

ABSTRACTS

The Editorial Office will welcome contributions of abstracts and book reviews from members and subscribers. Contributors to this section are urged to give correct and complete details regarding the reference. Items which should be included in abstracts are:

- Title of article
- Name of author as it appears on the article
- Name of periodical and volume number
- Date and number of issue
- Page on which the reference is to be found

In book reviews, the following data should be given:

- Title of book
- Name of author as it appears on the title page
- Name of publishing company
- Date of publication
- Edition
- Number of pages and number of illustrations

The customary practice of initialing abstracts and reviews will be followed.

The Abstracts in this issue are taken from the Monthly Abstract Bulletin of the Kodak Research Laboratories.

Limits of Luminous Yield in Motion Picture Projection. H. JOACHIM AND H. SCHERING. *Sci. ind. phot.*, 1, March, April, 1930, pp. 115, 153. For several years attempts have been made to increase the radiation reaching the screen because of the larger screen used and because of the smaller percentage of reflecting surface of the sound screens. Increased illumination has been accomplished partly by concave mirrors and lenses without an increase in current to the arc, and partly by increasing the current itself. The efficiency increases with increase in the solid angle subtended by the condenser, provided the image just fills the projector aperture. With reflecting mirrors it is necessary to decrease the effect of the shadows cast by the carbons. The objective should make use of all the light coming from the condenser.—*Kodak Abstr. Bull.*

Disk Development: Micro Recording on Durium. *Bioscope (Mod. Cinema Technique)*, 84, July 2, 1930, p. iv. Sound records on Durium, a new synthetic resin, invented by Professor Bean, of Columbia University, will shortly be available as a result of experiments carried out in conjunction with Warner Brothers. Advantages claimed include pliability, excellence of tone, and good wearing qualities. The micro disk is a record with several hundred grooves to the inch. A 16-inch record will play for one hour and twelve minutes. A special pick-up has been designed.—*Kodak Abstr. Bull.*

Application of the Principles of Television in Roentgenology: The Radiophot. A. DAUVILLIER. *Amer. J. Roentgenol.*, 24, July, 1930, p. 111. (From 832

Fortschr. a. d. Geb. d. Röntgenstr., **40**, 638, October, 1929.) A lead scanning disk rotates between the Roentgen source and the object to be examined, and the rays traversing the small holes in the disk are received by a large sensitive ionization chamber serving as a detector. The ionization current amplified, controls the intensity of the light transmitted through an optical scanning disk and thereby reproduces in ordinary light the original Roentgen ray image.—*Kodak Abstr. Bull.*

Progress of X-Ray Motion Pictures. V. GOTTHEINER AND K. JACOBSON. *Kinotechnik*, **12**, June 20, 1930, p. 336. Motion pictures of the human chest, throat, and mouth by means of X-rays, have been made possible by a special fluorescent screen, a special camera, a special objective lens, and a highly sensitive film. Although the objective operates at $f/1.25$, it is made from only two cemented elements to reduce losses by reflection and absorption. It is said to give pictures sufficiently sharp for the purpose. The X-ray tube permits pictures to be taken for as long as 25 seconds at a time.—*Kodak Abstr. Bull.*

New Photoelectric Cell. *Amer. Projectionist*, **8**, May, 1930, p. 9. This cell is the invention of Dr. B. Lange of the Kaiser Wilhelm Institute for Silicate Investigation, Berlin. The new cell consists of a layer of copper oxide between two layers of metallic copper, one of which is so thin as to be almost transparent. The light falls on one of the thin copper layers and the electrons given off pass through the very thin copper oxide layer, and on reaching the other layer of copper, an electric current results. It is said that the cell operates with very little lag, does not show fatigue as does the ordinary type, and can be operated indefinitely without loss of efficiency and much greater sensibility to the infra-red waves.—*Kodak Abstr. Bull.*

New Training Device. *Bioscope (Mod. Cinema Technique)*, **83**, June 11, 1930, p. vii. The Western Electric Company is training its engineers to detect the lack of certain frequency bands in sound reproductions. A sound film is projected on the screen and the instructor by means of a key system operates a filter which cuts out a frequency band and simultaneously indicates on a board the frequencies lacking. After experience the engineers are required to estimate without the help of the indicator board exactly what frequency bands are absent in a test audition.—*Kodak Abstr. Bull.*

Photographing Sound Conditions. P. B. BRAYTON. *Ex. Herald-World*, **99**, May 10, 1930, p. 39. The contour plan of the theater auditorium, walls, or ceiling is laid out with a flexible strip of metal, about one-half inch wide, on a white table top. A light source is placed in a position representing the stage or screen. The camera is positioned vertically above the table. Reflections show up as white streaks and are stated to simulate sound waves. Non-reflection surfaces are produced by blackening the metal strip and partially reflecting surfaces by covering with a non-reflecting grating.—*Kodak Abstr. Bull.*

Apparatus for Photographing Growing Plants in Their Natural Color. H. C. RICKER. *Amer. Phot.*, **24**, July, 1930, p. 352. Use is made of the amateur standard motion picture in connection with Kodacolor film for photographing growing plants and microorganisms. For stop motion pictures, the camera and lights are controlled automatically by means of a timed contact disk which, through a relay, operates a master rotary switch, thereby turning on light and tripping the camera.

The camera speed is eight frames per second. When used for stop motion work, the individual frame receives about twice as much exposure as when running continuously. This extra time given the first frame serves well in Kodacolor work, and for black and white pictures the lens can be stopped down two points, affording the use of a x4 filter. The light used is a 500 watt incandescent with a reflector. Illustrations are given.—*Kodak Abstr. Bull.*