of his lower extremities. We must then denominate him, as some naturalists have done, a quadrumanus animal.

NOTE.
The preparations which have been made from him are:
The skin stuffed and prepared to exhibit his external appearance.
His natural skeleton entire.
The heart fully injected, with the aorta and other vessels, and the lungs in situ, with a portion of the diaphragm.
The tongue, larynx, pharynx, &c. exhibiting the peculiar structure of its connexion with the pouch, and its general resemblance to man's.
Dried preparations of the stomach, caput coli, and its appendix, and of the urinary and gall bladders.

Boston, July 1st, 1825.

ART. LXIII.—Description of a nondescript Species of the Genus Condylura. By T. W. Harris, M. D. Communicated by the author.

The genus Condylura was constructed by Illiger for the reception of the Sorex cristatus of Linnaeus, the Radiated mole of Pennant.

This name, derived from σωνδυλος, a knot, and ουφη, the tail, is essentially bad, as it is founded on an exaggerated or caricatured representation of the tail of the animal, and on a structure which does not exist, in the slightest degree, in the species to be here described. Desmarest, who has amended the characters of the genus, did not think it expedient to change the name, and thus embarrass nomenclature with a new synonym.

Cuvier, in the Regne Animal, has suppressed the genus Condylura, being confident, he says, from an inspection of the teeth, that the radiated mole is a Talpa and not a Sorex. Desmarest* thinks that Cuvier must have examined, by mistake, the denuded head of a true Talpa, instead of that of the Condylura. He observes that a specimen of this animal, sent by Le Seuer from Philadelphia, presents characters pe-

cular to itself; that it cannot be united either with the *Talpa* or *Sorices*, but holds an intermediate rank between these two tribes or families. In its form and habits, it has an affinity to the former, while its teeth closely resemble those of the latter. It is arranged in the family *Soricii* and genus *Scalops* by the author of the article "Mazology," in Brewster's *Encyclopaedia*.

The *Sorex cristatus*, with another animal of the same genus recently detected in Maine, might, with propriety, constitute a new family with the following characters.

Upper and lower jaw each with twenty teeth; four incisors only in the lower jaw; nostrils carunculated; tail scaly, of moderate length; feet with five claws, the anterior ones broad, and formed for digging in the earth; the hind feet elongated, slender; eyes minute; and no external ears.*

The animals of this family, like the moles and shrew-mice, burrow in the ground, and live upon insects.

In March, 1825, a small animal was discovered, near Machias, in the state of Maine, which exhibits the characteristics of the genus *Condylura*, but which is evidently distinct from *C. cristata*, the type of that genus. These animals both have, in the upper jaw, six incisors implanted in the pre-maxillary bone, the two intermediate ones large, their cutting edge oblique; the adjoining incisors resembling long canine teeth, slightly triangular at base, where are situated two minute tubercles; each external incisor isolated, very small, conic, and pointing backwards. Seven molares on each side; the three first resembling canine teeth, and may be considered as false molares; they are smaller than the true molares, are isolated, with two minute lobes at base. The four posterior molares large, formed of two layers of enamel, furrowed externally, and tuberculated within.

The palate has seven transverse ridges between the incisors and the first two molares.

Lower jaw with four, flattened and projecting incisors; five false molares, separated from each other, the first the largest, and each of them with three or four small lobes; three true molares, composed of two layers of enamel, channelled within, and tuberculated on the outside.

* The essential characters of the Shrew-mice, or *Sorices*, are, six or eight cutting teeth in each jaw, the intermediate ones the longest; tail and external ears sometimes wanting.

The family of the Moles, or *Talpa*, is characterized by having twenty-two teeth in each jaw; six incisors in the upper and eight in the lower jaw, equal to each other; no external ears; tail very short; eyes and feet as in the *Condylura*.
Dr Harris on a nondescript Species

Proboscis elongate, extensile; the nasal extremity naked, and bordered with about twenty cartilaginous, acuminated processes, disposed in a circle, the two superior ones united at the base, longer than the others, and situated a little in advance of them.

Neck indistinct; legs short, the hind ones placed far back; feet five toed, the anterior ones very broad and scaly, with a series of curved hairs on the external edge; the nails long and straight. The hind feet a third longer than the fore feet, scaly, narrow, with a warty excrescence on the inner part of the tarsus; nails slightly curved and short. Tail scaly, and thinly covered with coarse hairs. Eyes minute. No external ears.

The species from Maine appears to be a nondescript, and may therefore receive the name of prasinata. It is clothed with a long and very fine fur of a green colour, with a few grey hairs at the extremity of the tail. The nose is naked, the caruncles which surround it in a stellate manner are twenty two in number, and of a brownish hue. The eyes are exceedingly minute, and are entirely concealed by the fur. The fore feet greatly resemble hands; the palms are covered with a thick cuticle, and on the inside of each of the fingers, near their origin, are three triangular acuminated scales, or cuticular processes. A large, rounded, warty excrescence is situated midway, on the inner and lower part of the foot. The specimen was a male. The tail nearly three quarters the length of the body, very small, or strangulated at its insertion, becoming abruptly very large, and gradually tapering towards the extremity. The caudal vertebrae were not distinguishable through the mass of fat with which they were enveloped, and of which the tail was principally composed. There were no transverse folds or ridges on the tail, its surface being perfectly uniform, nor were the hairs disposed in distinct whorls. The tail of this species, therefore differs essentially from that of the cristata, as described by authors, and induces us to wish that Desmarest had changed the name of the genus for some one more expressive of the species which compose it.

Length of the male Condylura prasinata, from the end of the snout to the origin of the tail four and a half inches. Length of the tail three inches. Circumference of the body three inches and three quarters. Circumference of the tail, at the largest part, one and a half inch. Average length of the nasal radii five twentieths of an inch. Length of the
hand eight tenths of an inch. Length of the longest nail three tenths of an inch. Length of the foot one inch and one tenth. Length of the longest nail of the foot five twentieths of an inch. Distance between the eyes rather over three tenths of an inch. From the end of the snout to the eyes seven tenths of an inch.

Milton, May 4, 1825.

Art. LXIV.---On the Application of the Barometer to the Measurement of Heights:

In the barometer there is an equilibrium between the pressure of the mercury and that of the atmosphere. Now when two fluids thus counterbalance each other, the altitudes are inversely as the specific gravities. Accordingly, as the specific gravity of mercury is to that of air at the surface of the earth as 13.57 to 0.00122, we shall have

\[0.00122 : 13.57 :: 30 : \frac{13.57 \times 30}{0.00122} = 333688.\]

We infer, therefore, that the height of the atmosphere, on the supposition of a uniform density throughout, is 333688 inches, or a little more than 5 miles. But the air being eminently elastic, the lower strata are compressed by the incumbent weight of those above, so that the density becomes less and less continually as we ascend. Let the weight of the column of mercury which measures the pressure of the atmosphere, exerted upon a unit of surface, be denoted by \(g \Delta h\), \(g\) being the force of gravity, \(\Delta\) the density of the mercury, and \(h\) the perpendicular height of the column above the level of the surface in the basin, and let the weight of the atmosphere upon the same surface be denoted by \(w\), we shall have

\[g \Delta h = w.\]

As we ascend into the atmosphere, the weight \(w\) and the height \(h\) diminish continually, and these diminutions depend

* This article is, with the permission of Prof. Farrar, taken from "An Elementary Treatise on Mechanics, comprehending the Doctrine of Equilibrium and Motion, as applied to Solids and Fluids, compiled from the most approved writers, and designed for the use of the Students of the University at Cambridge, N. E." Not yet published.