

rain or spray, and the colder the weather the more marked and visible is this phenomenon. When a large whale raises its snout sufficiently far out of the water the column is thrown up precisely like a jet of steam forcibly escaping from a boiler. This jet may be ten or twelve feet high in the case of an Arctic whale or a huge Finner; but in the porpoise, one of the smallest of the whales, the jet is an insignificant puff only six or eight inches in height. Sometimes the creature breathes before the blow-hole is clear of the waves and a low fountain like a boiling jet is then formed, but if the blow-hole is level with the surface of the sea a small quantity of water is carried up with the rushing column of hot vapour. The cloud of ejected vapour, in very still weather, hangs for a considerable time and moves slowly over the water until it dissipates and fades away. Its appearance when seen from the level of the sea, as the late Professor H. N. Moseley recorded, "is very different from that which it has when seen from the deck of a ship; it appears so much higher and shoots up into the air like a fountain discharged from a very fine rose." Whereas the great Arctic whale (or Right whale) possesses two blow-holes side by side, and throws up two lofty jets of vapour, the Beluga or white porpoise, and the small porpoise or sea-pig, exhibits a single crescent-shaped aperture, and like the huge sperm-whale ejects a single puff or column; but in the last-named whale the spout curves over in front of the head, and forms an arch of white vapour. Two blow-holes occur in the Hump-backs, but in the Beaked Whales (*Hyperoodon*) which are allied to the toothed sperm-whale, there is a single cruciform aperture.

Great force being required to expand the spacious chest of these huge monsters, the muscles used in the breathing operation are very powerful and this is especially true of the muscular diaphragm. The elasticity of the lungs, due to the enormous development of "yellow fibres," and the pressure on