

of the word "sensation". On page 8, the statement is made that "If to any full color F (say hue 6) we add the sensation of white progressively, we shall complete a series between full color and white". If the phrase "add the sensation of white" means anything, it implies that hue is not changed. Yet hue obviously is changed, not only in Figures 2 and 3 of the text, but also in the array of samples on the chart for hue 6. The sample (ca) having maximum reflectance and minimum purity is very evidently bluish compared to the full color (pa), which is a distinctly yellowish red. Likewise, the (ca) sample of hue 19 is bluish green although the full color is yellowish green. The (ca) and (ec) samples of hue 12½ are distinctly reddish compared to the blue full color (pa). Finally, the Bezold-Brücke effect is very noticeable in the chart for hue 1½, making the dark, grayish sample (pn) appear distinctly greenish compared to the yellow full color (pa). The method of printing Figures 2 and 3, Ostwald's own account of the physical basis of his system, and theoretical and practical analyses of the first edition of the *Color Harmony Manual* (see *J. Opt. Soc. Am.*, July, 1944) all indicate that dominant wavelength is approximately constant, and is intended to be exactly constant, in each chart. Since, in general, hue is not constant in series of constant dominant wavelength, it is misleading to say that the series are constructed by adding the "sensations" of white and black to the full colors. Similar ambiguities concerning white and black "contents" necessitate great care in interpreting quantitative data given in the text. According to the announcement of the third edition, purchasers will be entitled to "basic colorimetric specifications in terms of ICI standard observer and coordinate system for both mat and glossy sides of all colors" now in preparation. These will provide unambiguous specifications of the colors exhibited in the charts, which the present notations and text do not.

The collection of samples possesses two interesting features which are not available in any other obtainable system. It is curious that these features are not mentioned in the text. All samples on a single chart have nearly the same dominant wavelength, and all samples in any vertical row on any one chart are nearly equal in both dominant wavelength and purity, exhibiting only different reflectances. There are few, if any, series of various chromaticities having constant luminous reflectance. We may turn to the Munsell system for this feature, as well as for series of constant hue as distinguished from constant dominant wavelength.

Any fully systematic arrangement of colors facilitates the examination of series of related colors, and gives the impression of harmony both in its parts and in its totality. Although the Manual purports to give principles of color harmony, it actually only makes clear various possible relationships of colors. It does little more than facilitate trials and modifications of color combinations. Artistic experience, taste, and intention govern the final choice in any case. Every user will want to create his own color harmonies even after examining the most nearly satisfactory combinations obtainable in the Manual.

Such users may appreciate having their attention directed toward various possible harmonies. They will probably forgive the Manual if they find that it does not measure up to its ambitious title.

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## Methuen's Monographs

Distribution in the United States of the series of pocket size books on physics originated by Methuen and Company, Ltd. of London has been undertaken by the New York publishing house, John Wiley and Sons, Inc. The list of Methuen monographs on physical subjects available at present has reached a total of 27, which is something more than half the number issued by the British publishers. The series, under the general editorship of B. L. Worsnop, has been intended as a collection of compact statements of the contemporary position in each of a variety of physical subjects. John Wiley's list as it now stands includes the following monographs:

**Electron Diffraction**; by R. Beeching; \$1.25. **The M.K.S. System of Electrical Units**; by R. K. Sas and F. B. Pidduck; \$1.00. **Dipole Moments**; by R. J. W. LeFevre; \$1.25. **The Physical Principles of Wireless**; by J. A. Ratcliffe; \$1.25. **The Commutator Motor**; by F. J. Teago; \$1.25. **Hyperfine Structure in Line Spectra and Nuclear Spin**; by R. Tolansky; \$1.50. **X-Ray Optics**; by A. J. C. Wilson; \$1.50. **Mercury Arcs**; by F. J. Teago and J. F. Gill; \$1.50. **Fundamentals of Discharge Tube Circuits**; by V. J. Francis; \$1.50. **An Introduction to the LaPlace Transformation**; by J. C. Jaeger; \$1.50. **Cosmological Theory**; by G. C. McVittie; \$1.50. **Magnetism**; by E. C. Stoner; \$1.25. **The Cyclotron**; by W. B. Mann; \$1.25. **Physical Constants**; by W. H. J. Childs; \$1.25. **The General Principles of Quantum Theory**; by G. Temple; \$1.25. **Low Temperature Physics**; by L. C. Jackson; \$1.50. **Collision Processes in Gases**; by F. L. Arnot; \$1.25. **An Introduction to Vector Analysis for Physicists and Engineers**; by B. Hague; \$1.25. **X-Ray Crystallography**; by R. W. James; \$1.25. **Atomic Spectra**; by R. C. Johnson; \$1.25. **The Kinetic Theory of Gases**; by M. Knudsen; \$1.25. **X-Rays**; by B. L. Worsnop and F. C. Chalklin; \$1.25. **Applications of Interferometry**; by W. E. Williams; \$1.25. **Heaviside's Electric Circuit Theory**; by H. J. Josephs; \$1.25. **Wave Mechanics**; by H. T. Flint; \$1.25. **Atmospheric Turbulence**; by O. G. Sutton; \$1.50. **Wave Filters**; by L. C. Jackson; \$1.25.

## Books Received

**NONLINEAR VIBRATIONS IN MECHANICAL AND ELECTRICAL SYSTEMS.** By J. J. Stoker. 273 pp. Interscience Publishers, Inc., New York, 1950. \$5.00.

**SOME EARLY TOOLS OF AMERICAN SCIENCE.** By I. Bernard Cohen. 201 pp. Harvard University Press, Cambridge, Massachusetts, 1950. \$4.75.

**PHYSICAL CHEMISTRY OF HYDROCARBONS. VOLUME I.** Edited by Adalbert Farkas. 453 pp. Academic Press, Inc., New York, 1950. \$8.50.