at different light intensities. From the meteorological point of view, it appears rather foolhardy to consider air temperature without reference to radiation conditions in any discussion not confined to matter with the radiative characteristics of air.

Second, and probably less widely recognized, is the significance of the elevation of the thermometer. Under natural conditions, vertical temperature gradients in the lowest few feet of the atmosphere are tremendous. It has been pointed out, for example (Baum, W. A. *Ecology,* **30,** 104 [1949]), that the difference in summer mean monthly temperatures between 6 ft and 3 in. above the ground at Burlington, Vt., is the equivalent of a horizontal north-south difference of about 380 miles at the standard level of meteorological observations. Many plants, spending much of or all their lives very close to the earth's surface, are therefore subject to environmental temperature conditions appreciably different from those represented by ordinary climatic data. Caution must therefore be exercised in the comparison of laboratory results, based on a thermally homogeneous atmosphere, with meteorological temperatures.

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Photographic Reproduction of Laboratory Records Directly on Printing Paper[1]

FREQUENTLY in research or classroom work it is desirable to make a number of prints of kymograph or other records. The use of a lens system in the photographic procedure produces side-to-side reversal of the image and prevents direct printing on photographic paper, thus requiring an intermediate picture on a photographic plate before the print can be made. If, however, a concave mirror is used in forming the image, the print can be made directly from the kymograph record to the photographic paper. There is then no side-to-side reversal of the image but only a reversal from black to white, a change which, in many cases, is not important.

The arrangement we have used successfully in this laboratory is illustrated in Fig. 1. The kymograph record is clipped onto rack *A,* the photographic paper onto rack *B,* with its emulsion facing the concave mirror, *M.* Haloid paper of 6 cm width, cut from rolls

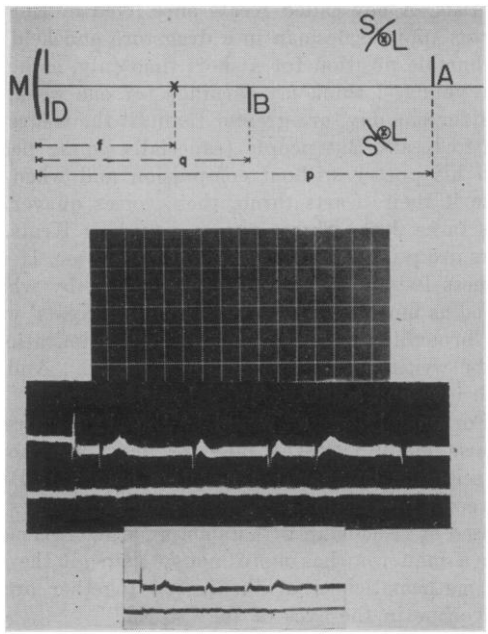

FIG. 1.

of 175-ft length, was used. A few seconds' exposure by the shielded flood lights (*S, L*) is sufficient, and subsequent development and fixing are rapid. This system can be mounted along the wall of the darkroom, and considerable red safelight illumination is permissible. The mirror used was front-surfaced and had a focal length of 3 ft. The object and image distances were chosen for convenient reduction (usually about ¼) of the object size. The usual formula relating object distance (p), image distance (q), and focal length (f)—namely, $\frac{1}{p}+\frac{1}{q}=\frac{1}{f}$—gives the relative positions of the elements of the system.

A typical kymograph record and the photographic image of it are also shown in Fig. 1. Some distortion of the image might be expected, since the focal planes in this system are curved surfaces. However, examination of the photograph of a rectangular grid (Fig. 1) shows that the distortion has been minimized in this setup by using a long focal length lens and by locating the object and image areas close to the optical axis.

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Lewis H. Sarett, of Merck & Co., Inc., who synthesized the antiarthritis drug cortisone, has been chosen to receive the Leo Hendrik Baekeland Award of the American Chemical Society's North Jersey Section for 1951. Dr. Sarett was cited for his "outstanding achievement in creative chemistry." The Baekeland Award, which consists of a gold medal and $1,000, is sponsored by the Bakelite Division, Union Carbide and Carbon Corporation, and is conferred biennially upon an American chemist under 40 in recognition of accomplishments in pure or industrial chemistry. Presentation of the 1951 award will be made at a dinner meeting of the North Jersey Section in Newark on April 23.