

lumbar vertebræ are two narrow flat bones, lodged in the flesh, one on each side. The scapula is thick, and the humerus, radius, and ulna, short and strong.

The flesh of this animal is delicate and juicy, resembling young beef. It is only found in shallows and inlets of the sea, and the greatest number is said to be taken during the northerly monsoon, near the mouth of the Johore river, in the inlet of the sea between Singapore island and the main; they seldom exceed eight or nine feet in length, though they probably grow much larger, but are then too strong to be caught.

*Observations on the Human Urethra, showing its internal Structure, as it appeared in the Microscope of F. Bauer, Esq. By Sir Everard Home, Bart. V.P.R.S. Read June 1, 1820. [Phil. Trans. 1820, p. 183.]*

Mr. Bauer has discovered, by the aid of the microscope, that the human urethra is made up of two parts, an internal membrane and an external muscular covering; the former, very thin and destitute of fibres, is thrown into folds in a collapsed state, and upon its surface are numerous orifices of glands; the latter is made up of short interwoven fibres, forming fasciculi united by an elastic substance of the consistence of mucus: these observations show the fallacy of the common opinion, that the lining of the urethra consists of circular contractile fibres, and throw a new light upon the disease called Stricture; a spasmodic stricture being a contraction of a small portion of the longitudinal muscular fibres, while the others are relaxed; and a permanent stricture consisting in the exudation of coagulable lymph, in consequence of inflammation, between the fasciculi of muscular fibres and upon the internal membrane.

After adverting to what is known respecting the structure of the corpus spongiosum, and corpora cavernosa, the author proceeds to state the result of Mr. Bauer's examination of those parts. The cellular structure of the corpora cavernosa is made up of many thin membranous plates, very elastic, and so connected as to form a trellis-work, the edge of which is attached to the elastic ligamentous substance which surrounds them, and which forms the septum that separates them. The structure of the corpus spongiosum resembles that of the corpora cavernosa, except that the parts are formed upon a smaller scale, and that there are no muscular fibres in its ligamentous elastic covering. The various details and descriptions in this paper are illustrated by Mr. Bauer's drawings.

*On the Errors in Longitude as determined by Chronometers at Sea, arising from the Action of the Iron in the Ships upon the Chronometers. By George Fisher, Esq. Communicated by John Barrow, Esq. F.R.S. Read June 8, 1820. [Phil. Trans. 1820; p. 196.]*

The sudden alterations in the rates of chronometers, when taken on board ships, are generally ascribed to the motion of the vessel; but

from circumstances connected with the chronometers of the *Dorothea* and *Trent*, during the late voyage to the North Pole, the author is induced to refer these alterations to other causes: he found that in all cases the gaining rates were increased and their losing ones diminished on ship-board. That this acceleration does not arise from the ship's motion, was shown by its occurrence when the *Dorothea* and *Trent* were beset with ice, and when they were at anchor close in shore without any perceptible motion; nor does it appear that change of temperature was at any time the cause of this change of rates. That the iron in ships becomes magnetic is shown by its polarity, the whole forming, as it were, a large magnet, having its south pole on deck and its north pole below. The inner rim of the balance of chronometers, which is made of steel, will, therefore, be liable to magnetic action, which will be sufficient to cause a very sensible alteration in their rate of going.

Mr. Fisher concludes this communication with some account of experiments on the action of magnets upon chronometers placed in various positions with respect to their balances, by which it appears that an acceleration in these cases always ensues. It also appears probable, he observes, that the force of the balance spring is affected by the same cause, since chronometers in which they are made of gold, though more difficult to adjust, keep better rates at sea than others.

An appendix, containing tables of rates furnished by Mr. Coleman, is annexed to this paper.

*An Account of a New Mode of performing the High Operation for the Stone.* By Sir Everard Home, Bart. V.P.R.S. Read June 15, 1820. [*Phil. Trans.* 1820, p. 209.]

The method of removing a stone from the bladder, which is detailed in this communication, is as follows:—An incision is made in the direction of the *linea alba*, beginning at the pubes, and four inches long, down to the tendon. The *linea alba* is then pierced close to the pubes, and divided to the extent of three inches. A silver catheter is now passed into the bladder; and its point being felt through the wound in the fundus of the bladder, a stilet is forced through it, followed by the end of the catheter. The stilet is then withdrawn, and the opening through the fundus of the bladder enlarged towards the pubes by a probe-pointed bistoury. The catheter is then withdrawn, and the stone removed. A flexible gum catheter is lastly introduced, by which the urine passes off. The subject of the above operation was a lad sixteen years of age. In ten days the wound of the bladder healed, and he made water freely by the urethra. The stone was very rough, and about an ounce in weight.