

The next period (culture II, North Kurgan) shows how the sheep predominates still more and more among the other animals: Sheep, 25 per cent; cattle, 20 per cent; horse, 20 per cent; pig, 15 per cent; goat, 10 per cent; camel, 5 per cent; dog, 2 per cent; gazelle, 2 per cent; other wild animals, 1 per cent. This development, increased by the progress of the aridity of Turkestan, reached its point of culmination in the relations of the figures shown by census of 1903: Sheep, 80 per cent; goat, 8 per cent; camel, 7 per cent; horse, 4 per cent; cattle, 0.1 per cent.

Never have figures spoken clearer! The agriculture and pasture of the ancient times is gone. The large animals which want much food for their support, like cattle and the horse, can not be kept; only the sheep accommodates itself well to the dryness of the climate, and so forms nearly the entire part of the domestic animals of Turkestan. The later importations from the south, as the goat and the camel, continued to be useful down to the modern inhabitants. Certainly the physiographic changes were one of the primeval causes of the frequent emigrations to Europe or Southern Asia undertaken by the cattle-breeding nomads of ancient Turkestan. It is clear that the establishment of a genetic relationship between the domestic animals of Turkestan and those of Europe is especially important, and I consider that the appearance at Anau of the long-tailed *Ovis aries palustris* is of the greatest importance in this connection.

According to Professor Pumpelly's stratigraphic chronology, which is without doubt the most exact prehistoric chronological table that we possess, the 20 feet of culture-stratum at the base of the North Kurgan dates from the latter half of the IX millennium (8250) B. C. The turbarry sheep (*Ovis aries palustris*) attained its full development 6250 B. C., while we find the large-horned transitional form from *Ovis vignei arkal* about 7000 B. C. Therefore, a migration, which, leaving Turkestan between the VI and VII millenniums B. C., penetrated Western Europe, might have taken with it this sheep as well as *Sus palustris* (the turbarry pig) and the long-horned cattle. It follows that the turbarry sheep could not have arrived in Europe earlier than in the VII millennium B. C., and since we find its remains in the oldest lake-dwellings and early neolithic stations of Central Europe, these can not be of greater age. In passing through the Caucasus and Southern Russia these emigrants may have adopted and brought to Europe the small dog, *Canis familiaris palustris*, which had possibly been domesticated by a hunter tribe. Further on we will consider the small turbarry cattle (Torfrind) which they brought with them instead of the long-horned cattle of Anau.

I must say here that these statements do not agree with former ideas concerning the age of the domestic animals.* The subfossil occurrences in the Forest Bed, Tidal Basin, London; Lea Alluvium of the Mills and Canningtown, as well as the remains of *Ovis aries palustris* at Schweizersbild, led me to assume that they dated from paleolithic times. This was because there then appeared no valid reason to the contrary and because I believed then, as now, in the domestication of the European diluvial horse in the paleolithic age. Stimulated by the exact consecutive chronological dating of our finds from Anau, I have had, in company

* Die Tierwelt der Ansiedelungen am Schlossberge zu Burg an der Spree, pp. 292-293.