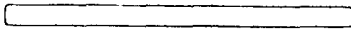
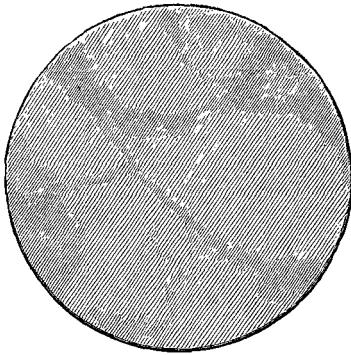


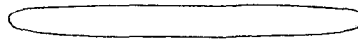
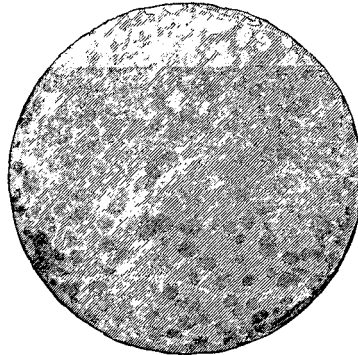
V.

NOTES ON SOME POLISHED STONE DISCS OF UNKNOWN USE, IN THE MUSEUM. BY JOSEPH ANDERSON, KEEPER OF THE MUSEUM.

The presentation of a number of small Japanese mirrors of bronze in the form of simple discs of metal polished and silvered on one side (see donation list of the present meeting), has induced me to revive an old conjecture of mine regarding the probable use of certain discs of polished stone, of which we have several examples in the Museum. They are usually about $2\frac{3}{4}$ inches diameter, neatly finished round the edges, and highly polished on both the flat surfaces, as shown in the accompanying woodcuts.



Polished Disc of Marble from a broch in Orkney, $2\frac{1}{4}$ inches diameter.



Polished Disc of Mica Schist from Urquhart, Elginshire, $2\frac{3}{4}$ inches diameter.

Besides the two here figured, we have a third in the Museum from the Broch of Burray, Orkney, presented by Mr Farrer. Mr George Petrie, Corr. Mem. S.A. Scot., has two in his collection at Kirkwall. I found

one in the Broch of Old Stirkoke in Caithness.¹ I have not noticed any specimens in the collections of Scandinavia or England. There was one of granite found in the Kirkhead Cave at Ulverston,² with Romano-British relics, and two, also of granite, have been found in Irish crannogs.³ It is clear, therefore, that they belong to the Age of Iron, and not to the Age of Stone, but so far as I am aware, no suggestion as to their probable use has ever been hazarded.

It is more with the view of drawing attention to these peculiar "implements" of stone (if such they may be termed) than of establishing a hypothesis which in the meantime lacks evidence to support it, that I venture to suggest the possibility of their having been mirrors of stone.

In starting this hypothesis I do not overlook the fact that these objects are of the Iron Age. Had they been of the Stone Age I should not have hazarded the conjecture. The smallness of their size, their simple disc form, and the dulness of the polished surfaces, may be urged as objections against the possibility of their use as mirrors. But, on the other hand, it may be taken for granted that alongside of these Japanese mirrors the small size and the simple disc-form are in themselves no sufficient objection. The dulness of the surface is due to their long contact with the soil, and its lustre may be restored so as to enable one to see his reflected image by simply dipping the disc in water. And I exhibit several specimens of polished stone (for which I am indebted to Professor Duns) to show by ocular proof that a high polish does bring up a good reflecting surface even on the darkest stone.

But apart from probabilities, it is the fact that stone mirrors were made and used by the ancients. Both Pliny and Theophrastus mention mirrors made of calcareous spar or selenite, of green vitrified lava, and of the black marble of Chios. "The first glass mirrors, indeed," says Beckman, "appear to have been made in imitation of the obsidian stone." In fact, the first mirrors made of glass were failures on this account, being so much surpassed by those of metal that they never came into general use, and it was only after the process of silvering the back of the glass came into use in the 13th century that the modern form of the mirror

¹ *Archæologia Scotica*, vol. v. p. 143.

² *Mem. Soc. Anthropol. Lond.* vol. ii. p. 360.

³ *Kilkenny Arch. Journal*, iii. 88 and iv. 36.

was generally adopted. John Peckham, an English Franciscan monk, who wrote a treatise on optics in A.D. 1297, speaks of mirrors made of glass and also of iron, steel, and polished marble, and states that in certain stones of weak colour the reflected image is better seen than even in glass. When the Spaniards went first to Peru they found mirrors of stone in use among the Peruvians. These are described as being made of a kind of obsidian, and also of marcasite, and the size of these Peruvian stone mirrors removes the objection of the smallness of the Scottish specimens, as they are described as being no more than three inches diameter.

Since these notes were read to the meeting of the Society, I have been favoured by Dr John Alexander Smith with a transcript of the passage from Peckham's work, which he kindly obtained for me from the British Museum, and also with a note of a specimen in the Museum of Economic Geology in Jermyn Street, labelled as follows :—

“Polished Marcasite or white Iron Pyrites, probably used as a mirror. Found in 1866 embedded in peat on the site of ancient pile dwellings at London Wall, associated with Roman pottery and coins ; iron and bronze implements ; leather soles of shoes or sandals ; kitchen-middens, or heaps of refuse shells ; bones of the red-deer, wild boar, wild goat, *Bos longifrons*, &c. Presented by Colonel Lane Fox, 1866.”

The conclusion to which I come in view of all these facts, is not that these discs of polished stone which I have exhibited were made to be used as mirrors, but that the hypothesis that such discs of stone may have been mirrors, similar to those used by the Peruvians, and noticed as having been used in Europe, both by classical authors and writers of the Middle Ages, is not altogether an improbable one.