commented on the following histological appearances; the epithelial nature of the neoplasm and the arrangement of the cells in rows, columns, and in some instances the resemblance to a glandular structure with a central lumen. Colloid degeneration is described and observations made about the comparative avascularity of these neoplasms. Pigment was present in some cases, and was absent or had disappeared in others. A history of previous injury and defective vision was given in several instances. In some cases the pupil was described as being irregular. Displacement of the lens, opacities, and fosette formation from contact with the neoplasm are mentioned by Greeves and other authors. The origin of the neoplasm could be traced into the unpigmented layer of the ciliary epithelium. The root of the iris, ciliary body, and filtration angle were invaded by the neoplasm. Comment is made by some observers that after excision of the affected eye, recurrence of the neoplasm does not occur.

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AN ELECTRIC OPHTHALMOSCOPE

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THE optical part of this ophthalmoscope was shown to the Ophthalmological Society of the United Kingdom in 1904, a description of the mechanism was given in the *Lancet*, Vol. LXXXI, p. 28, 1905.

Recently, Messrs. Rayner (who had acquired the original patterns) asked me if I would supervise the adaptation of the original reflecting ophthalmoscope to a self-contained electric fitting.

The new model has certain advantages. The attachment of a battery handle to a magazine ophthalmoscope, such as a Couper's or Morton's adaptation thereof, produces an inconveniently long instrument. This new ophthalmoscope, although it has a range of

70 dioptres, from +30 to −39 in steps of 1 dioptre, is no longer than a May's ophthalmoscope with its small range of lenses.

The range of 70 dioptres is produced by 15 actual lenses The mechanism which I adapted to this ophthalmoscope was invented by Harding, an engineer of Leeds, about 1870. It is thoroughly reliable. It has been extensively used in speed indicators, meters, and stop-watches. The first ophthalmoscope, made in 1903, I have used regularly since then, it has never got out of order.

There are two lens discs. These overlap at the sight hole. The larger, or "units" disc has ten holes, one blank and nine glazed from −1 to −9 dioptres. At one point on the rim of this disc there is a finger-like projection. The smaller, or "tens" disc has

seven holes, one blank the others glazed +10, +20, +30, −30, −20, −10 dioptres. On one face of this "tens" disc is a spur wheel of seven teeth. As the driving wheel is turned past 9 dioptres, the "finger" of the "units" disc automatically engages with the spur wheel and moves the "tens" disc one place either way, according to the movement of the driving wheel. The edge of the "tens" disc is milled, and one part is exposed through the edge of the body of the instrument, so that it can be turned directly to bring a strong convex lens to the sight hole.

In providing an electrical attachment, the aim has been to secure the widest, most variable, and most stable range of illumination. The battery supplying the lamp, is a standard "Ever Ready" pattern No. 1829. It will keep the lamp burning continuously for over 13 hours, still giving sufficient illumination for examination of the fundus; continuous discharge is a severe test. The lamp is gas-filled, and has a small coil filament.

A focusing lens controlled by an external collar, regulates the beam from the instrument. When the collar is at the bottom position, a slightly diverging beam giving the effect of a plano-mirror retinoscope is produced. As the collar is moved upwards the beam becomes converging, until a very short focus is reached, after which the beam becomes increasingly divergent. At a distance of one inch the illumination varies from considerably over 100 foot candles with the filament almost focused, to about 30 with the most widely divergent beam. By using the resistance in the circuit the divergent beam can be reduced to 2 foot candles. Great care has been taken to ensure a fine control of the focusing movement.

Four cells are hinged to the lamp tube and can be interposed between the light and the mirror. They contain filters, red, green, and "daylight," and a diaphragm with a small central hole. These screens can be readily brought into use and are very serviceable.

The instrument is excellent for retinoscopy at the distance of one metre, either with the white or red light. It has proved itself to be a first rate emergency operation lamp, since it will throw a beam of parallel rays of about 20 foot candles from a distance of 6 inches which will illuminate the eye and lids; and as the ophthalmoscope is held horizontally above the eye it is easy to keep it in position and out of the operator's way.

Finally, mention may be made of the covering of the handle which contains the battery. This is coated with an even layer of fine sand which gives a perfectly easy grip. The instrument can therefore be held easily with the fingers with no sense of risk of slipping, and without the damp chilly feeling which comes to leather covered handles after much usage.

The instrument is packed in a case with an arrangement which allows of its immediate extraction when it is required.