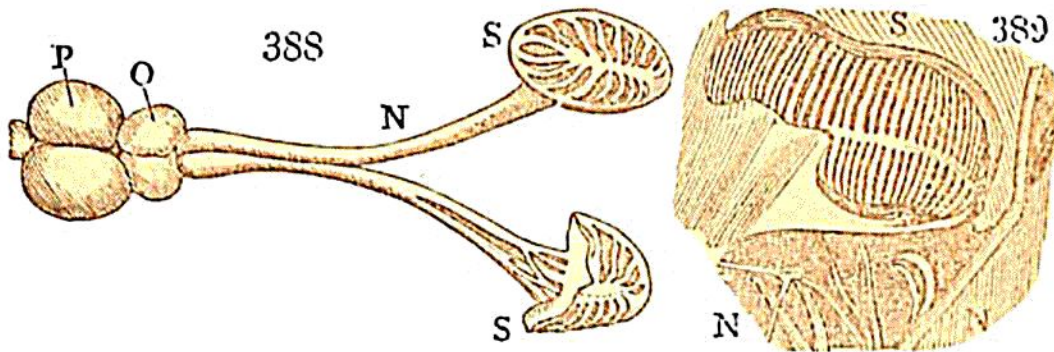


into two cavities, and serving the purpose of preventing the introduction of any foreign body. The organ itself is situated behind this valve, and consists either of a membrane, curiously plaited into numerous semicircular folds, or of tufted or arborescent filaments. Fig. 388 shows this cavity



(s,) with its plaited membrane in the Perch; and Fig. 389, in the Skate; the laminæ in the former being radiated, and in the latter, foliated, or parallel to each other. On the surface of these organs, whatever be their shape, the olfactory nerves, (n,) arising from the anterior lobes (o) of the brain, are distributed; and the great size of these nerves would lead us to infer considerable acuteness in the sense which they supply. When the fish is swimming, their situation in front of the snout exposes them to the forcible impulse of the water which strikes against them. According to Geoffroy St. Hilaire, the water enters the cavity by the upper orifice, and escapes by the lower. Scarpa alleges that fishes exercise this sense by compressing the water against the membrane. On the other hand, it is contended by Duméril, that the perceptions communicated by this organ, being the result of the action of a liquid instead of a gas, should be classed under the head of taste rather than of smell. This seems, however, to be a mere verbal criticism, in making which it appears to have been forgotten that the impressions of odorous effluvia, even in animals breathing atmospheric air, always act upon the nerve through the intermedium of the fluid which lubricates the membrane of the nostril.

That the nasal cavities of fishes are rudimental forms of