

What concerns us before all else is the question: *In what relation does the horse of Anau stand to the domestic horses of to-day, and especially to their direct ancestors, the subfossil horses?* After the foregoing special investigation and the subsequent general comparisons, I have no hesitation in asserting that *we must see in the horse of Anau the first representative of the Oriental race of horses.*

#### FOSSIL AND SUBFOSSIL HORSES AND THEIR CHARACTERISTICS.\*

I will not attempt here to trace the connection of the Equidæ of the later and middle Tertiary period, although since the wonderful results of Henry F. Osborn (in the American Tertiary) this would be a pleasant and profitable subject; nor can I here institute a comparison with the other diluvial Equidæ—the *Equus stenoni* Cocchi, *Equus quaggoides* F. Major, *Equus spelæus* Owen, *Equus mauritanicus* Pomel, etc. In this place I will attempt only to establish the relationship of the horse of Anau, especially to the remains of those horses which, with more or less right, have been regarded as the ancestors of our domestic horse, and whose direct conversion to the domestic state has been assumed to be certain. We will here notice the principal types in question.

#### THE HORSE OF THE QUATERNARY PERIOD OF EUROPE.

During the glacial period the forested area became greatly restricted, grasses, herbaceous plants, shrubs, succeeded trees as the predominant vegetation. These steppe-like regions became the home of numerous herds of wild horses, together with scirtetes, jerboas (*alactaga*), spermophili, bobacs, lagomys, arvicolæ, and other characteristic inhabitants of the loess steppes of to-day beyond the Volga.†

The horse that then lived in the northeastern part of Central Europe was, as shown by the remains found at Remagen, Westeregeln, and in other places, a medium-sized, stocky animal with thick bones and a large head. It may, therefore, from this bodily shape be taken to have ranked very near the present *Equus przewalskii*, which according to Grum-Grshimailo has a withers-height of 153 centimeters.‡ In the southern part of this region there seems to have lived besides this horse, either at the same time or somewhat later, a smaller form of the same variety. This is not surprising when we consider that Matschie recognizes a larger and smaller variety of the Przewalski horse. By this I do not mean the form of *Equus caballus fossilis*, which Woldrich has called "minor" and which Nehring, objecting, held should rather be called "major," since the horse of Nussdorf, with its 555 mm. basal length of skull, must be counted among the largest horses.

No; it was the horse of Solutré, Cindré, and other points in France, that represents the small, broad-boned European wild horse. We do not know whether the paleolithic horse of Solutré was domesticated, as Toussaint asserts. Nehring also assumes that the horse was already domesticated in the glacial period, and I,

\*Dr. Duerst designates as "fossil" all occurrences of paleolithic age or earlier, and as "subfossil" all of later age.—R. P.

†A. Nehring *Fossile Pferde aus deutschen Diluvialablagerungen*, etc. *Landw. Jahrbücher*, XIII, 1884, p. 148.

‡Compare p. 426.