

" In Herefordshire and Shropshire the passage of the upper members of the Silurian rocks into the inferior strata of the Old Red group has been well shown by Mr. Lightbody, and the fossils of its lower members have been vigorously collected, while in Scotland Mr. Geikie and others have shown the upward passage of its superior strata into the base of the Carboniferous rocks, and Dr. Anderson announces the finding of shells with crustacea in the lower or gray beds, south of the Tay. I may here note that the point which I have been for some years endeavouring to establish as to the true position of the Caithness flags with their numerous ichthyolites seems to be admitted by my contemporaries. The lamented Hugh Miller considered these ichthyolites as belonging to the lower member of the group, and had good grounds for his views, since at his native place, Cromarty, these fish beds appear very near the base. But, by following them into Caithness and the Orkneys, I have shown that they occupy a middle position, while the true base of the group is the equivalent of the zone with *Cephalaspis*, *Pteraspis*, and *Pterygotus*.

" And here it is right to state that the Upper Silurian rocks, which are clearly represented in Edinburghshire, and which in Lanarkshire seem to graduate upwards into the Lower Old Red or *Cephalaspis* sandstone, are wanting in the Highlands, thus accounting for the great break which there occurs between the crystallized rocks of lower Silurian age and the bottom beds of the Old Red Sandstone.

" Of the Old Red Sandstone of Scotland and Herefordshire I may be permitted further to observe that its downward passage into the uppermost Silurian rock and the upward passage of its higher strata into the Carboniferous strata has been well developed ; the one near Ludlow, chiefly through the labours of Mr. Lightbody ; the other in Scotland, through the researches of the Government geologists Howell and Geikie, as well as by those of Mr. D. Page and other observers. On this head I may however note what my contemporaries seem now to admit. that the removal of the Caithness flags and their numerous included ichthyolites from the bottom of this group, and their translation to the central part of the system, as first proposed by myself, is correct. In truth, the lower member of this system is now unequivocally proved to be the band with *Cephalaspis*, *Pteraspis*, &c., as seen in Scotland, England, and Russia. The great break which has been traced in