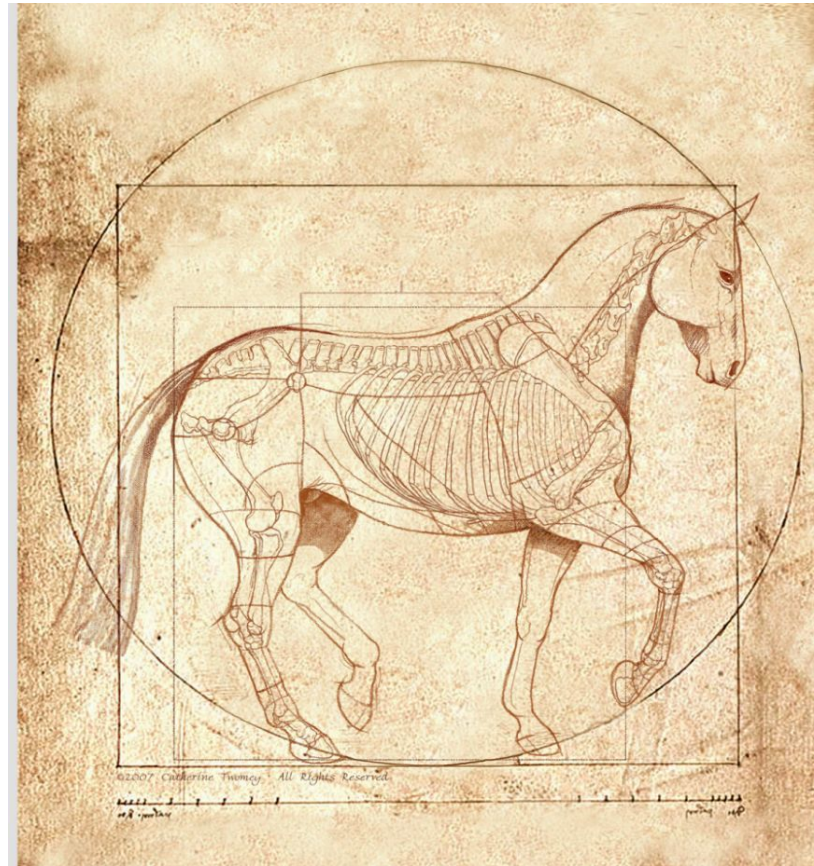


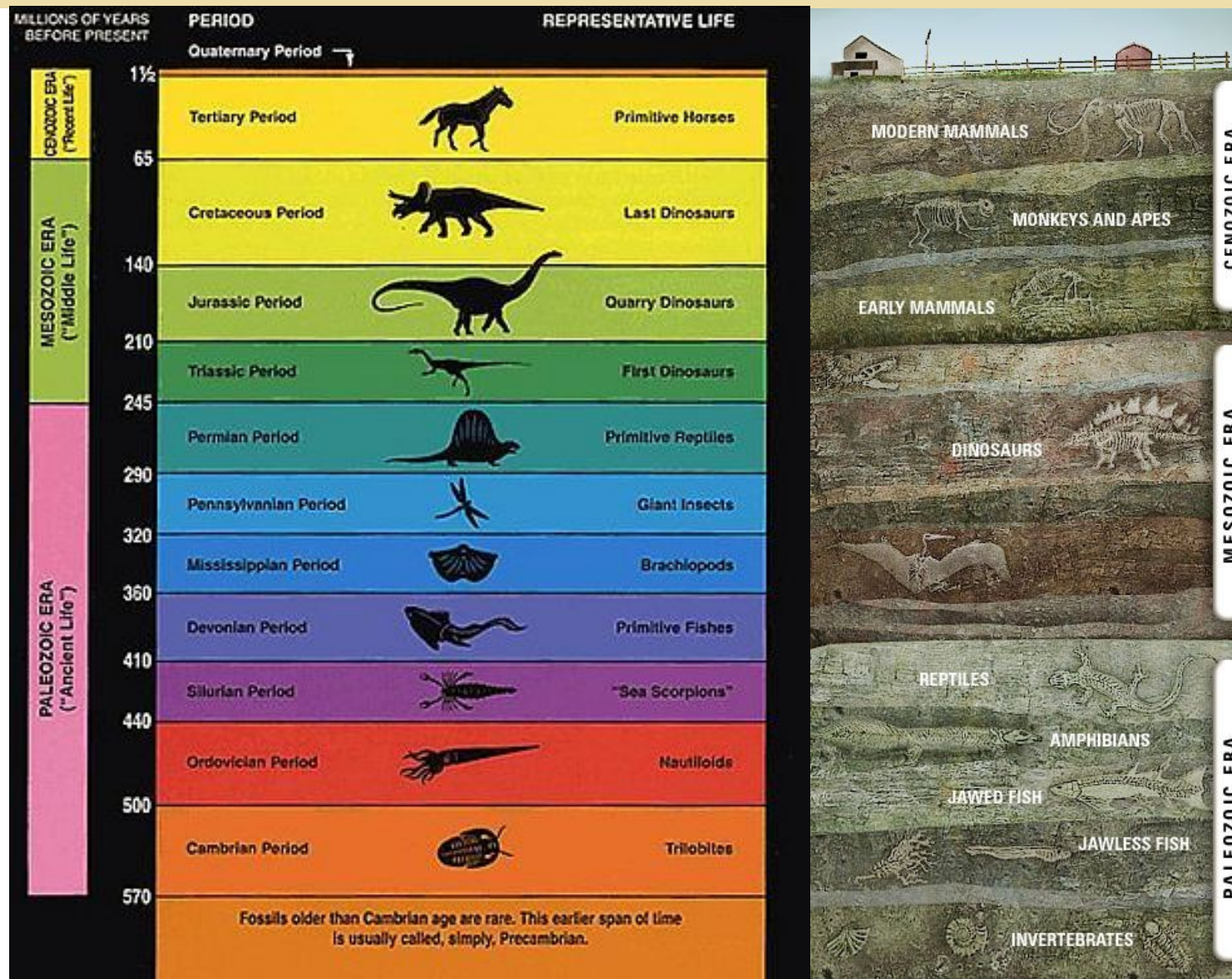
Origin of the modern horses



Jaehyuk Yang DVM, MS, PhD
Equine surgeon & Hippologist

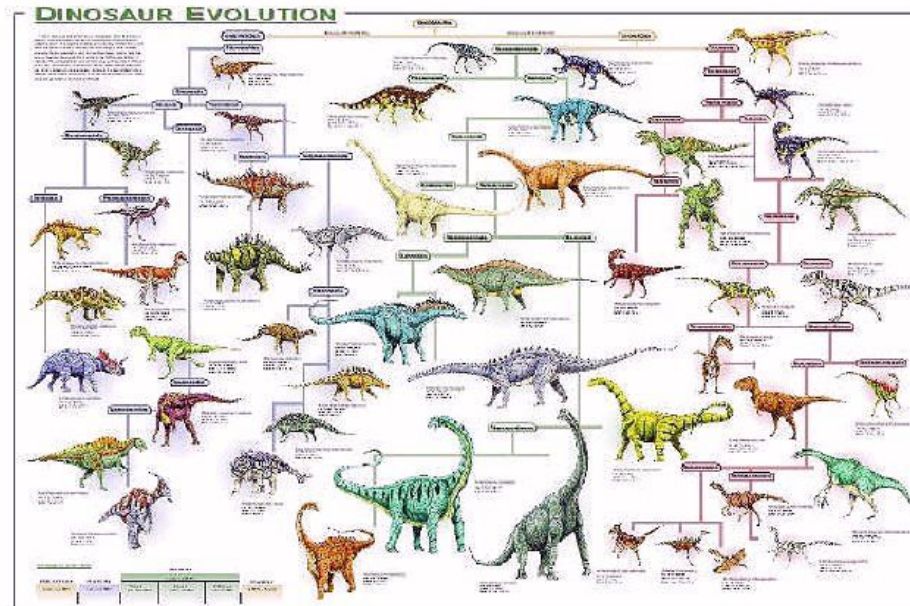
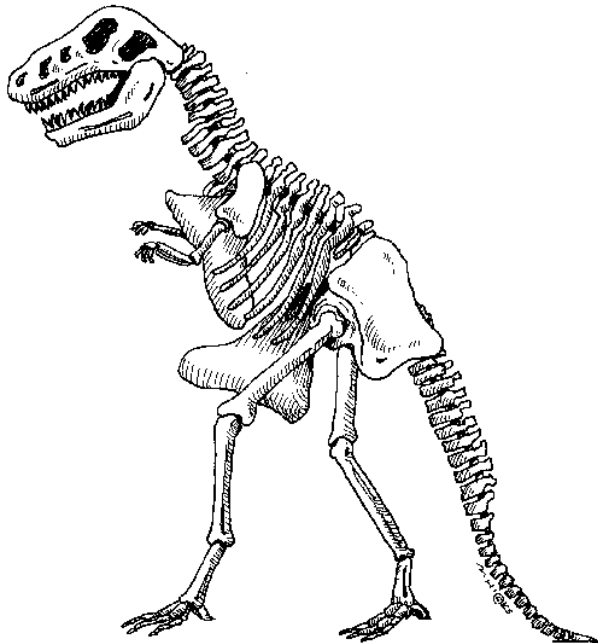
Department of Equine Industry, Korea National College of Agriculture and Fisheries

The depth of time

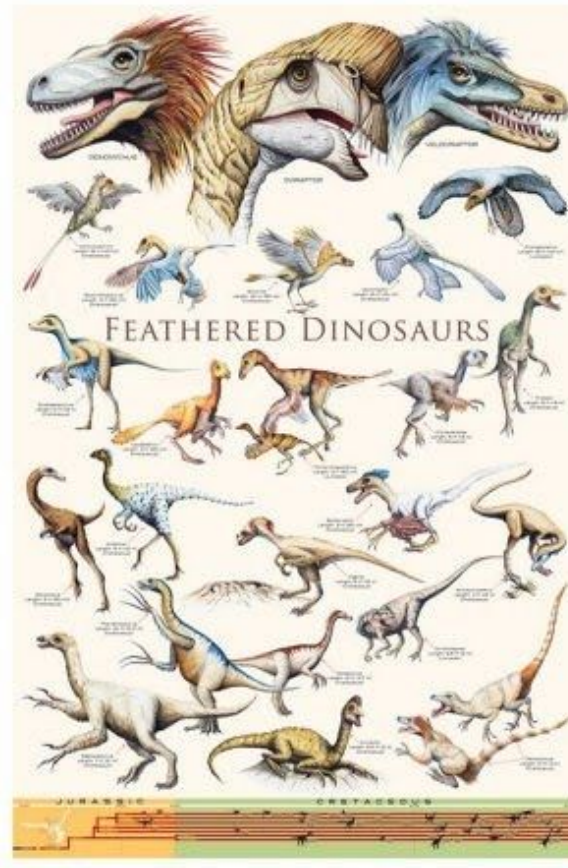


Ages of the dinosaurs

225 ~ 65MA



The rise of the birds



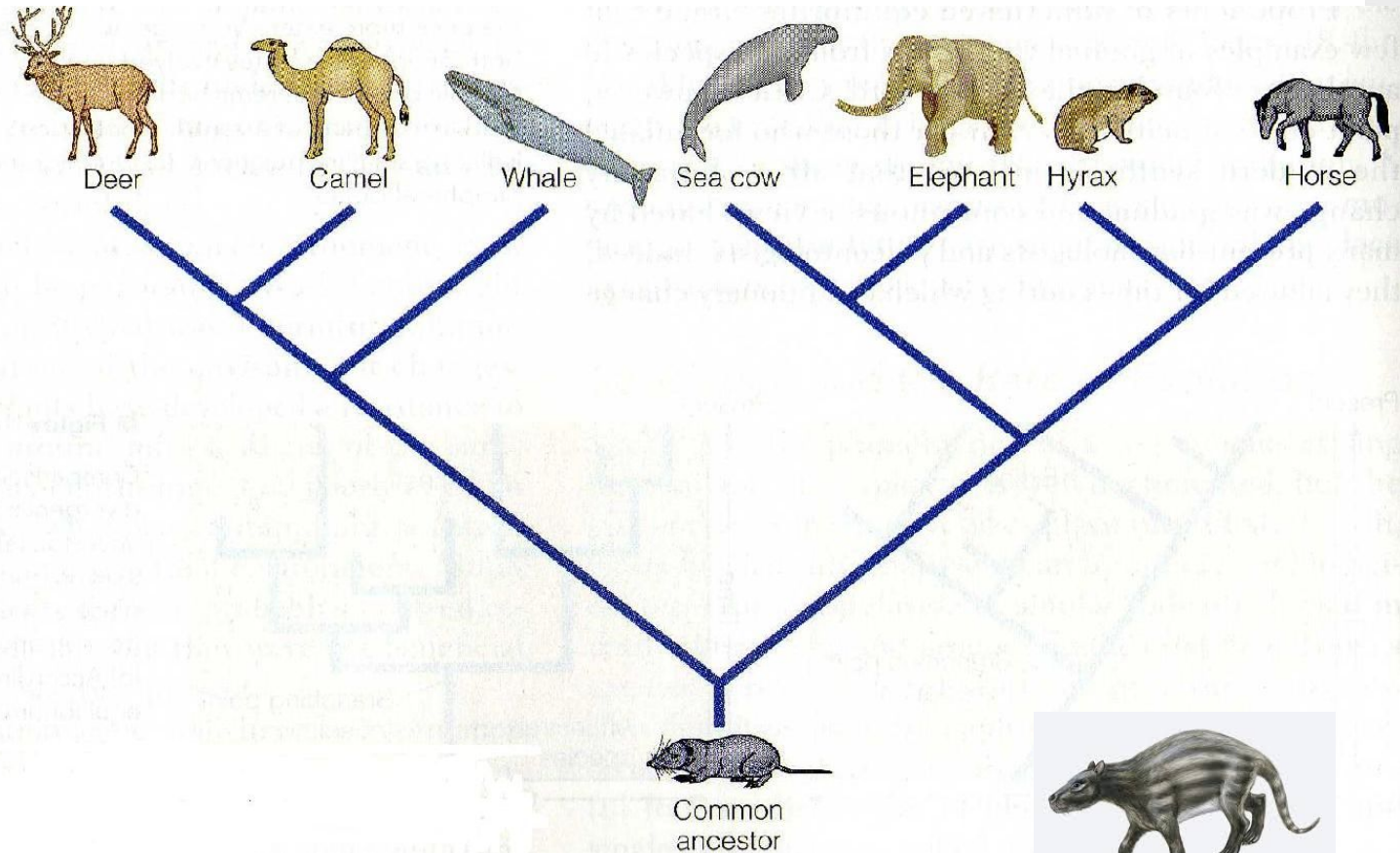
150MA

Extinction of the dinosaurs



Ages of the mammals

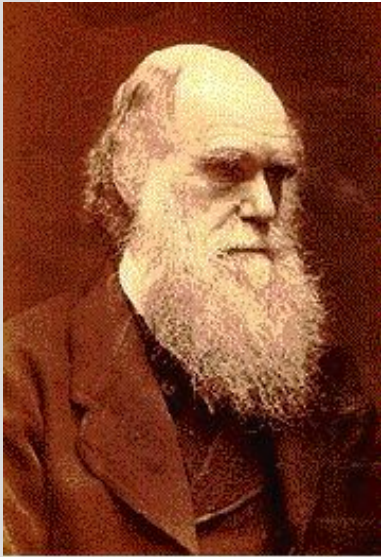
65MA ~ Present



Condylarth

Megazostrodon

Evolution



*Ch. Darwin
Painted 7th 1874.*

C. Darwin
(1809–1882)

- Natural selection
- Mutation



A.R. Wallace
(1823–1913)



T. H. Huxley
(1825–1895)



O. C. Marsh
(1831–1899)

The rise of the horse



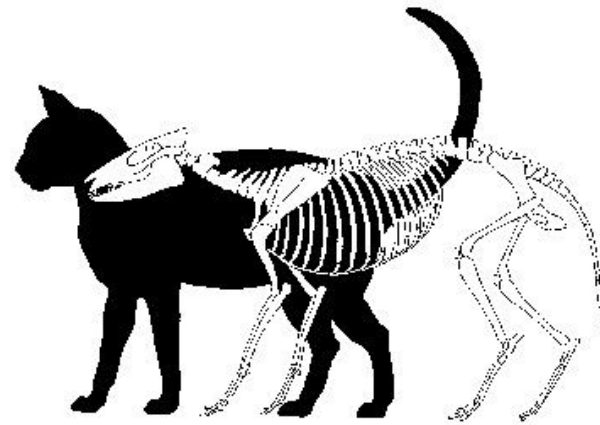
TRIASSIC
200 million years ago



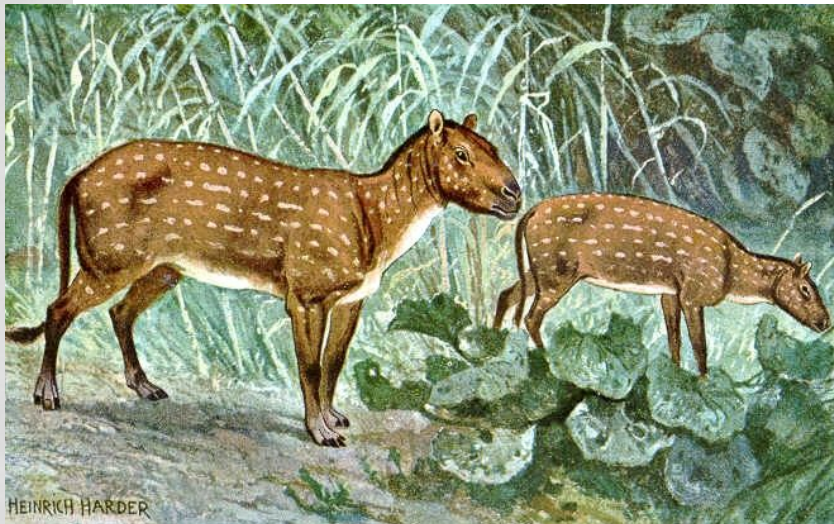
The rise of the horse



Dawn horses



Hyracotherium = *Eohippus*



Dawn horses

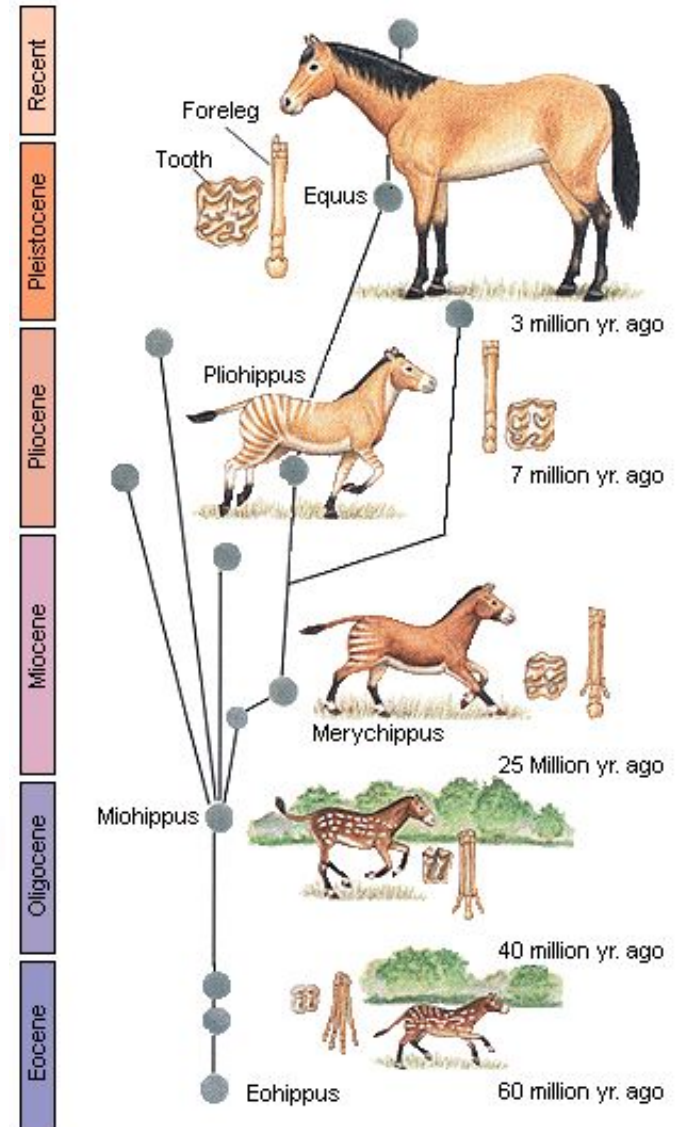
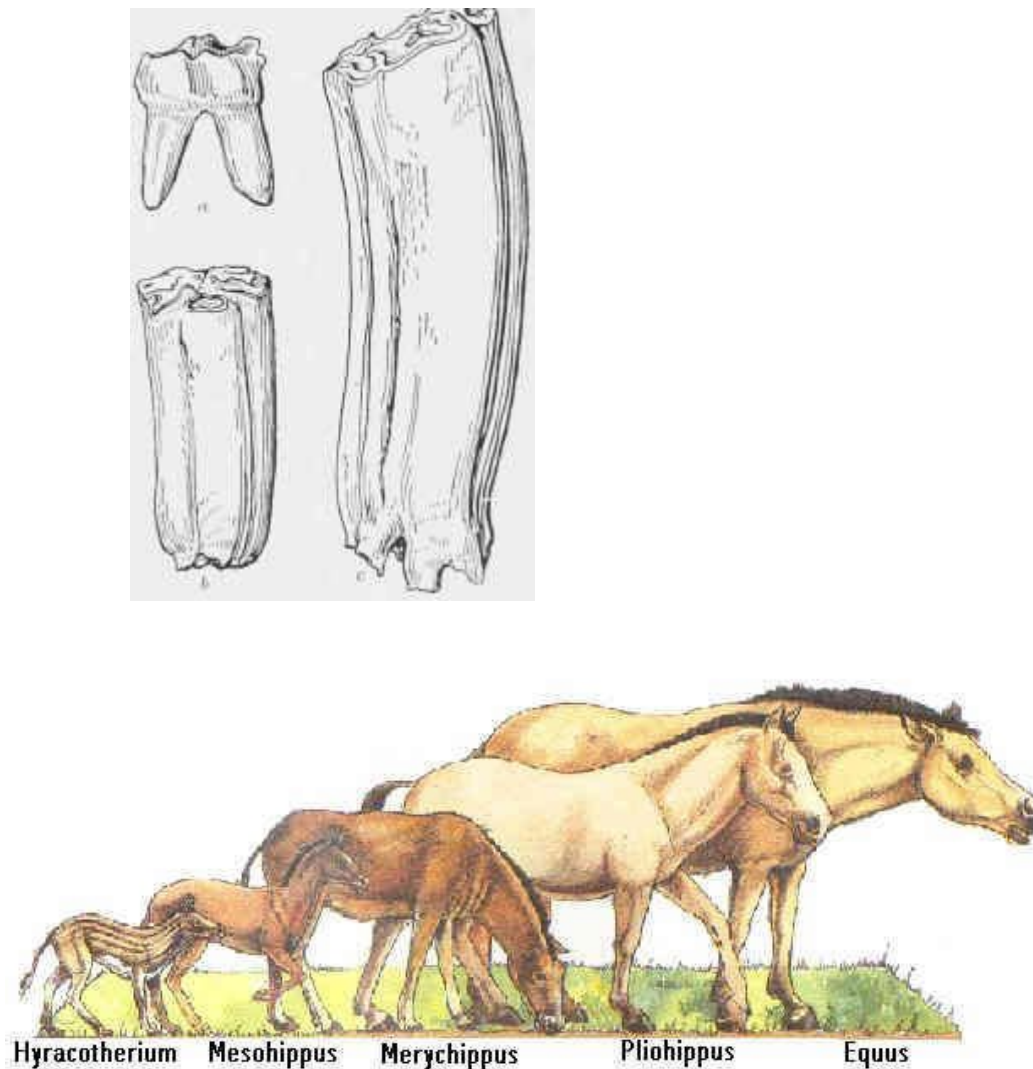


Browser = eating leaves

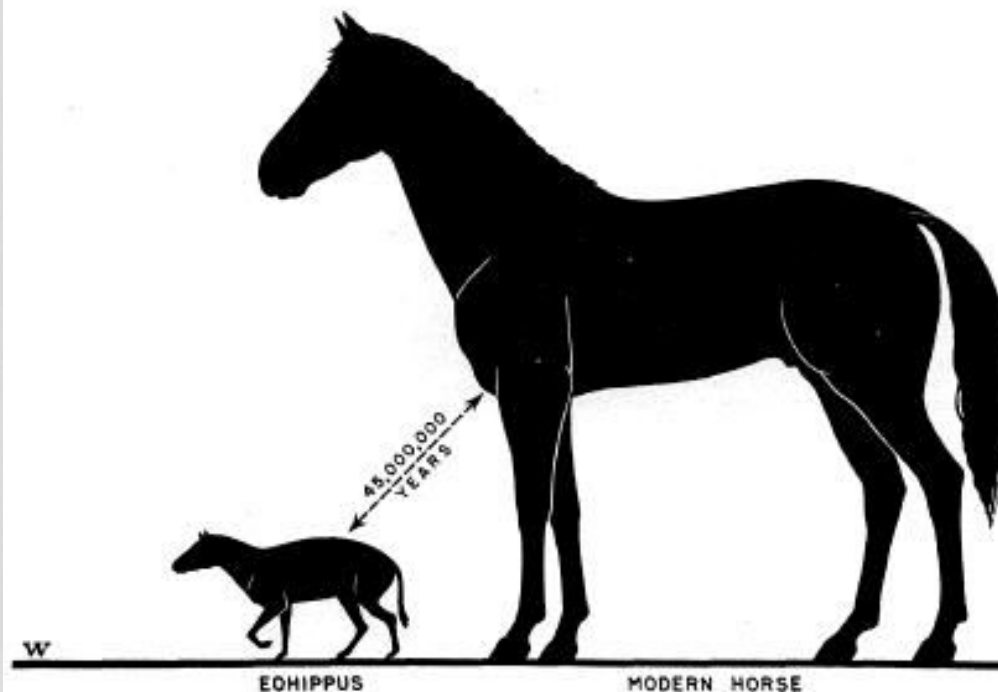


Eurohippus

Evolution of the horse



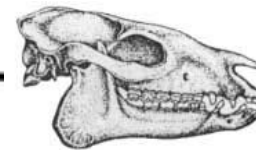
Evolution of the horse



EOHIPPIUS

MODERN HORSE

EVOLUTION OF THE HORSE
FROM EOHIPPUS TO EQUUS



relativer Größen der fossilen Pferde



Eohippus



Miohippus



Mesohippus



Merychippus



Pliohippus

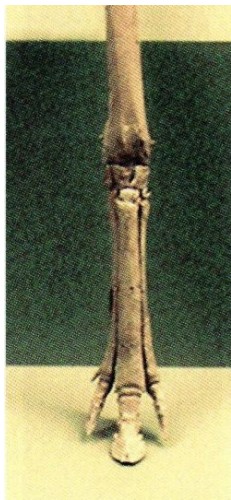


Equus

Evolution of the limbs



Orohippus



Mesohippus



Miohippus



Parahippus



Merichippus



Pliohippus



Equus

Predators

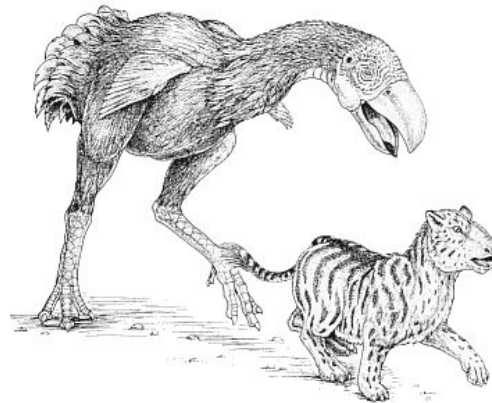
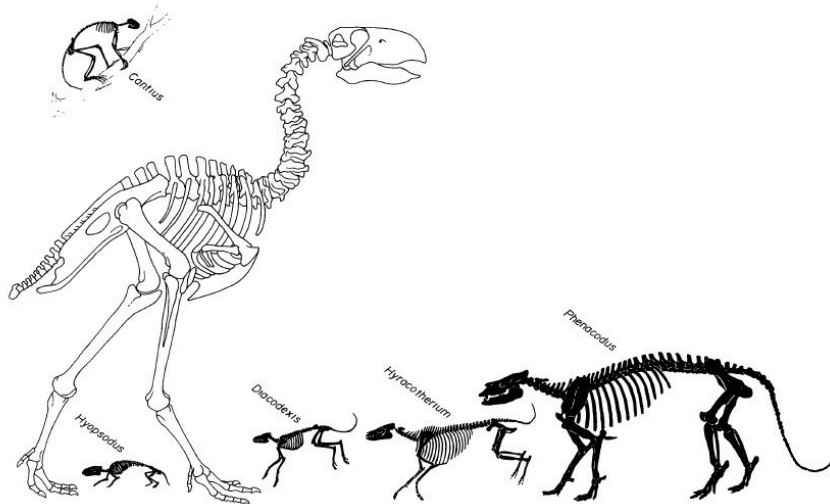


FIGURE 8-13
A reconstruction of *Diatryma* based on skeletons found in North America. This bird reached up to 9 feet in height and lived in Eocene grasslands. It is pictured chasing an artiodactyl, whose short legs were hardly a match for the great bird's speed. (Based on Spinar 1972) (Illustration by Tad Tschumler)



audtn2555

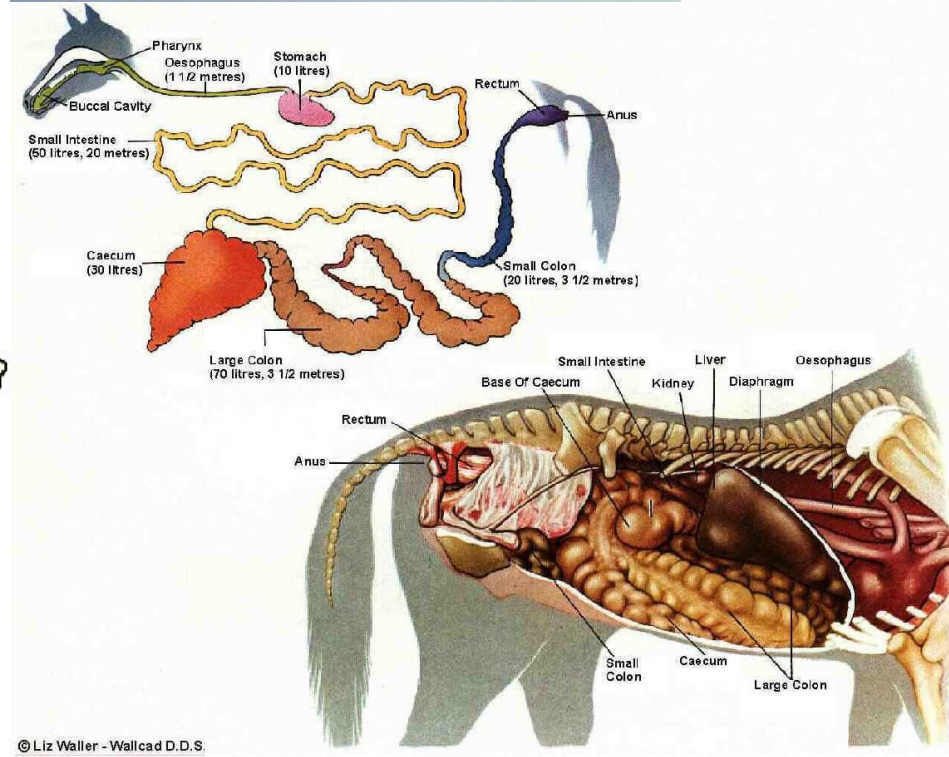
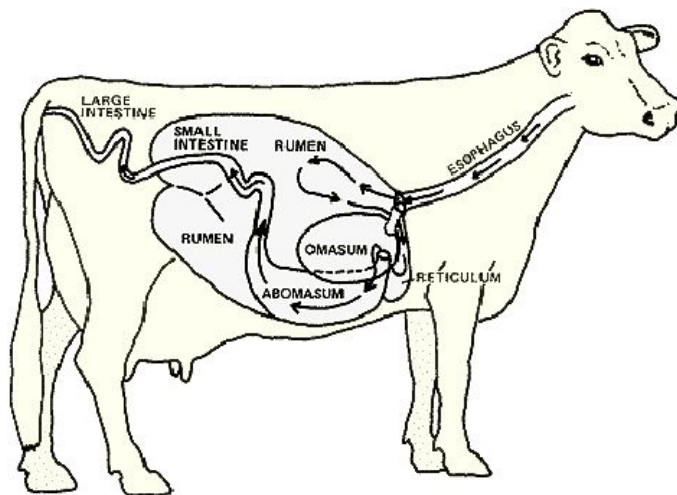
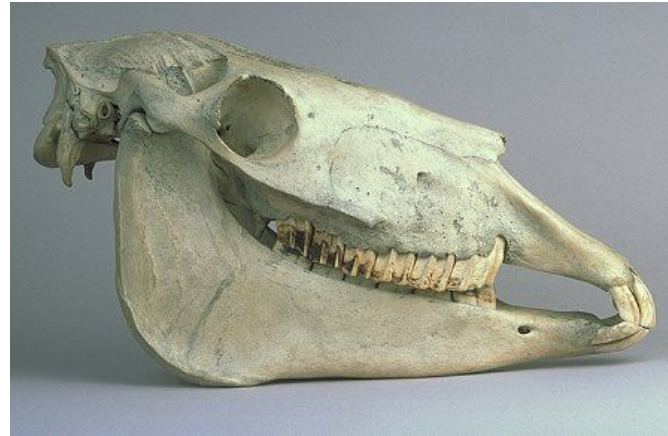


Survival conditions

Flight or Fight

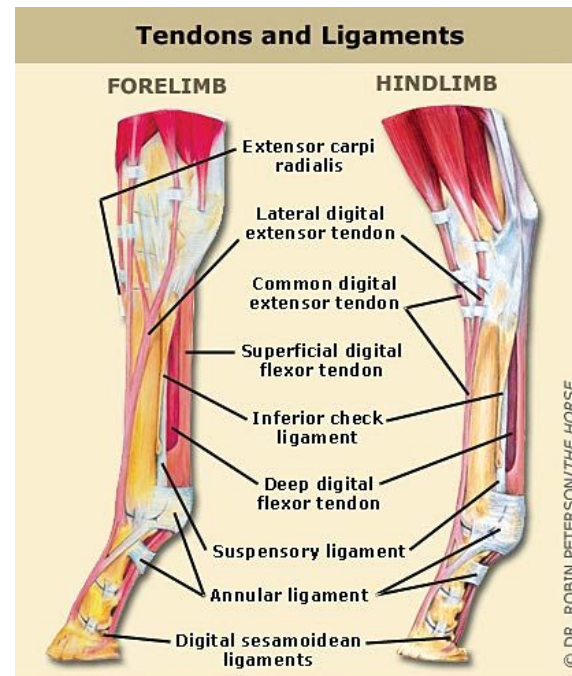
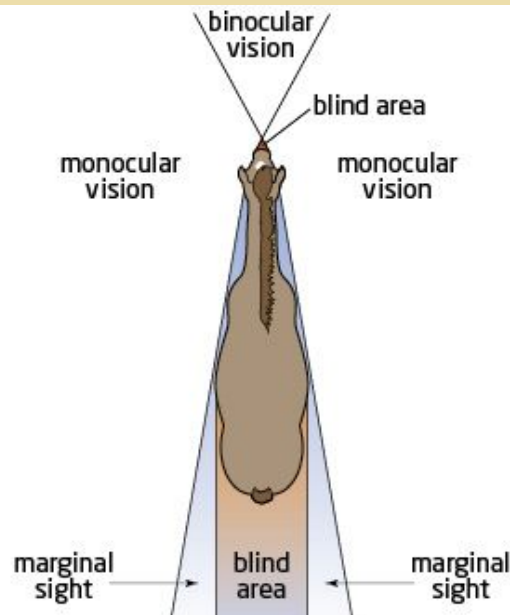


Survival conditions



© Liz Waller - Wallcad D.D.S.

Survival conditions



Survival conditions

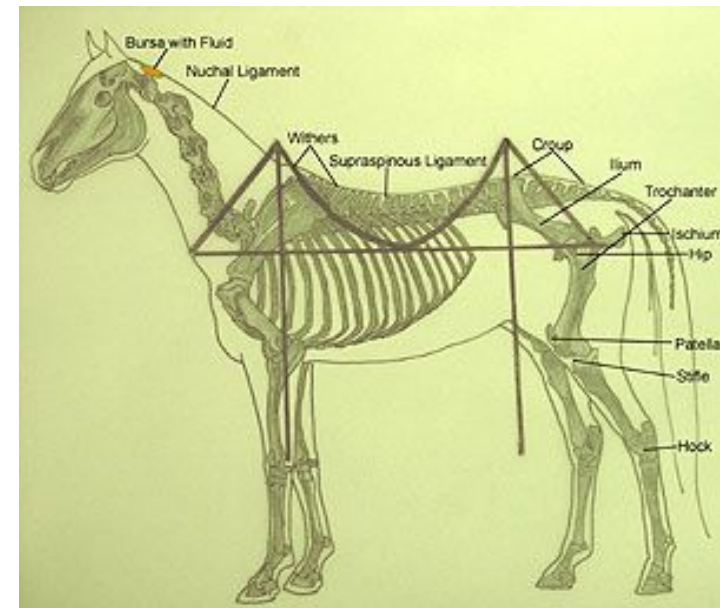


Group



Survival conditions

Bat structure



Survival conditions

Covering time

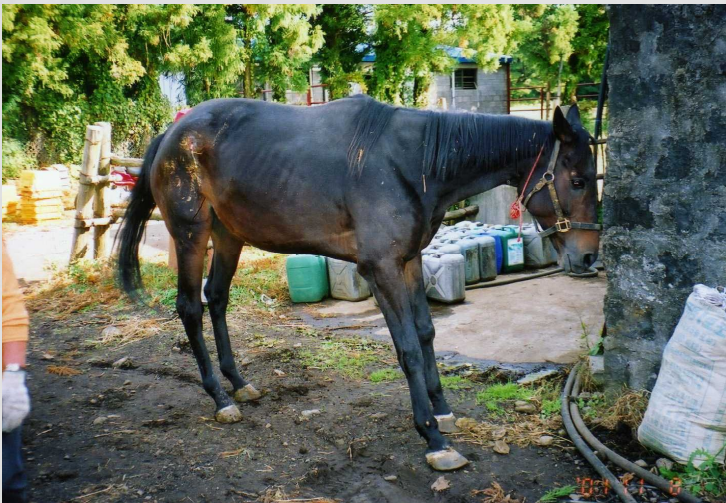


Survival conditions

Blood-sucking horsefly



Side effects



Laminitis

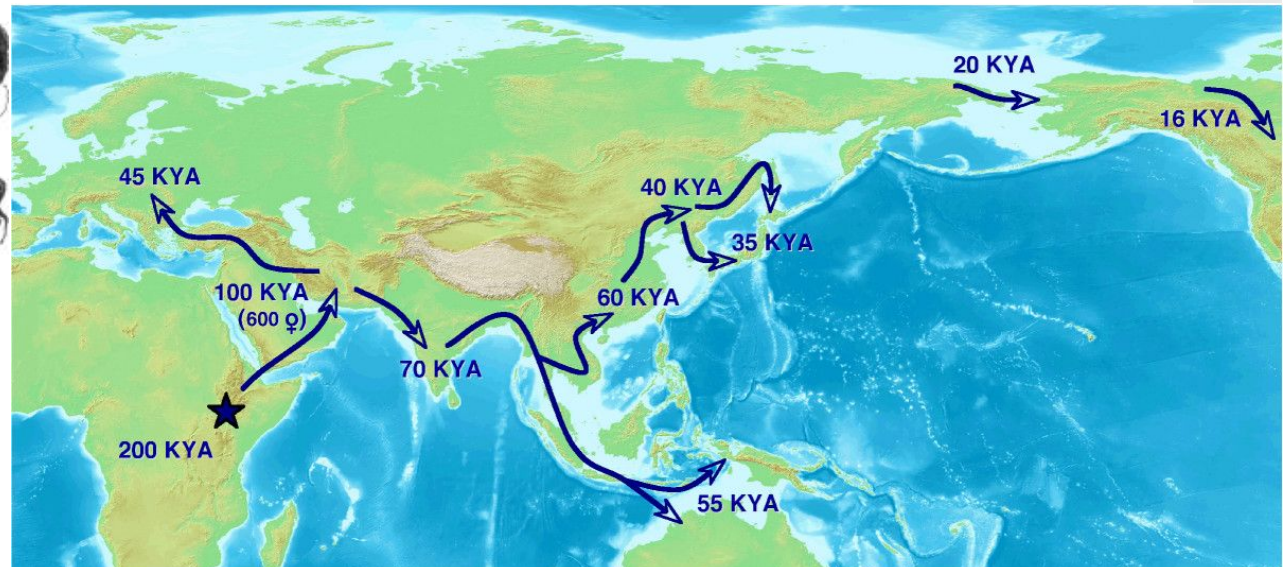


Rupture of the uterus

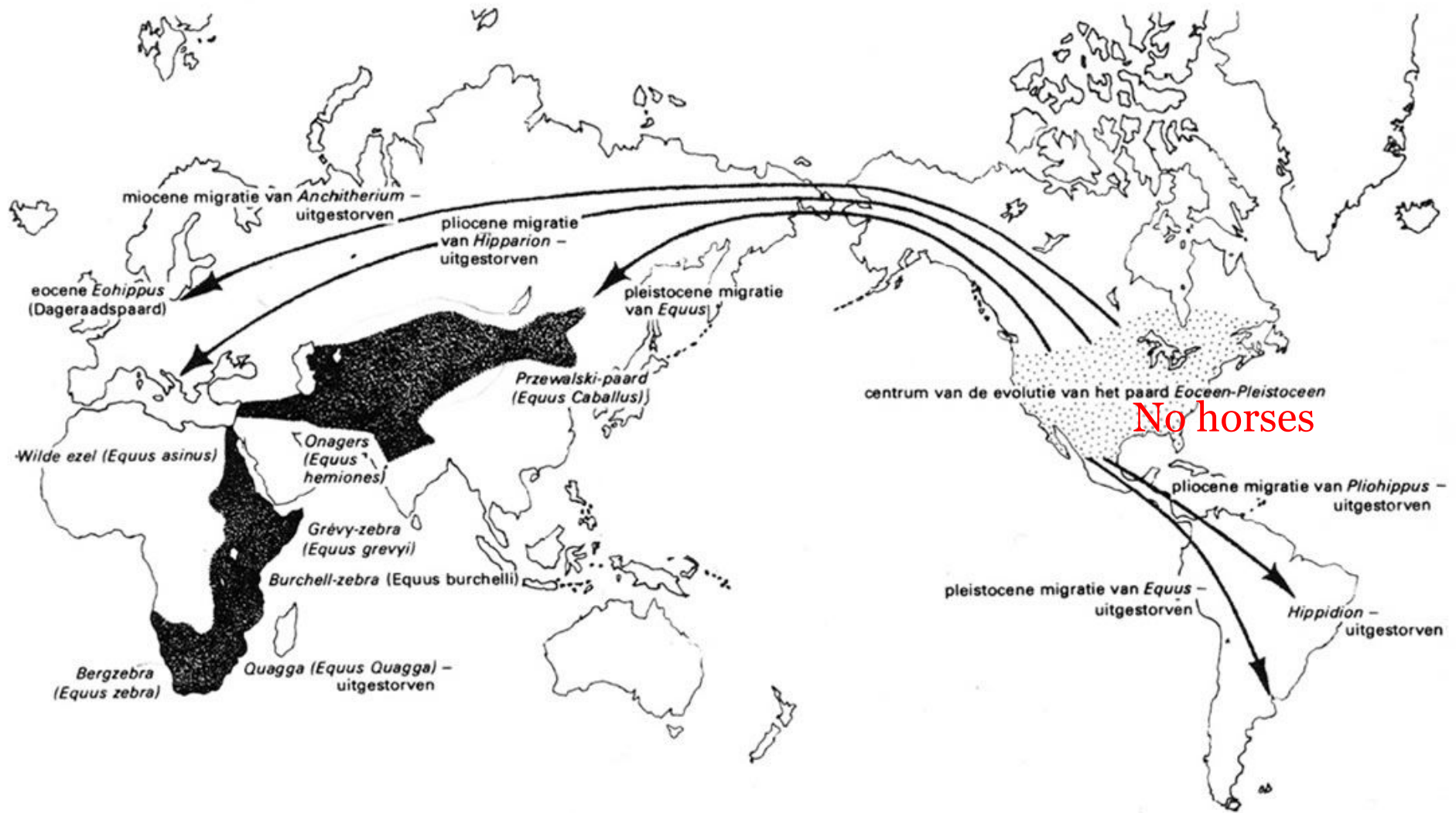
Mystery of the extinction in N.A.



- 12,000 ~ 10,000
- climate
 - environment
 - hyper-diseases
 - over-killing

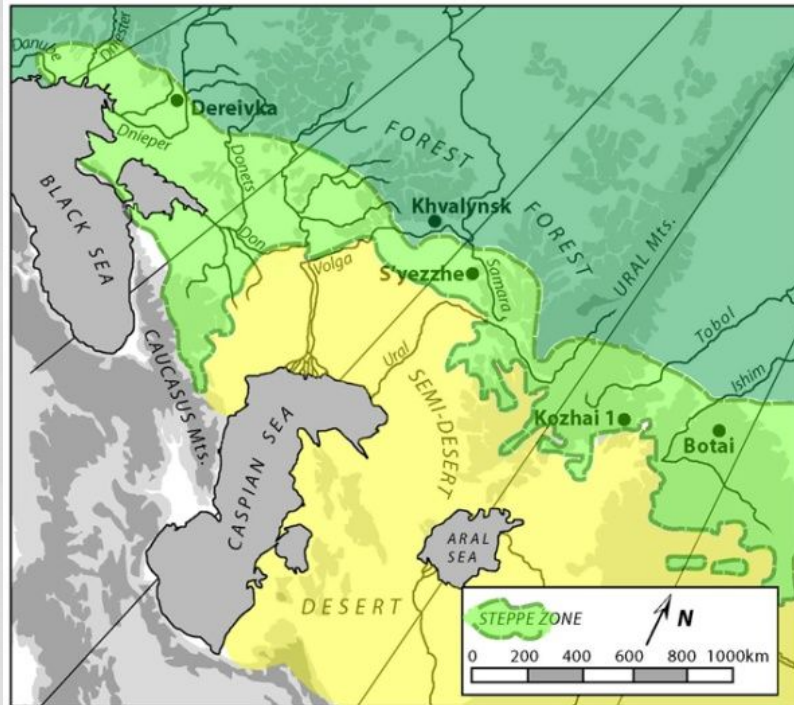


Migrating of the horse



Mystery of the domestication

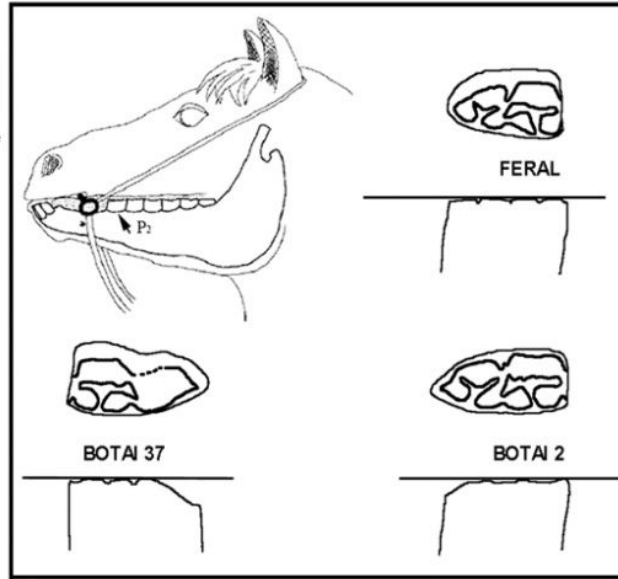
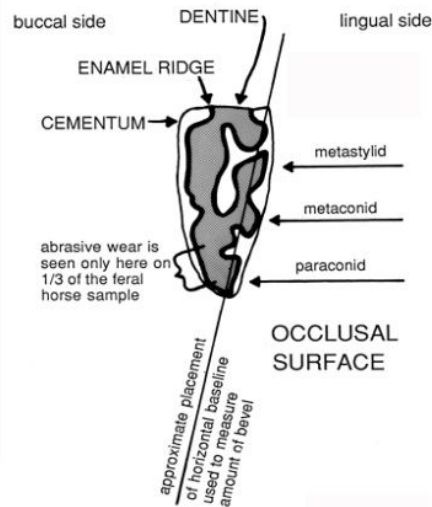
Botai culture, Kazakhstan BC 3500



Outram AK. etc. *The earliest horse harnessing and milking*. Science 2009, 323, 1332–1335.

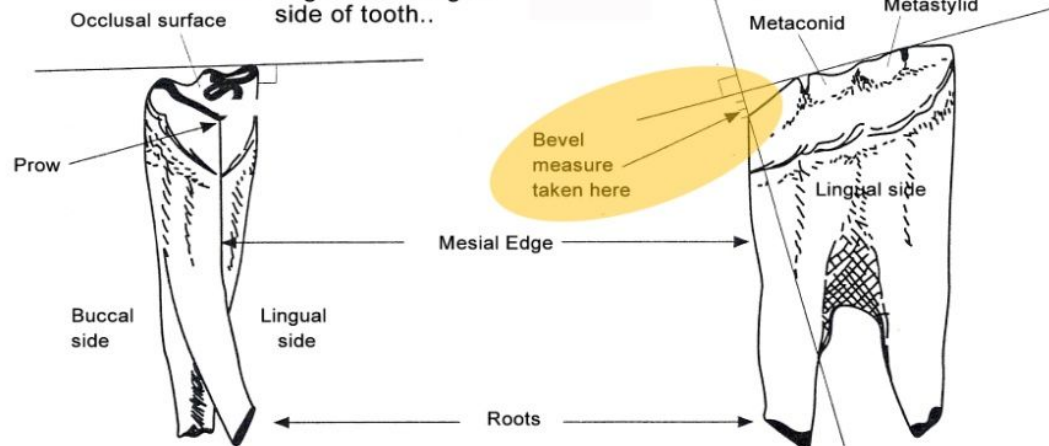
Evidences of odontonosology

Method of measuring bevel

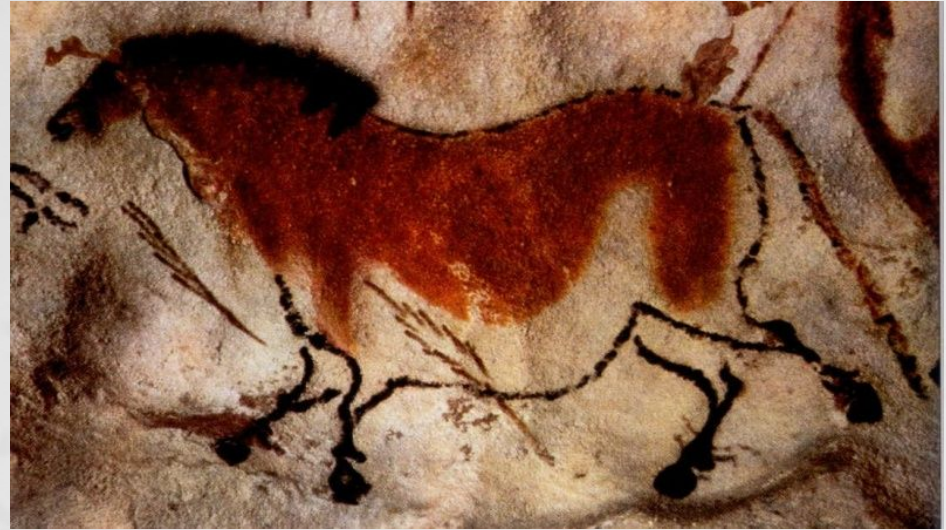


Horizontal plane is at a 90 degree angle to the lingual side of tooth..

Horizontal plane sits on the crests of the metaconid and metastylid cusps.



Source of Food



Military purposes



ASSYRIAN CHARIOT



Agriculture & Commercials



Hippotherapy & Companion animal



Mythology of the horse



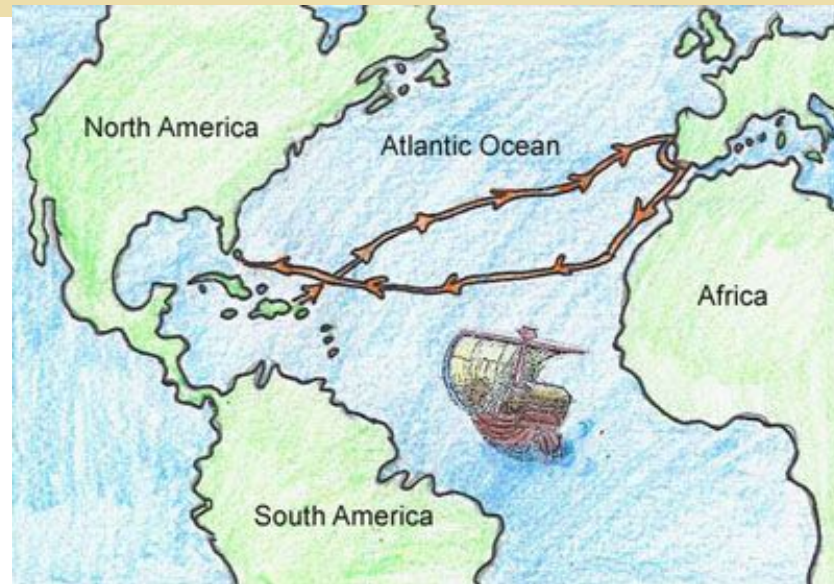
Born of Centaur



Going home



Fig. 199.—Discovery of America, 12th of May, 1492.—Columbus erects the Cross and baptizes the Isle of Guanahani (now Cat Island, one of the Bahamas) by the Christian Name of St. Salvador.—From a Stamp engraved on Copper by Th. de Bry, in the Collection of "Grands Voyages," in folio, 1590.



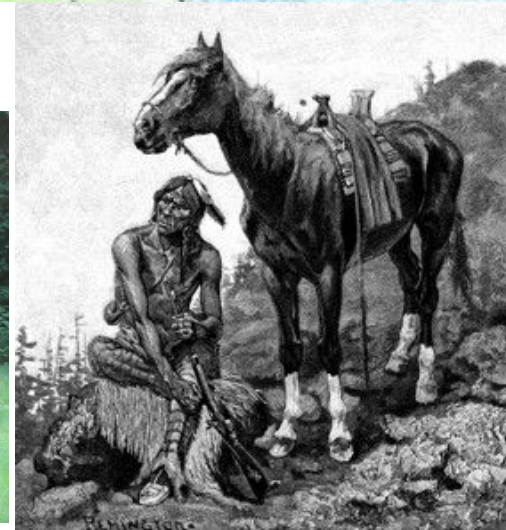
1492



Mustang



Elk dog



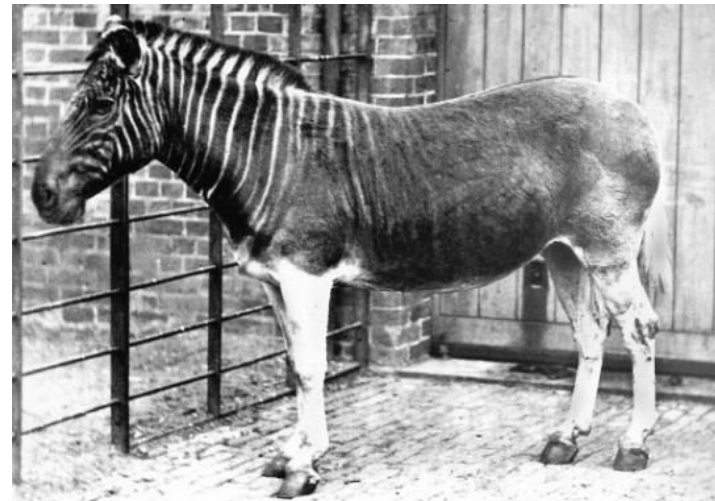
Wild only horse



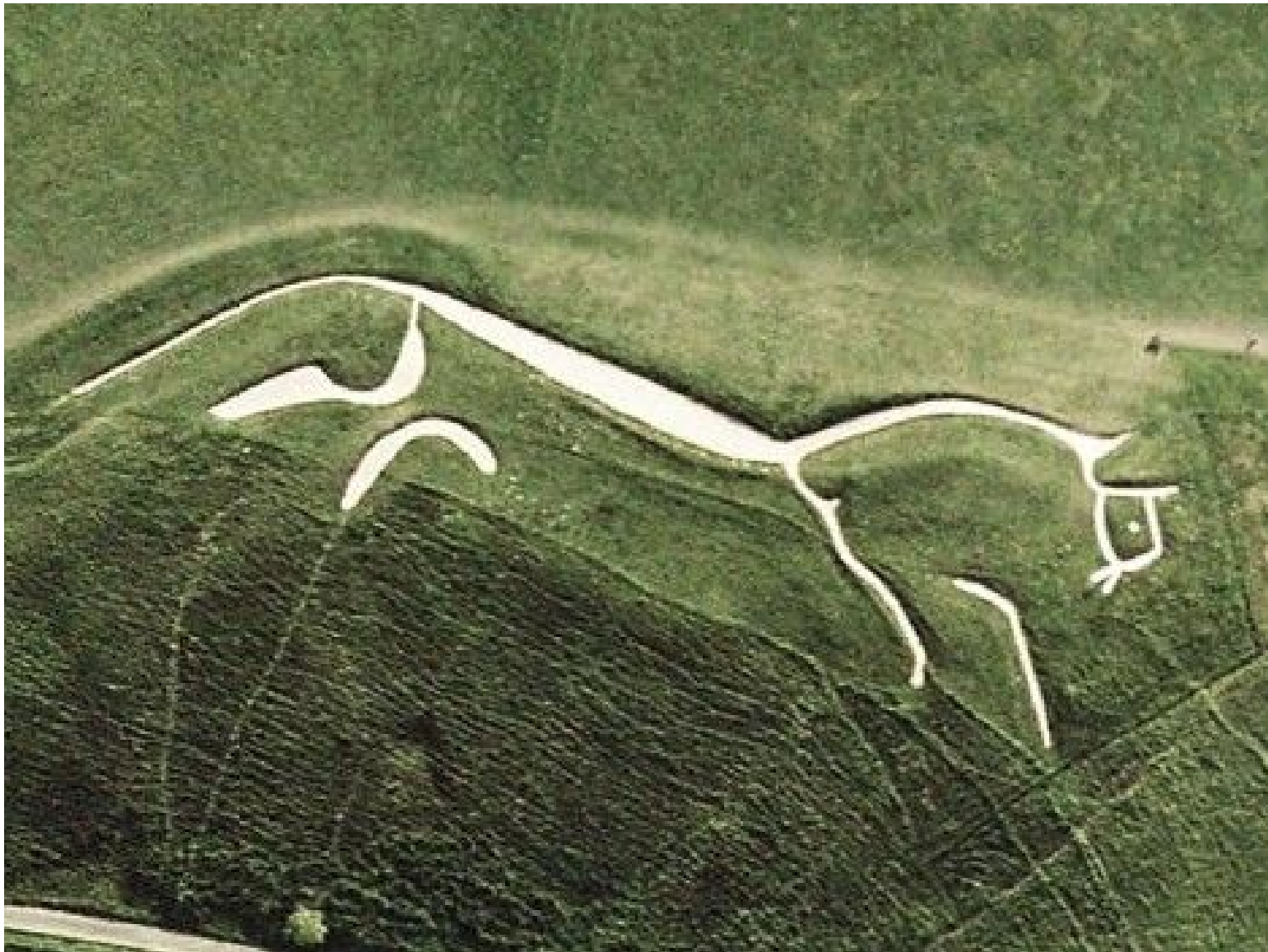
Nicolas Przewalski



Mongolia 1879



Uffington White Horse



Original vehicle

