ABSTRACTS

The Demand for Stereoscopic X-Ray Motion Pictures in Diagnosis. G. KÖGEL. *Kinotechnik* **13,** Nov. 5, 1931, p. 399. It is maintained that the stereoscopic impression of an object obtained in looking at a pair of stereograms with a suitable optical device depends largely on the observer's previous experience with similar objects, *i. e.*, on his "memory images." For this reason, in order to achieve the ability to see x-ray stereograms correctly, the student must familiarize himself with x-ray photographs. It is believed that the field for stereoscopic x-ray motion pictures lies in detecting the faulty functioning of organs before the disease has had time to alter their form, especially in those cases in which long irradiation of the patient is undesirable. M. W. S.

Thomas A. Edison and His Relations to Motion Pictures. C. FORCH. *Kinotechnik,* **13,** Nov. 5, 1931, p. 397. By autumn of 1891, Edison had constructed an operable motion picture camera in which Eastman perforated film was moved intermittently. The film was advanced by a sprocket driven by a friction belt. Suitable members served to arrest the rotation of the sprocket during the intervals when the exposure was being made. Edison is reported to have employed a Maltese cross for securing the intermittent movement but he discarded it for the mechanism described. Edison's Kinetoskop was a device enabling only one person to view a motion picture. In it, the film moved continuously; a very narrow shutter opening gave such a short view of each picture that a sharp image was obtained. In his American patent no. 493,426, applied for Aug. 24, 1891, he described another viewing device by means of which pictures were projected to a screen. The system was intended to give stereoscopic relief, but the principle was wrong, and incapable of giving a true stereoscopic effect. The apparatus was not designed, however, to project large pictures visible to more than a few persons at a time. M. W. S.

Vacuum Photoelectric Cells of High Sensitivity. M. C. TEVES. *Technique Cinemat.* **2,** Dec. 1931, p. 13. Increased sensitivity, especially to light of longer wavelengths, has been attained in Philip's caesium vacuum photoelectric cells with the purpose of increasing their usefulness with tungsten light sources. Caesium is deposited to a depth of 100 molecules on a foundation coating of a salt or oxide. Sensitivity extends to 12,000 Å. with a maximum between 6000 and 8000 Å. A response of 20 or 30 $\times 10^{-6}$ amperes per lumen for illumination by a source at 2680° Kelvin is attained regularly. Quantum efficiency is therefore as high as 1:20. After 3 hours' use the sensitivity diminishes 5 per cent, but is recovered in 20 hours' rest. Forty to fifty volts' potential is recommended. With such cells the maximum of absorption variation among colored films of a well-known manufacturer measures only 25 per cent. Two (geometric) types of cell are made. C. E. I.

The Use of the Color Filter in the Production of Photographic Images That Are True to Reality. P. LOB. *Kinotechnik,* **13,** Nov. 5, 1931, p. 400. The ab-

sorptions of five filters- red, yellow, green, bright blue, and deep blue—were measured at five different positions in the spectrum. For this purpose, a monochromator was used, the intensity of the monochromatic light before and after the insertion of the filter into the beam being measured by means of a thermocell. The sensitivity of a photographic plate for the same wavelengths was measured by first adjusting the light source so that it produced the same effect on the thermocell at each wavelength, and then exposing the plate to the monochromatic light. The sensitivity of the plate was taken as directly proportional to the density produced. Then, in order to show the difference between the absorption of a filter as determined photographically and as measured by its effect on a caesium cell, as well as to show the necessity of knowing the spectral sensitivity of a photographic plate in determining the absorption of filters, exposures were made through each of the five filters by monochromatic light of each of the five spectral regions, and the densities compared to the density produced without the filter in the beam. The absorption of each filter was then measured at each wavelength by means of a caesium cell. In general, the effect produced on the plate fails to correspond to the effect on the cell. It is concluded that for exact work with filters, the following three items must be known: (1) the spectral distribution of the light source, (2) the spectral sensitivity of the photographic emulsion, and (3) the characteristic absorption curve of the filter. M. W. S.

The Motion Picture in Rockefeller City. G. SCHUTZ. *Mot. Pict. Herald*, **106,** Feb. 13, 1932, Sect. 2, p. 13. Building No. 8 in the huge construction program in progress in New York City under the Rockefeller sponsorship is to be a motion picture theater seating 3509 persons. A topographical sketch is shown of the entire project and detailed plans of the theater. The auditorium will be 158 feet wide and 128 feet deep, from the rear wall to the curtain, with the average height of 65 feet. The stage area measures 92 by 46 feet. There will be three shallow mezzanines, each seating approximately 500 persons. Although the large overhanging balcony with its objectionable acoustic character is eliminated, the added height of three levels places the two upper levels above the normal line of the screen, and will require patrons of these sections to lean forward to see the picture, which means some physical discomfort. An excessive and objectionable screen angle for projection is also introduced, since the projection room will be located above the uppermost section. Certain other features of the theater are commented on in the light of modern knowledge of theater construction. G. E. M.

A New Type Projection Lamp. F. H. RICHARDSON. *Mot. Pict. Herald*, **106,** Feb. 13, 1932, Sect. 2, p. 40. A detailed description of an improved lamp for theater projection. Specially designed, quickly acting clamps have been introduced, both for negative and positive carbons, which permit rapid change of carbons but insure firm retention when burning. Control of the arc is intended to be accomplished chiefly by means of a thermostat. A lens projects a side view of the burning positive crater to a mirror which reflects the image to a thermostat. As the crater burns away, the image falls nearer and nearer the thermostat until a set of electrical contacts is brought together which speeds up the motor and the crater is brought forward to its normal position. Additional features are mentioned. G. E. M.

New A-C. Amplifier. *Film Daily*, **58,** Feb. 21, 1932, p. 6. This instrument

has been designed especially for sound-on-film reproduction, and constitutes the entire electrical apparatus necessary between the photoelectric cells and the stage horns. The unit is equipped with a new type of transformer which is stated to supply the current to the exciter lamps without the need of filtering. The device is designed for use in theaters having about 1200 seats. G. E. M.

Sound Equipped Theaters in U. S. in 1931. *Mot. Pict. Herald*, **106,** Jan. 30, 1932, p. 9. According to figures supplied by the Film Boards of Trade, there were 13,223 sound equipped theaters in the United States at the close of the year 1931. Of these, 6434 have sound-on-film equipment; 3609 use disk only; and 4898 were equipped for both disk and film. One thousand five hundred eighty-two theaters having sound equipment were not operating. A total of 20,100 theaters, having an approximate seating capacity of 10,767,000, are listed on the books of national distributors. G. E. M.

Planning Today's Simplified Cinema. B. SCHLANGER. *Mot. Pict. Herald*, **105,** Nov. 21, 1931, Sect. 2, p. 18. Two theater plans are discussed in some detail for 300-seat and 600-seat structures, respectively, which are designed to be built within limited spaces. Both theaters are planned to occupy only a portion of a structure used also for other purposes. The reverse slope floor plan is used in each design. G. E. M.

Sound Control in Air Conditioning Installations. V. O. KNUDSEN. *Mot. Pict. Herald*, **105,** Nov. 21, 1931, Sect. 2, p. 37. Attention given to sources of extraneous noise within and without the sound picture theater has resulted in considerable study of causes of and means for elimination of noise in the ventilating system. It is important that all mechanical equipment used in air conditioning be carefully insulated from the solid structure of the building. Detailed mathematical equations are presented for the determination of suitable insulation, knowing certain measurable factors. Absorptive filters are necessary between the ventilating fan and the outlets to eliminate noises transmitted through the ducts. G. E. M.

A Radically New Studio Camera. W. STULL. *Amer. Cinemat.*, **12,** Feb., 1932, p. 12; *Internat. Phot.*, **4,** Feb., 1932, p. 4. The novel feature of this new camera, designed by T. L. Tally and T. M. de la Garde, is that the magazines are placed beneath the camera case, thereby lowering the center of gravity and providing better balance. The range of tilt is increased. Sprockets are a part of the magazine, and act as a light trap in this position. The camera has a four-lens turret, movable as a unit for focusing—a 240-degree shutter, and a view finder in which the film aperture can be observed directly. A. A. C.

New B. & H. Lens Eliminates Crane Shots in Professional Movies. *Amer. Cinemat.*, **12,** Feb., 1932, p. 31. This objective is a variable focus outfit, with mechanical shifting of the elements to maintain accurate focus and diaphragm opening throughout a range of 40 to 120 mm. focal length. It is thus possible to approach a subject or recede from it without moving either the camera or the scene. The speed of the unit ranges from $f/3.5$ for 40 mm. to $f/5.6$ at 120 mm. focus. It is made on special order only. A. A. C.

RCA Presents 16 Mm. Sound-on-Film Projector. *Amer. Cinemat.*, **12,** Feb., 1932, p. 36; *Internat. Phot.*, **4,** Feb., 1932, p. 25. This new equipment is said to show a good 4×6 foot picture, with excellent quality of sound reproduction. Since it is practically the first of the sound-on-film 16 mm. outfits, its performance

will be noted with much interest. The projector amplifier unit weighs 43 pounds, with its case; all the equipment is readily accessible for necessary adjustment so that it need not be removed from the case during operation. The loud speaker fits in a 21-pound case, 19 × 16 × 9½ inches. Space for eight 400-foot reels is also provided. Sound volume is sufficient for a room of 10,000 cu. ft. A. A. C.

Internationalizing Talking Pictures. A. GRADENWITZ. *Proj. Eng.*, **4,** Feb., 1932, p. 7. A new rhythmic method of recording sound effects enables directors to add the foreign text after a film has been finished in English. It is based on a new means of remote control, invented by C. R. Blum, of Berlin, by which synchronism can be attained between any number of electrical devices. It is independent of the actual speed of motion. The recording from the film is repeated on a band arranged to move in front of the operator on an electrical recorder. Text and music are accurately spaced in accordance with the rhythm of the picture so that actors have only to read or play their parts from the band in order to be sure of perfect agreement between picture and sound record. A. A. C.

A New Zoom Lens. *Amer. Cinemat.*, **12,** March, 1932, p. 16. Describes a lens of adjustable focus announced by O. Durholz, of Paterson, New Jersey. "The lens snaps over the standard Mitchell type cup mount in a few seconds ready to focus. . . . From long shot to close-up it maintains focus automatically from 40 to 160 mm. (equivalent focal length). The effective aperture is *f*/8 at full range, *f*/5.6 at 3x, increasing as the range is limited." An outline of the problems of mechanical construction met by the designer is given in some detail. A. A. C.

Agfa-Novopan Reversal Film. L. KUTZLEB. *Kinotechnik*, **13,** Sept. 10, 1931, p. 333. A new panchromatic 16 mm. reversal film has been placed on the market. This is said to have a speed standing in the ratio, 16:6:1, to the speeds of Agfa Pan and Ortho Reversal films by tungsten light, and in the ratio 4:2:1 to the speeds of these same films by daylight. This increased speed is stated to be the result of increased color-sensitivity, particularly for the longer wavelengths. An anti-halation layer is inserted between the emulsion and the support. The film is recommended especially for use under artificial lighting. M. W. S.

Agfa Leica-Superpanfilm. L. KUTZLEB. *Kinotechnik*, **13,** Dec. 20, 1931, p. 466. This film is panchromatic and is said to have three times the speed of Agfa Leica-Isochromfilm by incandescent lighting, or twice the speed by daylight. The film is said to make possible the making of snapshots in well lighted rooms by the aid of high aperture objectives without a yellow filter. A double emulsion layer and an anti-halation layer are used. A fine grain developer is recommended for developing small negatives for enlargement. M. W. S.