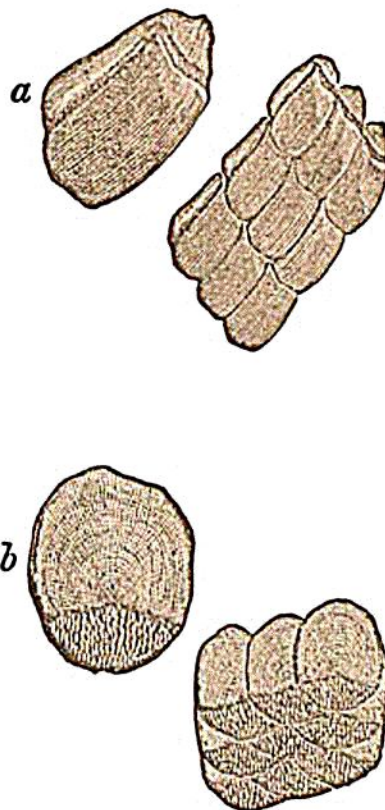


traverse. It may be added, that both genera had the anterior edge of their fins armed with strong spines, — a characteristic of several of the Placoid families.

In the Dipterian genera *Osteolepis* and *Diplopterus* the scales were more unequivocally such than in the Acanths, and more removed from shagreen. The under surface of each was traversed longitudinally by a raised bar, which attached it to the skin, and which, in the transverse section, serves to remind one of the shagreen footstalk. They are, besides, of a rhomboidal form; and, when seen in the finer specimens, lying in their proper places on what had been once the creature's body, they seem merely laid down side by side in line, like those rows of glazed tiles that pave a cathedral floor; but on more careful examination, we find that each little tile was deeply grooved on its higher side and end, (for it lay diagonally in relation to the head,) like the flags of a stone roof, (fig. 6, *a*,) —

Fig. 6.



a. Scales of *Osteolepis microlepidotus*.

b. Scales of an undescribed species of *Glyptolepis*.\*

(The single scales mag. two diameters; — the others nat. size.)

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\* These scales, which occur in a detached state, in a stratified clay of the Old Red Sandstone, near Cromarty, present for their size a larger extent of cover than the scales of any other Ganoid.