

powerfully manned and adequately financed for exploration no less efficient than that carried on by foreign missions; but for this clearly the time is not yet ripe.

#### Suggested Use of Red Filters for Improving Vision

IN the *Klinische Wochenschrift* for November 3, Dr. Arnold Berliner, editor of *Die Naturwissenschaften*, has advocated the use of a red filter for improving vision when the media of the eye are hazy, as from vitreous opacities, incipient cataract, etc., since in such media light of short wave-length is scattered more than that of longer wave-length. The theoretical validity of this physical argument is undoubted, but physiological considerations render it doubtful whether much advantage would accrue. It is interesting to note that somewhat similar improvement of vision has been predicted for a glass of very different transmission characteristics by Dr. Birch-Hirschfeld (*Z. Augenheilkunde*, 77; 1932) and Dr. Danmeyer (*Hansa Deutsche Schiffarts-Z.*, December 1933). This 'neophan' or 'neodym' glass contains neodymium, and is slightly blue-violet in colour. It will be remembered that Sir William Crookes made and investigated the light transmission of such a glass, which differs little from that of the 'Crookes' glass now on the market, though it apparently has a rather more pronounced absorption band between 550 m $\mu$  and 650 m $\mu$ . It is held that the diminution of the yellow reduces the dazzling effect upon the retina. Prof. H. Hartridge, however, has given good reasons for thinking that these rays of highest luminosity in the spectrum are those most important for accurate discrimination of the retinal diffusion image with incident white light.

It might well be expected on physical grounds that monochromatic light would afford the sharpest retinal image, and the observations of Uhthoff and others support this view, provided that the intensity of the light is adequate. The eye, however, is an extremely complex optical instrument, and its physiological properties are such that maximal central discrimination depends not only upon the accuracy of the optical image, but also upon the sensitivity of the neural receiving apparatus. This is profoundly modified by the conditions of adaptation to light, and also by the condition of the surrounding retina. In many cases, central vision is enhanced by moderate illumination of the surrounding field. Hence the normal scattering of light which takes place in the eye may quite possibly be beneficial. Too much optimism should not therefore be indulged in when based only upon theoretical considerations of a purely physical nature.

#### Eyesight with Yellow Light

THE high luminous efficiency of the sodium vapour electric light makes it probable that it will be more extensively used in the future, if it can be shown to have no deleterious effect on human eyesight. Under the supervision of the Port of New York Authority and the United States Public Health

Service, this question has been investigated by Mr. James E. Ives, senior physicist of the Public Health Service, and his conclusions are included in Public Health Report No. 1640. Two groups of clerks, each about a dozen in number, worked four hours a day at their usual tasks, one group in a room illuminated solely by sodium vapour lamps, the other group with the usual gas-filled tungsten lamps. In each case the illumination of the plane of work was 10 foot candles. The eyes of each subject were examined clinically four times during the investigation, which lasted three months. The sodium light was found soft and easy on the eyes, and no permanent effect on the eyes could be detected, nor was there any difference in the amounts of work done by the two groups.

#### A Scottish Bird Station

SCOTLAND is well placed for intercepting certain movements of birds on migration. The records made by Dr. Eagle Clarke and after him by the late Admiral J. H. Stenhouse at Fair Isle, ably supplemented by the skill and knowledge of the islanders themselves, have made that remote spot between the Shetland and Orkney Islands a name known to all students of bird migration. But Fair Isle is remote and difficult of access, and it must be admitted that it receives the full tide of migration only under peculiar conditions of weather. On the other hand, the Isle of May, situated off the entrance of the Firth of Forth, is not far from centres of population, is easily reached in most kinds of weather, and has been proved, by many annual visits of Miss Baxter and Miss Rintoul, to be a good post of observation. Accordingly a few enthusiastic ornithologists, the Midlothian Ornithological Club, have decided to make the Isle of May a bird station at which regular, and so far as possible continuous, observations of bird movements will be made, partly by field study, partly by trapping and ringing adult birds. The carrying out of the project has been made possible by the permission of the Commissioners of Northern Lights, and every naturalist will wish success to this promising enterprise.

#### Pioneer Bird Observatories

THE first bird observatory for making day to day records of passing birds and marking migrating species with numbered aluminium rings in the adult stage, where mortality is much less than in the nestling stage, was formed at the beginning of the present century by Prof. Thienemann at Rossitten, East Prussia, followed shortly after by Prof. Rudolf Drost's observatory at Heligoland. In the United States, the first bird-ringing or 'banding' station was established by S. Prentiss Baldwin on a 100-acre farm at Cleveland, Ohio, with a winter branch at Thomasville, Georgia, but the United States Bureau of Animal Biology now maintains two bird observatories, at Berkeley, California, for migration and waterfowl studies, and North Eastham, Massachusetts, for migration, in addition to general observation reserves for birds and mammals. In the British