REVIEWS

Illuminants and Illumination for Microscopical Work. Monograph III of the Quekett Microscopical Club. By F. E. Ockenden. London. Williams and Norgate: for the Quekett Microscopical Club, 1947. Pp. 26. Price 2s. 6d. net.

Most microscopists know little of the principles which determine the choice of illuminants and illumination for microscopical work. The third of the Quekett Microscopical Club's monographs should, therefore, be of considerable interest to all those who use the microscope and are anxious to obtain the best critical illumination possible.

Before light sources are discussed, various terms and definitions are given, such as "Candle" (symbol I), "the standard of luminous intensity," "Flux" (symbol F) and "foot candle" (f.c.), a special case of the more general unit of illumination, and "lumens per unit" (symbol E). The reader is then introduced to the ideas and importance of directions and "mean spherical" candle-power and colour temperature. Closely related to the subject of colour temperature is the spectral sensitivity of the human eye. The high sensitivity of the eye and also of the selenium (barrier layer) photoelectric cell for green, combined with the large proportion of this radiation normally available, is the reason why a wavelength of 0.55μ is so popular. The green filter is not only very comfortable for long periods but the relatively short wavelength transmitted helps to procure the maximum possible resolution for an objective of given aperture. The advantages of photoelectric cells both of the vacuum and selenium or barrier layer pattern are fully discussed. The chief disadvantage is that the response to both the blue and the red is relatively too high. An extensive survey of illuminants, including daylight, is provided and many important tips are given such as the fact that the life of tungsten filament lamps may be prolonged if one or two low-voltage taps in the transformer are available. Thus a transformer nominally rated at 6 V may have additional terminals rated at 5, 4, and even 3 V. The life of a lamp when connected to the 5-V tapping is increased two to threefold and that on the 4-V tapping is almost unlimited. Projection lamps are an important type of illuminant: they range from the simple motor-car headlight, rated at some 24 W, to the multiple filament pattern with ratings of 50 to 500 W. In the ribbon filament type the spiral construction is avoided. Finally the illuminating system is discussed and consideration is given

to the arrangement of the microscope substage and ancillary apparatus with low, medium, and high power, and high intensity illumination—the Köhler system.

This monograph is so full of important data that it might well find a place among those few books which the pathologist must keep within easy reach of his working bench.

G. M. FINDLAY.

Recent Advances in Pathology. By Geoffrey Hadfield and Lawrence P. Garrod. London. J. and A. Churchill. Fifth edition, 1947. Pp. 361. 60 illustrations. Price 21s. net.

Much new material has been fitted into the present edition without disturbing the plan or size of this well-known book in the "Recent Advances" series. Illustrations, mostly excellent photographs, are included where most needed. But in a subsequent edition a plate more in keeping with the others should be found to illustrate arsenical dermatitis and cancer (Fig. 9).

The chapter on nephritis, based as it is on the published work of Ellis, is greatly improved, and it is hoped that present concepts on renal damage may prove to be as near the truth as it is possible to get. Liver disease in the light of present knowledge is carefully reviewed, but the term "homologous serum hepatitis," though in common use, surely deserves a more appropriate synonym.

Much new work has been done on the relationship of enzymes and hormones to the cancer problem. Most of the available data has been carefully sifted and edited. The conclusion is drawn that malignant disease is due to intracellular disturbance, in nature chemical or even "microbic."

The chapter on ductless glands, contributed by Dr. E. F. Scowen, is a clear exposition of the facts. The author is at pains, and rightly, to differentiate between (1) hormones proper and (2) hormonally active substances recovered from the urine even though chemical constitution of the latter suggests a specific organ origin. It is not true to state that any given hormone is the prerogative of any one gland.

The subject index is carefully arranged and the name index should be a most valuable aid to bibliography.

MAGNUS HAINES.

We regret to announce the death of Dr. E. ff. Creed, Director of Pathology at King's College Hospital, London. An obituary notice will appear in the May issue.