the lens. But the conclusion is again premature, and he has by no means eliminated the original suggestion of Broca that the contraction is caused, in part at least, by direct action on the muscle fibres, an action which has been definitely proved to occur elsewhere. The question of lenticular damage and the aetiology of cataract are left open; he himself never obtained any opacity observable by histological examination. With the intensities of radiation used this is not to be wondered at; but he makes no mention of the recent work done on the more fundamental but subtler biochemical changes which have been conclusively shown to follow such exposures.

One point is raised which is worthy of note. He finds that the fluorescent action of ultra-violet on the lens is antagonized by the visible reds. We think that the evidence supports his contention that the infra-red has no such antagonistic action on the biological action of the ultra-violet, and it will be interesting if this peculiar action of the longer waves of the visible spectrum will be substantiated. Incidentally it has been known for some time that red light has a similar inhibiting action upon phosphorescence.

The pathological action of ultra-violet upon the structures of the outer eye is discussed and its clinical manifestations as solar and industrial photophthalmia. The question of therapeutics is treated cursorily: three pages only are allotted to it. Results are spoken of as excellent, but no personal observations are given, only the non-analyzed findings of others. A representative but incomplete bibliography is appended.

CORRESPONDENCE

AN EARLY CATARACT KNIFE

To the Editor of THE BRITISH JOURNAL OF OPHTHALMOLOGY

SIR,—Mr. James's account of Scott's cataract knife recalls to my mind an earlier one designed and used by Samuel Sharp a surgeon at Guy's, who wrote on cataract in 1761. To understand the significance of Sharp's knife it is necessary to recall the procedure followed by Daviel in 1747 when he performed the first extraction operation. He employed four instruments to make the section which was downwards in direction. First the cornea was perforated below with a half-curved lancet-shaped needle carried

above the pupil, taking care not to wound the iris; next a blunt-pointed half-curved needle with cutting edges was inserted and the first incision enlarged by carrying the needle first to the right and then to the left. Further enlargement was brought about by means of curved scissors introduced with the blunt point in the chamber, first on one side and then on the other. This procedure necessitated two pairs of scissors, curved appropriately for either side of the cornea. Sharp's knife was a narrow one, increasing in breadth towards the handle, and with this he made a downward section, not quite so extensive as Daviel's. Unlike Daviel he did

Sharp's method of making the section. From *Phil. Trans.*, 1761.

not open the lens capsule, regarding this as unnecessary and dangerous. Sometimes, he says, after making the section, the aqueous, lens, and vitreous "fly out." If such happen the eye is to be quickly tied up. If the lens should not come out in this way, the lower part of the globe is to be pressed gently with the fingers. The cataract should then advance through the pupil into the anterior chamber, whence it will pass through the wound. If the lens did not readily present, it was to be lifted from its bed by the knife previously stuck into it. This last procedure will, he says, avoid the danger of "evacuating the whole or too much of the vitreous which is apt to follow the cataract when the eye is firmly pressed." A severe reaction from the operation commonly followed, usually six weeks elapsing before the eye became quiet. Sharp's pupil Warner slightly modified the knife, and with it made a larger section and followed Daviel's practice of opening the lens capsule.

Yours truly,

PERCY FLEMMING.

LONDON,

January, 1927.