

of inclosures. Mucke assumes, further, that in primeval times breeders of cattle and cultivators of the soil lived separately, but that gradually there occurred warfare and amalgamations in which the restless nomadic cattle-breeders became the representatives of civilization and progress.

In starting from this hypothesis, we are met with the question whether the Anau-li of the oldest culture-strata were already cultivators of the soil and found themselves under the necessity of using and regulating the watercourses of the Kopet Dagh; and whether the need of a larger working force led to the founding of some kind of polity, as happened on a larger and more civilized scale in the control of the inundations of the Euphrates and of the Nile. I infer from the communications of Professor Pumpelly that a decisive answer to the latter part of this question is not yet possible, but that they were already agriculturists who, according to Professor Schellenberg's determinations, raised wheat and two-eared barley. Since they were clearly cultivators of the soil, we are, according to Mucke, not justified in assuming that the Anau-li were the people who first effected the domestication, however plausible and probable this seems from the bones found in the culture-strata.

One might, however, admit that a tribe of real nomadic cattle-breeders—who, like the modern Turkoman or Kirghiz, lived in round *kibitkas* or *yurts*—may have domesticated the wild animals living in the neighborhood of Anau, and that the settled agricultural Anau-li obtained the domesticated animals from the nomads and continued the breeding.

It is clear that these unknown cattle-breeders did not possess stone weapons, since these would have been adopted by the Anau-li, who did not possess arrow-points or spear-heads of stone, nor stone axes. Therefore, these cattle-breeders, even if, according to Mucke's theory, they were a separate people, could not have come to Anau from any wider culture-sphere than that of Western Turkestan and the Iranian highlands, which, according to Professor Pumpelly, was so sharply limited and shut off from the rest of the world.

But a closer consideration of Mucke's hypothesis seems to show an important contradiction: Mucke insists that a hunting people could never become cattle-breeders, and we must admit after his own explanation of the process of domestication that the people who domesticated the ruminants must have cultivated the soil. Mucke says that the wild animals, in want of food, came spontaneously to the round dwellings of the men. Therefore, these people must have cultivated plants and harvested them; for ruminants like the ox and sheep would not, like dogs, be attracted by meat or other products of a hunting or fishing life. Consequently, the agricultural state of human development must also have preceded the state of cattle-breeders, but through the accomplished domestication of ruminants men obtained freedom of motion for traveling with cattle after good pasture and commenced a nomadic life. This must be the real explanation of the origin of the wandering peoples, which Mucke can not explain, and he consequently considers *a priori* that nomadic peoples were nomads before the domestication of cattle. Among the Turkomans of to-day occur also cultivators of the soil and breeders