Pigments have also been classified into their Color Index numbers. Pigment synonyms have been extensively cross-referenced to a commonly accepted name.

About 400 of the color terms have been defined by the Federation's Inter-Society Color Council Committee.

Society of Motion Picture & Television Engineers

SMPTE PROGRESS MEDAL AWARD TO WILLIAM T. WINTRINGHAM

William T. Wintringham, Consultant, has been awarded the Progress Medal of the Society of Motion Picture and Tele-

vision Engineers for 1975. The Award will be given at the Annual Awards Presentation of the Society at the Century Plaza Hotel, Los Angeles, Monday, September 29.

The Progress Medal, the Society's premier award, is presented to William T. Wintringham in recognition of the broad spectrum of his technological abilities and the many ways in which those abilities have contributed to progress in the motion picture and television field. A true interdisciplinarian, blessed with a logical and perceptive mind, Mr. Wintringham has provided a valuable interface for the many scientific and engineering disciplines embraced by television and by motion picture. His proficiency as an engineer, together with his ability as an administrator, have uniquely enabled him to make outstanding contributions not only to the technologies involved, but also to the national and international standardization of those technologies.

Mr. Wintringham has been the recipient of many honors and awards including Tau Beta Pi (1923), the RETMA Certificate of Contributions to Color Television Standards (1954), the IRE-EIA Radio Fall Meeting Plaque (1961), the IEEE Certificate for Services (1970), BKSTS Honorary Fellowship (1973), and the SMPTE Special Commendation Award (1974). He is currently completing his ninth year as SMPTE Engineering Vice-President.

The Progress Medal Award will be presented by SMPTE President Kenneth M. Mason at a ceremony following the Get-Together Luncheon that will open the Society's 117th Technical Conference at the Century Plaza Hotel. The Conference will be held September 28 to October 3. An Equipment Exhibit of professional motion-picture and television products of some 100 companies will be held in conjunction with the Conference.

Society of Plastics Engineers Color and Appearance Division

SEMINAR ON COLOR

The Color and Appearance Division of the Society of Plastics Engineers is sponsoring a two-day seminar on the Fundamentals and Problems of Color at the Sheraton Poste Inn, Routes 70 and I-295, Cherry Hill, New Jersey, on November 18 and 19, 1975.

Program and materials have been selected to provide a foundation for basic color skills and further advanced study, if desired. Emphasis has been placed on the needs of the technician and/or newcomer to the field of color. The only prerequisite is a background in simple mathematics.

The seminar will include a study of fundamental concepts which define color, both psychologically and physiologically. The principles of the physics of color will be studied covering spectrophotometry, light sources, additive and subtractive colorimetry, and basic color order systems. Commercially available instruments and their proper use for color measurement will be discussed.

There will be a discussion of colorants along with a review of the graphical and numerical methods of formulating colors to match customer standards. Basic ideas necessary to understand the principles of color control and color tolerance will be covered.

The seminar will be conducted by S. Leonard Davidson of NL Industries, an internationally recognized authority on color, a past president of the Federation of Societies for Paint Technology, and presently secretary of the Inter-Society Color Council.

The registration fee is $95.00 and will be limited to the first 40 applicants. If you want further information, call Thomas B. Reeve at (302) 999-2182, or Boris Gutbezahl at the Rohm and Haas Company, P. O. Box 219, Bristol, Pennsylvania (215-788-5501, Extension 214).

NEWS OF MEMBERS

SYLVESTER K. GUTH ELECTED TO FOUR-YEAR PRESIDENCY OF COMMISSION INTERNATIONALE DE L'ECLAIRAGE

The Commission Internationale de l'Eclairage (International Commission of Illumination) elected Dr. Sylvester K. Guth to a four-year term as President at its September 10 to 18, 1975 meeting. Dr. Guth who retired in 1974 from his position as Manager of Applied Research for General Electric Company's Lamp Business Division at Nela Park, Cleveland, Ohio, caps 24 years of CIE activity as he moves up to the CIE Presidency from a four-year term as Vice President and Chairman of CIE's Action Committee.

The CIE is working to provide an improved scientific basis for knowledge and decision-making on such vital world issues as:

- resource allocation. Each nation has to decide in terms of its own priorities what their balance is between using light to increase productivity and creating lighting for good working conditions as efficiently as possible.
- the development of more efficient light sources for the home thru specification of colors that produce pleasing effects at the greatest possible light output per watt.
- safety in the air, on land, and on sea thru its work on international standards of signals, streetlighting, auto headlighting, aircraft and ship navigation lights.
- the needs and deficiencies of older eyes on the highway, at home, and at work.
- increasing food production thru a study of the effect of light on crop yield and quality.

As CIE President Dr. Guth will direct the efforts of 30 Member Countries and 10 Associate Member Countries through CIE's 26 Technical Committees. With each committee chaired by a member country, the fields of interest range from fundamentals, light sources, luminaires, and design to applications. The Committees' reports and guides are accepted worldwide and include: The International Lighting Vocabulary, Standard Observer Data for Photometry and Colormetry, International Recommendations for Lighting Public Thoroughfares, United Framework for Evaluating Visual Performance, and the Guide on Interior Lighting.

As Dr. Guth points out, "Being CIE President is a great honor that carries with it a great responsibility. I intend to provide a continuation of quality leadership to the CIE as it works toward achieving the objectives of: Providing an

international forum for matters relating to the art and science of lighting, Promoting the study of all lighting related subjects through any appropriate means, Encouraging the interchange of lighting information among all nations, and Preparing and publishing international agreements in the lighting field."

Dr. Guth holds a Fellowship in the Illuminating Engineer-Society and, in 1967 received the IES Gold Medal for outstanding contributions in lighting, vision and seeing. He is also a Fellow of the American Academy of Optometry and the American Association for the Advancement of Science. Other memberships include the Optical Society of America, American Society for Photobiology, Inter-Society Color Council, the Illuminating Engineering Society (London), and the NAS-NRC Committee on Vision.

LETTERS TO THE EDITOR

A REQUEST FOR HELP

A few days ago, your editor received a request from a librarian at the University of Connecticut. Since her letter explains the situation better than any paraphrase of mine could explain it, the letter is reproduced below.

Dear Sir:

Mr. Faber Birren gave me your name and suggested I contact you with my problem. The library wishes to purchase a used copy of *Munsell's Book of Color* for our art students. A new edition is more than $300.00. It is in a spiral notebook format, with very few pages, and, according to the faculty member who wants it purchased, cannot compare with the older edition. The most important point, however, is budget. We are cut to the bone this year and do not have $300. to buy the book, as much as we need it. Do you think you could put a note in your *Newsletter* advertising our need? There must be someone around who has a used copy. You are our last hope.

Thank you for your cooperation in this matter.

Sincerely,

Carmel O'Neill
Librarian

If any of you can offer any help or advice, please write to Ms. O'Neill at The University of Connecticut, Stamford Branch, Scofieldtown Road, Stamford, Connecticut 06903.

MORE INFORMATION ON COLOR COURSES

Dear Sir:

In reviewing the March-April issue of *Newsletter*, I was sorry our school was not included in the survey of courses on color. No doubt my letter reached you too late to be included. However, I am enclosing our catalogue, and I refer you to pages 14, 17, and 19.

Over the years the *Newsletter* has been of great value in supplying us with current information on color, and we have given credit to the Inter-Society Color Council at the end of the chapter on color in the fourth edition of our textbook "Interior Design and Decoration" by Sherrill Whiton.

Whenever you are in New York, we would be glad to have you visit the school.

Sincerely,

Sheila Chapline
Registrar
New York School of Interior Design

Editor's reply: I regret that we cannot take credit for the work that went into the survey. You will note on re-examining the issue in which it appeared that a note is appended stating that it was reprinted from another newsletter. It is very easy to miss this note since it began at the top of the next column (p. 7) after the conclusion of the reprinted survey. I thank you for letting us know of another institution that teaches courses in color, and I am sure that Walter Coleman, associate editor of the *SPE CAD Newsletter*, who did the research for the survey, will be glad to hear from you. ISCC members will also be very pleased to learn that your school has found publications of the ISCC useful.

US NATIONAL COMMITTEE OF CIE

Members of the US National Committee (USNC) of the International Commission on Illumination (CIE) held their annual meeting October 26-28, 1975, at Charlottesville, Va. Approximately 50 members attended and about half of these had members of their families with them.

The committee was pleased to have its distinguished member Dr. Sylvester K. Guth in attendance. For the past four years he has been Chairman of the Action Committee of the CIE, and at the quadrennial meeting in London in September he was elected President.

The primary function of this meeting was to elect officers of the USNC for the next four years. ISCC members will be interested to learn that our esteemed Secretary, Dr. Fred W. Billmeyer, Jr., was elected Vice-President in absentia. (At about that time he was arriving in Australia as part of a 3-month round-the-world lecture tour.) Prior to his election as Vice-President, he had served two years of a 3-year term as a member of the Executive Committee.

Other officers elected were: President, George W. Clark, Sylvania Lighting Center, Danvers, Mass.; Secretary, Louis E. Barbrow, National Bureau of Standards, Washington, D.C. (he has served as secretary since 1948 except for the four years during which he was president); Treasurer, Benn J. Hartmann, Sylvania Lighting Services, Glenndale, Calif. Franc Grum, Eastman Kodak Research Laboratories, Rochester, N.Y. (a current ISCC director) was elected to a 3-year term on the Executive Committee. The two other members of the Executive Committee are Charles L. Amick, Day-Brite Lighting, St. Louis, Mo., elected to fill the one-year of Dr. Billmeyer's unexpired term, and Charles D. Gibson, School Lighting (retired), Carmichael, Calif., elected last year for a three-year term.

Membership in the USNC is held in several ways: (1) by virtue of being a representative of one of the seven constitu-

ent organizations, (2) being USNC chairman or secretary of one of the approximately 30 CIE technical committees, (3) by having been designated to attend the most recent CIE quadrennial meeting as a US delegate, (4) by being elected (each year) as a USNC Member-at-Large. (The USNC limits this category of membership to 40% of all the other categories taken together.) Fifty-five delegates represented the US at the CIE meeting in London in September, and 33 individuals were elected members-at-large, making the total membership of the USNC about 130.

Four of the USNC constituent organizations are also ISCC member bodies, namely ASTM, IES, OSA, and SMPTE. At the meeting brief reports were received of CIE related activities of the constituent organizations. More extensive reports were given by selected chairmen of US panels of the various technical committees.

Prof. Richard Blackwell (Ohio State) gave a very interesting report on the work of Technical Committee 3.1, Visual Performance, of which he has been the international chairman for a number of years. In 1972 the CIE published the committee report, "A Unified Framework of Methods for Evaluating Visual Performance" (CIE Publication No. 19, 90 pp., price $6.00 from Secretary USNC). The methods developed by his committee now permit an analysis of visual tasks that provides a means for deciding when it is economic to improve task performance by increasing the level of illumination.

Dr. David MacAdam (Eastman Kodak Research Laboratories), reported on the deliberations of TC 1.3, Colorimetry. This very active committee has been divided into six subcommittees including color difference, chromatic adaptation, metamerism, whiteness, standard sources, and terminology. The color difference subcommittee over the years has examined at least 20 different equations developed for the most part to provide a more uniform color space so that equal distances in space would represent equally perceived color differences. None of these has been ideal, but by the conclusion of the London meeting the committee agreed on a report that recommended two. Dr. MacAdam and others of the US delegation would like to have seen the CIE recommend only one space, but the committee indicated that each of the two spaces had limitations and that neither one was sufficiently superior so that it could be endorsed over the other. One space, designated the CIE 1976 (L*u*v*) space, is a modification of the CIE 1964 (U*V*W*) space. This space is reported to be most useful with light sources. The other space, designated the CIE 1976 (L*a*b*) space, is a simplified version of the Adams-Nickerson space. This latter space has met with wide acceptance for surface colors ever since it was first proposed more than 30 years ago. At the London meeting on September 15, a vote was taken on the recommendation for approval of these two spaces. Of the fifteen nations present, 11 voted "For" the recommendation, 3 "Against" and one abstained. This vote was not official, but served to indicate how the voting might be expected to go when the official ballot is taken by post.

Dr. Glenn Fry (Ohio State) presented a report for Dr. Jo Ann Kinney on TC 1.4, Photopic, Mesopic, and Scotopic Vision. She reported that the $V(\lambda)$ curve of 1924 was fine as long as we dealt with only incandescent sources, but then along came fluorescent sources. One solution to the problem is to divorce "luminance" and "brightness." Luminance is a physical unit – integrated with respect to a mathematical function. A second solution is to eliminate conventional photometry and use spectral power distributions to characterize sources. A third solution is to use photometry based on $V(\lambda)$ and a number of other spectral functions. She is really suggesting new definitions of light based on $V(\lambda)$ and several other sensitivity functions.

Luke Thorington (Duro-Test) presented a report on Study Group E, Non-Sensory Effects of Optical Radiation. This study group was formed to determine if a technical committee is needed. The group recommended that a TC be formed but had difficulty agreeing on the name. It will probably be designated TC 3.7, Photobiological Effects of Light. At the London meeting the group met several times and discussed the many biological effects of light such as ultraviolet radiation on the eye (conjunctivitis), endocrinological, and erythemal. (For a recent article on this subject see Richard J. Wurtman, "The Effects of Light on the Human Body," Scientific American, V233, n1, July 1975, pp. 68-77.)

During the past year four new publications were issued by the CIE as follows:

CIE No.	Title	Price
2.2	Colors of Light Signals	$12.00
13.2	Color Rendering Properties of Light Sources	11.00
28	The Lighting of Sports Events for Color TV Broadcasting	7.00
29	International Guide on Interior Lighting	5.00

CIE publications are available from L. E. Barbrow, Secretary, USNC, Rm A166, Bldg. 225, National Bureau of Standards, Washington, D.C. 20234.

Harry K. Hammond III

BOOK REVIEW

May H. Beattie, *The Thyssen-Bornemisza Collection of Oriental Rugs*, Costagnola, Ticina (Switzerland) 1972. 132 pages, 18 color plates, 38 Swiss francs.

Andrei Andreyevich Bogolyubov, *Carpets of Central Asia.* Edited by J. M. A. Thompson, translated by J. M. A. Thompson and Rudi Ritschel. The Crosby Press, Wheathold Green, Ramsdell, Hampshire RG26 5SA, England, 1973. 122 pages, 38 color plates, 23 black and white plates, 2 color maps. £30.

M. S. Dimand and Jean Mailey, *Oriental Rugs in The Metropolitan Museum of Art*, The Metropolitan Museum of Art, New York, 1973. 353 pages, 19 color plates, 297 black and white plates, 7 maps. $45.

Murray L. Eiland, *Oriental Rugs, A Comprehensive Guide*, New York Graphic Society, Greenwich, Conn., 1973. 196

pages, 35 color plates, 179 black and white plates, 13 maps. $16.95.

Several important additions to Islamic rug studies have been published recently. These books may be reviewed most usefully as a group since their contents are interrelated. The Catalogue of the Thyssen-Bornemisza Collection by Dr. May H. Beattie provides us with a standard with which other catalogues in the rug field undoubtedly will be compared.

In the years since the original catalogue of this famous Swiss collection was published in 1941 the number of entries has been reduced due to a family property division. Several important additions have been made and among the 18 rugs presently in the collection are, as Beattie notes, "some of the most celebrated carpets in the world." She provides information on the history of the collection and on the rug producing countries involved as well as detailed catalogue entries. In addition to the comprehensive provenience and historical data, a technical analysis of each rug, accompanied by a superb color plate, is included in this handsome book.

Every researcher in the field of rugs seems to have his own pet notation method for technical data. Although Dr. Beattie supplies a key to her symbols and a section explanning both technical and art historical terms, the proliferation of these notation systems along with the use of special terminologies has made communication in the rug field difficult. It would be better if, instead of cryptic systems and personal terminology, which are fine for field work but not in print, authors would use decriptive language that does not require translation. In addition, it would be preferable to follow Denny's proposal (*Textile Museum Journal*, 1973, pp. 21-25) for applying the now standardized spelling of Turkish words and places (the variants can be entered in parentheses). I also find Beattie's description of S and Z spin confusing.

Lack of adequate and clear technical data has been one of two major deficiencies in many rug publications. The other has been lack of accurate proveniences. Rug scholarship has begun to attack these two problems in recent years. Finally field information is beginning to be reported.[1] Modern ethnologists are providing us with information on the now settled and tribally fragmented groups of Türkmen (Turkoman) living in Iran and Afghanistan, where designs are no longer always traditional. Very few specific proveniences have been available about tribal weaving of the 19th century. The only real source of such information has been the work of General Andrei Andreyevich Bogolyubov, [spelled Bogolubow in the original edition], who was Governor of the Transcaspian Province of Russia and who collected Türkmen (Turkoman) rugs in order to understand better the tribal groups of the area. He collected 139 rugs and in 1908 and 1909 published a magnificent volume in two parts with 36 color tempera drawings by K. Michine, 23 black and white illustrations, and two excellent maps, including one ethnographic map giving locations of the main tribal groups as Bogolyubov knew them. Often he gave us the tribe and the place where the rug was obtained. This is not a great deal of information but it is the only first hand information on this period. The original edition was published in Russian, French and German, but no English edition has appeared except a typescript translation (a copy of which is in the Textile Museum Library) by Amos B. Thacher (no date), hence the importance of an English translation. Dr. J. M. A. Thompson has done us all a great service in providing it. The translation, made in collaboration with Rudi Ritschel working with both the Russian and French texts, as opposed to Thacher's working only from the French translation, seems to be well done. It agrees in all essentials with Thacher's text, and the important place and tribal designations are, I am sure, accurate. I am not sure that Thompson's re-organization of the plates to reflect tribal relationships is helpful. He departs from tradition and gives us editorial comments (printed in red) after the descriptions of each rug. His commentary is sometimes clarifying, sometimes personal, and does not, in my opinion, detract from the original, although it seems to demonstrate that the extent of our knowledge has not increased greatly since Bogolyubov. Perhaps the proliferation of names and sub-tribes in the literature has served to obfuscate more than to illuminate. The proveniences, along with the plates, are what is of interest today and we are grateful to Thompson for presenting them to us in English.

There is one crucial ingredient missing. General Bogolyubov provides no technical data on the rugs he collected. At this point we can have only designs to compare with other rugs. Hard information on wool, spin, weave, knots, etc., would be extremely helpful corroborative information to assist art historians in relating other Türkmen rugs to actual tribal groups. If we could gather this technical data on Bogolyubov's rugs, and combine it with modern ethnographic studies, I think it would facilitate the clarification of Türkmen rug proveniences. Even so, I doubt if it will ever be possible to associate most Türkmen rugs with the myriad sub-tribes and with exact location within the 19th-early 20th century time-span, especially since in the process of reaching their current settled state, tribal and geographic relationships have been altered appreciably.

One handicap rug scholars have often faced has been the difficulty of obtaining access to many of the important museum collections. This has now been remedied in part by the publication of the catalogue of the Metropolitan Museum of Art's rugs, written by Dr. Maurice S. Dimand, Curator Emeritus of Islamic Art, with a chapter on and a catalogue section of rugs from China by Jean Mailey, Associate Curator of the Textile Study Room.

Unfortunately not all of the Metropolitan rugs have been included; nevertheless, the catalogue is profusely illustrated. While it is valuable to have the bulk of one of the most important rug collections in one volume, it should be noted that there are several inadequacies in the text.

The awkward layout makes it difficult to discern which illustration goes with which caption and there is a confusing dual numbering system to the rugs. Spelling of place names is contradictory from place to place in the text. It is an immense handicap not to have an index in such a complex volume. Handling of technical data is inadequate. One of the most serious omissions is the spin and ply of the yarns. Very little information is given on selvedges and end finishes. While the total knot count to the square inch is indicated,

omission of knot counts across the warp and weft seriously lessens the value of this information.

There are undoubtedly a number of controversial areas where art historians might disagree on attributions and datings, such as the prayer rug in figure 122 (page 90) for example, or number 194 (page 294).

Jean Mailey's chapter on Chinese, Mongolian and Sinkiang rugs is a recapitulation of the history of rugs in that area. One phase that is still largely unrecorded is the 20th century commercial history. Recollections by businessmen involved about the rug production in this period is still possible and should be recorded by someone before it is too late.

Mailey illustrates one rug or hanging (figure 264) on which I can perhaps shed a little additional light from information on file at the Textile Museum. She lists the Metropolitan's rug as Western China, 19th century, which is correct. The Textile Museum has several of these stamped and painted pieces. Most of them, having been exposed to light, are badly faded, (as are the Metropolitan pieces) but one of those in the Textile Museum which was stored by its donor in a trunk for years has retained its bright and gaudy colors. We have found that some of these rugs are stamped with information about manufacture. These were made under French auspices in a hand manufactory in Shanghai province. One of the Textile Museum's pieces has a legibly stamped date of 1910. This piece seems to be of later date than some of the others. The birds are no longer tapestry woven. Earlier, these rugs may have been made further up the Yangtse as Mailey suggests. At the end of the tradition they were probably made in manufactories in the Shanghai settlements.

The final book under consideration of this review is by Murray L. Eiland, a California psychiatrist and a rug collector.

I am sorry Dr. Eiland has chosen to write in the format of the general rug book. He obviously has a lot more to offer than the usual rug author for he has travelled in Turkey, Persia and Afghanistan and in a number of instances has first-hand information on weaving in specific villages and on rugs in village mosques. Detailed reports of systematic observations in a series of specific reports would have been far more useful. Instead, he has succumbed to the temptation to "put it all together," the bugbear of rug collectors past and present and something that is not possible within the current state of our knowledge.

Eiland implies a promise which is not fulfilled in the title which contains the words "A Comprehensive Guide" and in the introduction which is highly critical of past rug literature. Generally we are presented with conclusions rather than evidence. It is difficult sometimes to tell when he is speaking from first-hand observation and when he is paraphrasing from the literature. He relies heavily on Cecil Edwards' *The Persian Carpet* in the Persian section. Even the maps seem to have been done with Edwards' as models. While I would suggest reading Edwards first, it is useful to have Eiland's additions which bring us up-to-date on some weaving villages, (Edwards reports from his last trip in 1948). Eastern Turkish and "Yuruk" rugs are passed over cursorily. His contributions are not always from first-hand observation in other areas, although he seems to have visited some Türkmen centers.

The illustrations are poor and book production is careless. Most of the rugs seem to be from either his own collection or from the "Oriental Rug Company" in Berkeley, California. Unfortunately, Eiland tends not to show pictures of the commercial modern rugs about which he has first-hand knowledge. It is disturbing to see that many of the illustrations do not have credit lines.

Some terminology problems exist. Although citing Irene Emery[2] he insists on using the general term brocad*e* when he is referring to the structure known as brocad*ing* or brocad*ed* (pp. 27, 118, 134). Flat-woven types such as Soumak are sometimes referred to as "stitched" rugs (e.g. p. 126). The term "double selvedge" used to describe a type of selvedge is unclear. In addition, the text does not always agree with information in the captions. For example, compare the caption on plate 177, "Derbend Rug," with the text under "Rugs of the North Caucasus," p. 189. Often spelling of Persian place names varies from text to captions on maps. He tends to use a mixture of various languages to name woven objects, whereas it would be more consistent to adhere to one language when discussing a specific group such as the Turkic speaking Türkmen; if it is indeed necessary to continue using foreign words for easily translatable everyday objects such as saddlebag (e.g. "Khordjin"-Eiland, from *hurcun* in Turkish).

His technical notational system seems to have been based on Louisa Bellinger's.[3] From my point of view, it is another of those cryptic codes which, requiring translation, are not suitable for publication.

I do not wish to leave the impression that because of the above mentioned shortcomings this is not a worthwhile book. Dr. Eiland has been to some rug producing areas to look for himself. He understands the importance of providing technical information, and his captions are, in that respect, useful. I hope in the future he will give us the benefit of some detailed field reports on specific areas.

The books under review belong on the shelves of all rug students: the Thyssen-Bornemisza catalogue as an example of thorough workmanship and the other three for the new resources which they put at our disposal.

NOTES

[1]Dr. May H. Beattie, "Some Weft-float Brocaded Rugs of the Bergama-Ezine Region," in *Textile Museum Journal*, vol. III, No. 2, December 1971. Dr. Walter B. Denny, "Anatolian Rugs: An Essay on Method," and Anthony N. Landreau, "Kurdish Kilim Weaving in the Van-Hakkari District of Eastern Turkey," both in *Textile Museum Journal*, vol. III, No. 4, December 1973.

[2]Irene Emery, *The Primary Structures of Fabrics, An Illustrated Classification*, The Textile Museum, Washington, D.C. 1966.

[3]Ernst Kühnel, *Cairene Rugs and Others Technically Related, 15th-17th Century*, with technical analysis by Louisa Bellinger. The Textile Museum, Washington, D.C. 1957.

Anthony N. Landreau
Museum of Art
Carnegie Institute

Editor's note. The preceding book review is reprinted, with permission, from the *Textile Museum Journal*, Volume IV, Number 1, December 1974.

BOOKS NOTED

Hickethier Color Atlas. A new edition of the *Hickethier Color Atlas* has been published. Its cost is $250, and it can be ordered from Van Nostrand Reinhold Company, 300 Pike Street, Cincinnati, Ohio 45202.

Color and the Graphic Arts. A reprint from the *Quarterly Journal of the Library of Congress* offering a brief history of the development of color in the graphic arts. The history of color in printed books, magazines, newspaper, and maps is displayed through selected examples from the Library's collection. All illustrations in this publication are black and white. The reprint is available from the Superintendent of Documents, Public Documents Distribution Center, 5801 Tabor Avenue, Philadelphia, Pennsylvania 19120. It is twenty pages, most of which is taken up with the black and white illustrations, and its cost is $0.75. The following two numbers will be helpful to use when ordering it: LC 1.2:C 71/2 and S/N 030-000-00075-7.

THE TEXTILE MUSEUM

50th ANNIVERSARY EXHIBITION OF CARPETS

The exhibition, EARLY CAUCASIAN CARPETS, will open at the Textile Museum with a reception for the Associates on Friday evening, November 7. This is also the first day of the Fourth Annual International Rug Convention. The brilliantly colored and bold-patterned large carpets, so-called "Kubas," were selected to celebrate the 50th Anniversary of the founding of the Textile Museum. Assembled by George Hewitt Myers and presented to the Museum by him in 1925, they form the largest as well as the most comprehensive collection of Kubas outside Istanbul. None has been exhibited since 1964.

Louise Mackie, Chief Curator, will design and install the exhibition. Charles Grant Ellis, Research Associate, has written the catalogue. This will serve also as a catalogue raisonné of the Museum's holdings, following the tradition of the publications of the Museum's collections begun by Mr. Myers in the 1950s. Mr. Ellis, an expert in the history of Oriental rugs, has made an extensive study of Kubas and the result of his scholarship forms the text of the catalogue. To make it all-inclusive in its scope, Mr. Ellis has added a few carpets from other collections to supplement the Museum's own group. These also will be shown in the exhibition. In addition to a discussion of each carpet, Mr. Ellis has provided a lucid history of the Kubas explaining their design and construction. John Ramsey Pugh, President of the Board of Trustees, has contributed a Foreword. All of the carpets are illustrated, 16 in color. The soft bound edition is priced at $8 to Associates; $10 to non-Associates – plus 75 cents for handling if ordered by mail.

The Early Caucasian Carpets will be on exhibition in the main galleries from November 11th through February 1976.

CRAFT CLASSES

In addition to holding exhibitions, The Textile Museum teaches many craft classes. An example of such classes is given below.

Colored Pattern Knitting, Lilo Markrich. Amongst the ancient textiles in the Textile Museum collection, there is a pair of polycolored socks excavated in Egypt. The skill of knitting with two or more colours simultaneously is still a common practice in wool-producing regions as far apart as the Highlands of Peru and the Shetland Isles off the coast of Scotland. The technique is simple, practical, creative and fun. Students must be proficient in plain and purl knitting. January 24 - 31; February 7 – 10:30 a.m. - 1:30 p.m. 9 hours. $24.00 (Lab fee $5.00)

For more information about the museum, its exhibits, or its classes, write to The Textile Museum, 2320 S Street, N.W., Washington, D.C. 20008.

PRODUCTS AND SERVICES

GRAPHIC ARTS RESEARCH CENTER (GARC) ROCHESTER INSTITUTE OF TECHNOLOGY (RIT)

Color strength of thin inks. The existing method of measuring color strength of gravure, flexography and certain types of screen printing inks is based on the measurement of the density of an ink film via a complementary filter. The June issue of the *Laboratory Information Bulletin* issued by Research Institute for the Printing and Allied Industries, P.O. Box 4150, Amsterdam, Netherlands, states some of the drawbacks of this method and says that the staff of VNU, the largest gravure printing company in Holland, has developed a method which removes these problems. Write to them for details.

Color Seminar for Pressmen – January 27-30, 1976. GARC will conduct a four-day color Seminar for Pressmen on January 27-30, 1976. In this seminar the emphasis is on color control in the pressroom rather than the production of color separations and plates.

The subjects covered in the course of the seminar include the selection of color ink sets; ink laydown sequence; the gamut of printed colors; the problems of reds; and the effect of paper on printed color. Also included are discussions of color densitometry; evaluation of printed sheets; control of dot gain and trapping; how strong to print color; and standard illumination for color viewing. A review of color proofing and its relation to press printing rounds out the program.

Cost of the program, including tuition, supplies, and special reference material is $300.

For more information, write to William Siegfried, Director of Training, Graphic Arts Research Center, Rochester Institute of Technology, One Lomb Memorial Drive, Rochester, N.Y. 14623. Phone: (716) 464-2758.

RIT Seminar on Still Photographic A-V Production for Education, Government, and Industry – December 1-5, 1975. For more information write to William Siegfried at the GARC address.

New GTA/RIT Reflection Density Reference Kit Now Available. The Graphic Arts Research Center and the Gravure Technical Association have made available a GTA/RIT Reflection Density Reference Kit as a means for comparing or "matching" the color density measurements within the gravure industry.

The kit (developed as a cooperative program between the Gravure Technical Association and RIT) contains a gravure-printed four-color (five values) reference sheet on which the reference density readings have been made at the Rochester Institute of Technology. On a subscription basis, these sheets are sent quarterly to printers who will then measure the densities on their own equipment and calibrate their densitometer(s) to the RIT readings.

Because of possible deterioration due to handling and the inherent characteristics of paper and ink, new reference sheets are issued quarterly. Four such issues per year make up one subscription (July, October, January, April).

The cost for one through three subscriptions is $30 each prepaid. The cost for four through six subscriptions is $25 each prepaid and seven or more subscriptions are $20 each. Instructions are included.

Reference sheets are available in Ink and Paper GTA Groups I, III, and V. Orders should specify the number of subscriptions desired in each group. Send orders to GARC at the previously listed address or to the Gravure Technical Association, 60 E. 42nd Street, New York, N.Y. 10017.

NEW 15th PANTONE® PRINTER'S EDITION

The 15th edition of the Pantone Matching System Printer's Edition (formula book) has been published by Pantone, Inc., Moonachie, New Jersey. The new edition becomes the current standard for the Pantone Matching System. The numbering of each new edition will help alleviate the problems caused when two different editions are used for color communication. Because colors change due to age, use and fading, older books should be replaced.

The Pantone Printer's Edition contains all the Pantone Matching System colors, with a color designation and mixing formula for every color. The color range includes the 800 Series High Intensity and Metallic colors.

The new 15th Pantone Printer's Edition is available throughout the world from licensed printing ink manufacturers and art material dealers.

ANNOUNCEMENT

Tla-Lighting Consultants, Inc., Salem, Ma., announces the addition to its staff of Miss Anne V. Robinson. Previously a designer with Sheraton Corporation, where she was concerned with the development of interiors in both renovation and new construction, from conceptual drawings to supervision of installation in various Sheraton-owned hotels, Miss Robinson received her certificate from the New England School of Art in environmental design with emphasis on interior design.

She is a member of the Illuminating Engineering Society and serves on its Hotel and Motel Lighting Committee. She is current chairman of the New England Section of the Designers Lighting Forum and a member of the Society of Architectural Historians.

COLORFUL COMPUTING

An aquaintance of mine, a systems programmer, reported that a salesman stopped by a few weeks ago with some print-out paper especially designed for use in 1976. It had red, white, and blue stripes, an Apollo symbol in one top corner, and a Bicentennial in the other. To check whether another sensory modality had been brought into it, I asked if the paper smelled like apple pie when you scratched it. After sniffing, he replied that it did not.

WB

PUBLICATION NOTED

Effect of Elimination of Nitrogen and/or Hypoxia or Restricted Visual Environment on Color Vision and Range of Accommodation. Myron L. Wolbarsht, Charles W. White, and W. Banks Anderson, Jr., February, 1973, Contract NAS 9-11994. The abstract and conclusions of this report are given below.

Abstract

The effects upon range of accommodation and color vision of reduced atmospheric pressure, at partial and complete elimination of nitrogen, of hypoxia, and of exposure for varying periods of time to restricted visual environment, have been studied alone or in various combinations. Measurements were made on the electroretinogram, the electrooculogram, and the diameter of the retinal vessels as an indicator of blood flow to the retina at the time of total elimination of nitrogen. An objective method was used to test range of accommodation. In the color vision test the flicker colors of a Benham's top were matched with a colorimeter.

CONCLUSIONS

The absence of nitrogen and the change in pressure do not produce any discernable and consistent changes in range of accommodation or color vision, although it was the subjective impression of many of the participants that colors appeared to be different. No tests involving color matching were affected. Thus it would appear that where color vision must be used in space flight, it should be used in such a way that not memory of colors but rather color matches are required. Subjective descriptions of colors might change, but apparently color matches made prior to exposure to space conditions will be the same as those made during space conditions. No decrease in range of accommodation could be documented. Also it did not appear that the retinal circulation was affected in such a way as to disturb any other visual functions.

Anyone who wishes further information on this report may write to Dr. Myron L. Wolbarsht, Department of

Ophthalmology, Duke University Medical Center, Durham, North Carolina 27710.

RUSSIAN STUDIES OF VISION

Problems of Physiological Optics, Volume 15 – Physiology of Vision Under Normal and Extremal Conditions. V. G. Samsonova, Editor-in-Chief, Academy of Sciences USSR, Nauka Press, Leningrad Branch, Leningrad, 1969, NASA Technical Translation F-650.

This book is certainly not new, but it came to my attention only a relatively short while ago, so I thought that many of you might also be unfamiliar with it. I have listed the individual papers in the table of contents only under the first general topic heading because almost all of the papers on color vision appear in this section. Thereafter, only the general topic headings are listed. The report is sold by the National Technical Information Service, Springfield, Virginia 22151. My copy gives $3.00 as the price, but it may cost more now.

Editor

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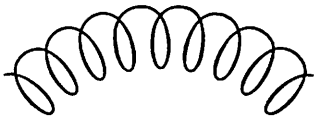

CARBON MONOXIDE DETECTOR

There is an article in the April 1975 issue of *FAA Aviation News* on the danger of carbon monoxide (CO) leakage into cabins of general aviation aircraft. The article had the following to say about detecting CO:

Detection devices. There are a number of CO detectors available for general aviation aircraft. The most reliable types are the "sniffers," which are used on the ground. A sample of cabin air is drawn into a transparent tube, coated with a chemical which changes color if carbon monoxide is present. The sniffer test should be performed by a qualified mechanic, first with the engine off, and then with the engine running.

There are simple and inexpensive inflight checks for CO leakage, the most popular of which is the "bull's eye" type, a small card with a plastic disc about the size of a dime. The disc contains a chemical which changes color when a certain level of carbon monoxide is present. The disc is not as accurate as the sniffer type of test, but it does have the advantage of being continually present and on guard in the airplane. On the other hand, it is only of use if the pilot is in the habit of consulting it, and servicing it (30 days is the normal lifespan of the chemical).

Do any of you have more information on the color changes these detectors go through? What effect does a change in illumination have, say, going from direct sunlight to artificial cabin illumination? I feel sure some of our readers must have some color information on these devices. If so, send it to me for the *Newsletter.*

Editor

COMPREHENSION

You may think you know all about colours
With their beautiful dazzling hues
The reds and the yellows and greens
The oranges, purples and blues.

To the layman all colours are lovely
And every shade pleases the eyes
But oh! to the Colour Council
they are herbs and earths and dyes.

There we learn how colour can help one
Feel bright and peppy or blue.
And how, if you're down in the dumps
You should make use of some other hue.

They explain how, when looking at colour
You may think you see a red tie.
But all other colours are swallowed
And only the red meets the eye.

And that, as you look around you
And think there are things that you see
Unless you can reach out and touch them
Light rays can fool you and me.

And when it comes to psychology
Then to colours you must be acute
For you may lose your health or your reason
If your temper your pigments don't suit.

And colours are all only relevant
A blue may be yellow or green
If the colour scale slides up or down
Then shades are not what they seem.

It is proved by intelligent lectures
That tints on films, fabrics or inks
In a manner astounding change colour
And never turn out as one thinks.

And while many sit and think fondly
Of the hues of the lovely rainbow,
You'll comprehend colours more clearly
If to the Colour Council meetings you go.

(Mrs.) Phyllis Pomeroy

Editor's note: The preceding poem was sent by G. Franklin Dean to C. W. Jerome, who submitted it to me. Mr. Dean had made the following comment: "I came across it when I was searching through a box of records of the now defunct Colour Council of Canada. The author is unknown to me, and there is a possibility that it originally was in the *Newsletter*. However, it is so old that I didn't remember having seen it before."

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NOTES

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

2. The Council re-affirms its community of interest and cooperation with the Munsell Color Foundation, a tax exempt organization set up to acquire and use its funds to further aims and purposes very similar to those of the ISCC: to further the scientific and practical advancement of color knowledge relating to standardization, nomenclature and specification of color, and to promote the practical application of these results to color problems arising in science, art and industry. The Council recommends and encourages contributions for the advancement of these purposes to the Munsell Color Foundation. For information, write S.L. Davidson, NL Industries, P.O. Box 700, Hightstown, N.J. 08520.

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