

Received March 10, 1770.

XXVII. *Description of the blunt-headed Cachalot*: By James Robertson, Esq; of Edinburgh. Communicated by Thomas Pennant, Esq; F. R. S.

Read May 10, 1770. **P**HYSETER *Catodon Linnæi*, blunt-headed Cachalot, British Zoology, run ashore upon Cramond Island, and was there killed, December 22, 1769. Cramond Island is in the Firth of Forth, four miles above Leith. The fish measured fifty-four feet in length; its greatest circumference, which was a little behind the eyes, thirty.

The head was nearly one half the whole fish, TAB. IX. of an oblong form, and rounded, except within six feet of the extremity, where it had inequalities, shewn by the transverse section (*b*).

The body was rounded, and gradually tapered to the tail, except about the middle of the back opposite to the *penis*, where there was a bump or protuberance, but no fin.

The tail, as in all the whale tribe, was placed horizontal a little forked; the blades were of a wedge shape, and fourteen feet from tip to tip.

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In the lower jaw, which was eleven feet long, were placed twenty-three teeth on each side, each two inches long, and all pointing a little outwards.

The upper jaw, projecting five feet over the lower, was quite blunt or truncated, nine feet high; and the spout-hole, placed at its upper part, appeared to be provided with a *sphincter*. In the upper jaw, were twenty-three sockets on each side, for lodging the teeth of the lower, when the mouth was shut; but no teeth.

The eyes were remarkably small in proportion to the size of the animal, and placed in the most prominent part of the head.

The pectoral fins were placed five feet behind the corners of the mouth, and measured three feet in length and eighteen inches in breadth.

The *penis* was seven feet and a half long and placed nineteen feet behind the corners of the mouth, inclosed in a strong sheath, the mouth of which was shut with a *sphincter*: five feet behind it was placed the anus, likewise furnished with a *sphincter*, and the distance, from the *anus* to the division in the blades of the tail, was fourteen feet.

The *cuticula*, or scarf-skin, was extremely thin; on the upper part of the head and whole body, of a bright grey colour, and on the under part of the head of a dirty white; it was smooth and slippery to the touch, easily torn off, and when viewed betwixt the light, it appeared scaly.

The true skin was of a black colour, about  $\frac{1}{4}$  of an inch thick, adhering firmly to the fat (blubber), which was from four to nine inches thick. Below the fat every where were tendinous cords, of a bright straw

straw colour, very elastic, strong, and covered with a loose thin membranous coat. On the *abdomen* were three layers of those tendons, which crossed each other obliquely, and, in their direction and situation, greatly resembled the *obliquus ascendens* and the *transversalis* of the human body, and they became fleshy where the *linea alba* is in the human body, and at the lumbal vertebræ. The tendons which appear to arise from the upper ribs, the dorsal *vertebræ*, and the *vertebræ* of the neck, arose fleshy, were both flatter and stronger than in any other part of the body, and running along the head with little obliquity, seemed to be inserted tendinous into the *cranium*, &c. Considering the tail as the *os sacrum* or a continuation of the spine, the tendinous muscles belonging to it arose towards the process of one *vertebra*, and running almost round, was inserted into the process of another, and have much the same effect on the tail as the *supinator* and *pronators* have in turning the hand; which circumstance, if true, must be of great utility in performing the several motions necessary in the progression of this animal.

The substance, improperly called *spermaceti*, and erroneously said to be prepared from the fat of the brain, was every where contained in a fluid state in the cavity of the head along with the brain, but quite distinct from it. Was this substance in a state of fluidity when the animal was in life? Very probably not; but it turned into that form by means of a heat occasioned by a fermentation of the different fluids, which soon began after the death of the fish, and increased to such a degree as at length to cause many cracks in the skin, to burst the body in the back, and to

throw out the abdominal *viscera* at that aperture. After this eruption the *spermaceti* was found every where around the fish, floating on the water in a congealed state. From which circumstance, it seemed to be contained throughout the whole body, and to have run out at these cracks, &c. : but upon examination, it was found to have run out at the mouth only. How found it a passage from the head there? To come at that fluid, the workmen made a hole into the cavity of the head at (*a*), and took it out with a skimmer from among the substance of the brain, as it flowed to the hole, which it did like water springing up into a well. When it was taken out, it was hot, and of a clear oily colour ; but being exposed to the cold air, it immediately congealed into a white mass.

