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surface by undulations. I think there was an ancient valley excavated in these rocks before the period of the drift, that it was filled up during that period, and that the river is now cleaning it out again."

The bones referred to prove, on examination, to be those of the greater portion of the hinder extremities of a young seal, but whether of a species distinct from those now found living in the neighboring seas, is a question only to be determined by careful comparison with the corresponding parts of the recent animals. The soft distal extremities of the tibia and fibula are crushed together. The bones of the ankle and foot are well preserved, but the epiphyses of the latter are separated and only partially developed. The matrix in the vicinity of the bones, is marked by the impressions of the hairs and skin which enveloped them.

Mr. Logan, in a report on the "Geological Survey of Canada," (1850, '51, p. 8,) refers the deposit, in which the above described specimen was found, and similar deposits of the St. Lawrence and its tributaries, to the post-tertiary period; and he further observes, that in these deposits, "the remains of whales, seals, and two species of fishes, and many marine shells of those species still inhabiting the Gulf of St. Lawrence, are found;" from which remarks, together with those of Mr. Billings, and the appearance of the fossil itself, we are inclined to suspect the seal of the Ottawa has its descendants yet sporting on the sea border of the Canadas.

Independent of all other considerations, the specimen is interesting, as exhibiting the same process at the present geological period, which for so many successive ages has preserved the remains of vegetables and animals, which are now examined by the palæontologist as so many iconographic illustrations of life in the history of our planet.

Plate III. Representation, two-thirds the size of nature, of the greater portion of the bones of the hinder extremities of a young seal, partially imbedded in one-half of a concretion of indurated clay, from a post-pliocene deposit of the Ottawa River, Canada.

Notices of several genera of extinct Mammalia, previously less perfectly characterized.

By JOSEPH LEIDY, M. D.

CARNIVORA.

1. DEINICTIS, Leidy.

Skull intermediate in form to that of *Felis* and *Machairodus*. Orbits more open posteriorly than in either of these genera; and the anterior extremity of the lower jaw constructed as in the latter. Formula of dentition as in *Putorius*, viz.

$$\begin{array}{ccccccccc} 3-3 & 1-1 & 2-2 & 1-1 & 1-1 & & & & \\ \text{in.} & \text{c.} & \text{p.m.} & \text{car. m.} & \text{tub. m.} & = & 32. & & \\ 3-3 & 1-1 & 3-3 & 1-1 & 1-1 & & & & \end{array}$$

Incisors relatively as well developed as in *Felis*, with the lower ones arranged as in *Putorius*. Canines like those of *Machairodus*. First premolars small, those succeeding robust with the upper pair bilobed, and the lower ones trilobed. Carnassial molars like those of *Machairodus primævus*. Lower tubercular molar like that of *Putorius*; the upper one thickest at its outer part.

DEINICTIS FELINA, Leidy. Pr. A. N. S. vii, 127, 156. A unique species, with the skull about the size of that of *Machairodus primævus*, or about a fifth smaller than the Panther, (*Felis concolor*.)

Locality. Mauvaises Terres of Nebraska.

PACHYDERMATA.

2. HYRACODON, Leidy.

Skull without horns; with the cranium surmounted by a long and narrow sagittal crest; orbits better defined from the temporal fossæ than in *Rhinoceros*; nasal bones articulating with the intermaxillaries, and deeply notched at their

free ends. Lower jaw intermediate in form to that of *Rhinoceros* and *Tapirus*. Formula of dentition as in the latter, viz.,

$$\begin{array}{ccccccc} & 3-3 & 1-1 & & 4-4 & & 3-3 \\ \text{in.} & \text{---} & \text{c.} & \text{---} & \text{p. m.} & \text{---} & \text{t. m.} & \text{---} & = & 44. \\ & 3-3 & 1-1 & & 4-4 & & 3-3 \end{array}$$

The incisors and canines are arranged in semicircles as in *Tapirus*, differ little in size, and have simple conical crowns. The premolars and molars resemble those of *Acerotherium incisivum*.

HYRACODON NEBRASCENSIS, Leidy.

Rhinoceros nebrascensis, Leidy. Pr. A. N. S. v, 121; vii, 157; Owen's Rep. Geol. Surv., Wisc. 556; Anc. Faun. Nebr. 86.

Acerotherium nebrascense, Leidy. Pr. A. N. S. v, 331.

A unique species, possessing a greater number of teeth than any other known member of the *Rhinoceros* family. It was about the size of the common hog.

Locality. Mauvaises Terres of Nebraska.

3. TITANOTHERIUM, Leidy.

Formula of dentition as follows:

$$\begin{array}{ccccccc} & 2-2 & 1-1 & & 4-4 & & 3-3 \\ \text{in.} & \text{---} & \text{c.} & \text{---} & \text{p. m.} & \text{---} & \text{t. m.} & \text{---} & = \\ & ?-? & 1-1 & & 4-4 & & 3-3 \end{array}$$

The molars are separated from the canines by wide intervals. The latter teeth have short, robust, conoidal crowns. Outer lobes of the premolars like those of *Rhinoceros*, the inner ones isolated from the former and connate. Outer lobes of the true molars like those of *Palæotherium*; the inner ones three in number, of which the intermediate one is conical and is the largest, and the others are trihedral, as in *Chalicotherium*.

TITANOTHERIUM PROUTII, Leidy. Auc. Faun. Nebr. 72; Pr. A. N. S. vii, 157.

Palæotherium, Cuv. Prout. Am. Jour. Sci. Arts iii, 248.

Palæotherium? Proutii, Owen, Norwood, and Evans. Pr. A. N. S. v, 66; Leidy, Ibidem 122; Owen's Rep. Geol. Surv. Wisc. 551.

Rhinoceros? americanus, Leidy. Pr. A. N. S. vi, 2.

Eotherium americanum, Leidy. Pr. A. N. S. vi, 392.

Palæotherium giganteum, Leidy. Anc. Faun. Nebr. 78.

A unique species, and one of the largest of pachyderms. Length of the upper dental series in a straight line 17 inches; transverse diameter of second true molar $3\frac{1}{2}$ inches, antero-posterior diameter the same.

Locality. Mauvaises Terres of Nebraska.

Description of Twenty-five New Species of Exotic UNIONES.

By ISAAC LEA.

UNIO HAINESIANUS. Testâ alatâ, lævi, subrotundatâ, subinflatâ, valdè inæquilaterali, valvulis crassis; natibus prominentibus, angulatis; epidermide luteofuscâ; dentibus cardinalibus crassis, crenulatis elevatisque; lateralibus longis, crassis subcurvisque; margaritâ albâ et iridescente.

Hab. Siam. S. R. House, M. D.

UNIO MYERSIANUS. Testâ bialatâ, lævi, triangulari, subcompressâ, inequilaterali, posticè angulatâ; valvulis crassis; natibus prominulis epidermide tenebroso-fuscâ; dentibus cardinalibus longis crenulatisque; lateralibus prælongis, lamellatis subcurvisque; margaritâ colore salmonis tinctâ.

Hab. Siam. S. R. House, M. D.

UNIO HOUSEI. Testâ bialatâ, lævi, triangulari, compressâ, valdè inæquilaterali, posticè obtusè angulatâ, valvulis subcrassis; natibus prominulis; epidermide fuscâ; dentibus cardinalibus lamellatis; lateralibus prælongis, lamellatis subcurvisque; margaritâ colore salmonis tinctâ.

Hab. Siam. S. R. House, M. D.