on the ventral margin of the body of the animal the wall of the body becomes soldered to that of the digestive cavity, and pierced by an aperture representing the first branchial fissure. The second and third fissures are formed in precisely the same manner.

At this period also the heart makes its appearance at the ventral part, and contracts slowly. From this moment each cell of the epidermis bears a single vibratile cilium in place of the large bundle of cilia which it previously displayed.

In the course of development the number of branchial fissures increases in consequence of the division of the first-formed fissures; then the chitinous skeletons of the branchiæ and various other organs appear. From each side of the body proceeds a fold of skin, which runs to meet the opposite fold and to unite with it on the ventral line—except at one point which will represent the abdominal pore.

Lastly, the author believes he has ascertained that the terminations of the nerves of the skin are histologically continuous with the cells of the epidermis.—*Bibl. Univ.* October 25, 1866, *Bull. Sci.* pp. 193–195 (abstract of the original Russian paper).

Alleged Discovery of an Ancient Human Skull in California.

Accounts have recently been going the round of the press, of the discovery of a human skull in or beneath certain volcanic deposits in California, which has attracted much attention from the various ages that have been assigned to it. The facts of the case, so far as they have reached us from authentic sources, are as follows. The skull in question is alleged to have been found at a depth of 153 feet, in a shaft sunk in the consolidated volcanic ash, known locally as "lava," near Angel's Camp, in Calavaras county. Five beds of this consolidated ash were passed through, separated by beds of gravel.

The skull was found by a miner, and it soon came into the hands of Prof. J. D. Whitney, State Geologist of California, who visited the locality and investigated the matter as far as was then possible; but, owing to the presence of water and the stoppage of work in the shaft, the examination was not fully satisfactory. He has made a preliminary statement before the California Academy of Natural Sciences, but defers any extended notice until the subject can be investigated with more completeness and accuracy. He thinks the skull was found in the position claimed, and will investigate the subject when the water is pumped out of the shaft and work resumed, which is expected to be done soon.

The precise age of the beds in question is as yet uncertain. In the 'Geology of California,' Prof. Whitney considers that the eruption of the great mass of volcanic materials on the western slope of the Sierra Nevada began in the Pliocene age, and that it continued into the Post-pliocene, and possibly to comparatively modern times. The alleged position of the skull is a lower one than any in which the remains of the mastodon have there been found; and therefore the question of its authenticity becomes a very important one; and when the more

complete examination has been made, we will lay the results before the readers of the Journal.—*Silliman's American Journal*, November 1866.

On the Discovery of the Remains of a gigantic Dinosaur in the Cretaceous Beds of New Jersey. By E. D. Cope.

Prof. Cope exhibited the remains of a gigantic extinct Dinosaur, from the Cretaceous Greensand of New Jersey. The bones were portions of the under jaw with teeth, portions of the scapular arch, including supposed clavicles, two humeri, left femur, and right tibia and fibula, with numerous phalanges, lumbar, sacral, and caudal vertebræ, and numerous other elements in a fragmentary condition.

The animal was found by the workmen under the direction of J. C. Vorhees, Superintendent of the West Jersey Marl Company's pits, about two miles south of Barnesboro, Gloucester county, N. J.

The bones were taken from about twenty feet below the surface, in the top of the "chocolate" bed, which immediately underlies the green stratum which is of such value as a manure.

The discovery of this animal fills an hiatus in the Cretaceous fauna, revealing the carnivorous enemy of the great herbivorous *Hadrosaurus*, as the *Dinodon* was related to the *Trachodon* of the Nebraska beds, and the *Megalosaurus* to the *Iguanodon* of the European Wealden and Oolite.

In size this creature equalled the *Megalosaurus Bucklandii*, and with it and *Dinodon*, constituted the most formidable type of rapacious terrestrial vertebrates of which we have any knowledge. In its dentition and huge prehensile claws it resembled closely *Megalosaurus*; but the femur, resembling in its proximal regions more nearly that of the *Iguanodon*, indicated the probable existence of other equally important differences, and its pertaining to another genus. For this and the species the name of *Lælaps aquilunguis* was proposed.

The paper continues with descriptions of the mandible, femur, tibia, fibula, humerus, phalanges, vertebræ, &c.—*Ibid.*

On the Development of small Acari *in Potatoes.* By M. Guérin-Méneville.

The two months of rain which have done so much mischief to agriculture appear to have had considerable influence upon potatoes, which have become diseased in various localities. This diseased condition has made its appearance among the Australian and other potatoes experimented upon by me at the laboratory of sericiculture of the imperial farm of Vincennes, by the development of myriads of *Acari* belonging to the species described by authors under the name of *Tyroglyphus feculæ*, which I investigated and figured, four-and-twenty years ago, in a paper on the potato-disease, published in the 'Mémoires de la Société Impériale et Centrale d'Agriculture de la France' (1842, pl. 5. fig. 9).

What has appeared to me worthy of remark in this circumstance is the immense quantity of these animals developed in less than a