Oleg Bendukidze

THE JINISI HORSE: AND SOME THOUGHTS ON THE ROLE OF THE ONAGER IN THE BRONZE AGE

In prehistoric times the domestication of animals was a complex process, which took place over a long period. Dogs, hens, pigs, and cattle, for instance, were already domesticated in the Late Neolithic; animals such as the horse or dromedary, on the other hand, probably appeared on the domestic scene later, in the Bronze Age. Discoveries of representations of an onager harnessed to a chariot at Ur and onager bones in the royal burials of Uruk as a result of excavations conducted by L. Woolley (Woolley 1961) lead to the conclusion that the first fast animal to be domesticated was not the horse, but the onager, which zoologically belongs to the subfamily of semi-asses. In Mesopotamia and Near Asia the domestication of the onager (Bendukidze 2003) thus preceded that of the horse (subfamily *Equus*), which emerged in Caucasus and its contiguous regions, presumably, as a result of migration processes, only in the 2nd millennium BC.

The significance of the horse for human history is enormous. Man domesticated three representatives of this family: asses, *Equus (Asinus) asinus*; horses, *Equus (Equus) caballus* and onagers, *Equus (Hemionus) hemionus* as early as prehistoric times: the ass in Egypt, the onager probably in Mesopotamia, and the horse in Central Asia. Later domestic asses and domestic horses spread widely throughout Europe and Asia.

While asses and horses remain domestic animals today, onagers were domesticated only from the end of the Eneolithic to the end of the Early Bronze Age. By the beginning of the historical epoch only wild onagers remained; although they had been a domestic animal in vast areas of Europe and the Middle East, these animals were now wild. One kind of domestic onager (*Equus hemionus pumpellii* Duerst) was widespread in many regions of Near East in the 4th-2nd millennia BC: in Mesopotamia (Uruk, Ur), Iran (Shakhre-Sukhte), Caucasus and also, presumably, in Turkmenistan (Anau). The domestic onager is likely to have been widespread in Georgia as well. The study of osteological material of onagers excavated from Early Bronze Age settlements, Orchosani (Samtskhe), Kvatskhelebi (Shida Katli), Damtsvari Gora (Kakheti), showed that they belonged to a domesticated form. Furthermore, archaeological sites studied in the Caucasus (Azerbaijan, Daghestan and Chechenya), where the Uruk cultural strata are also attested (or, at least, strata of a culture close to the Uruk) allow us to assume onager bones, which occur throughout Caucasia at Early Bronze age sites, belong to domesticated onagers. We can thus estimate the period in which the domesticated onager was present in Caucasia and Georgia. But because domesticated onagers and domesticated horses have not yet been found together, it would be logical to assume that domesticated horses emerged in Georgia and neighbouring regions later than domesticated onagers, approximately at the beginning of the 2nd millennium BC. It is quite possible that horses replaced onagers as the stronger animal (for example, four onagers were harnessed to a chariot, while two horses were sufficient).

To estimate the time when the first domesticated horse appeared in Georgia and South Georgia, there is interesting material provided by the discovery of archaeological artefacts related to horse riding: bridles, ornaments, parts of saddle, etc. as well as small figurines and pictures of horses. Such objects have been found in Late Bronze Age strata in Mtskheta (Sadradze, Murvanidze 1987, 437-440; Sadradze 1991), Artik (Armenia), Berikldeebi and Sapar-Kharaba. Here, in particular, in a burial, was found a kind of yoke similar to those discovered on rock-paintings throughout Europe and Asia. Furthermore, several representations were found near Lake Sevan (Mezhlumyan 1972).

In the South Caucasian regions one of the most ancient and interesting discoveries is a series of skulls from Lchashen, which was studied by the illustrious palaeozoologist S. Mezhlumyan (Mezhlumyan 1972). Since I have not personally examined these skulls myself, I cannot state to which breed of horses they belonged. The material excavated at Lchashen requires additional osteological study, but it is probable, however, that the Lchashen horse skulls belong to the same breed as that found in Jinisi (Bendukidze 2005).

Academician B. Kuftin (1941) reckoned that horse bones were found in the "Cyclopean" fortress in Beshtasheni. If, however, if we bear the period in mind (Early Bronze Age), it is likely that it was a domesticated onager that was in question. In Kurgan V B. Kuftin recovered the gold figurine of a horse (Kuftin 1941, pl. XCVII). This, inexplicably, did not attract scholarly attention. If it is not an import, we can see this object as documentary proof of the presence of a domesticated horse in the Middle Bronze Age (Trialeti Culture).

N. Gamrekeli studied equine fossils found on Georgian sites (Mtskheta, Ilto, Akhali Ulianovka, Kvatskhelebi and Trialeti). He dates horse fossils found in Trialeti to the Middle Bronze Age (Gamrekeli 1976; Gamrekeli 1980). Such a dating seems mistaken, however, since the Trialeti horse, according to our information, was recovered in relatively later, intrusive burials. It is also unclear which exact strata the bones of the horse excavated at Ilto come from and so on. Thus, the dates in Gamrekeli's article are not reliable.

Generally speaking, horses emerged in the Near East relatively late. As is well known, the first historically recorded discovery of a domestic horse belongs to the period of the Hyksos invasion in Egypt (the 17th century BC). The discovery of horse fossils at the Jinisi settlement, which belongs to nearly the same epoch, is truly remarkable in this context. The quantity of horse fossils from Jinisi exceeds the general amount of those of other domestic animals (at least 35-40%). Given that the horse bones were difficult to distinguish from the remains of other domestic animals' remains (Benduidze 2005), we can assume that horses, like other domestic animals, were eaten.

The question is now the status of the Jinisi horse: was it wild or domesticated? This is not a easy question to answer. It is likely that if the horse was used for military purposes then its use for meat was not allowed, although oriental horse riders (Mongols, Turks) did not have such a taboo. It must be mentioned that typologically the Jinisi horse did not differ from the wild horse of the Palaeolithic epoch discovered in Edzani, Zurtaketi and Bavra. It was obviously a morphotype of the so-called "southern horse", from which, probably, the Arab horse was derived. Unfortunately, we are unable to give more detailed characteristics of the Jinisi horse as the material consists only of isolated teeth, and thin leg bones (phalanges, epiphyses of metapodia and foot and shin bones).

As was mentioned above, the wild horse inhabited South Georgia from ancient times (Javakheti Plateau and Tsalka). Its bones were discovered among cooking remains of primitive humans while excavating epipalaeolithic dwellings at Zurtaket and Edzani.

The etymology of the name "Zurtaketi" should be noted. The word *zurtak* means a wild horse in some Persian dialects. It is probable that on the territory of Georgia and throughout South Caucasia both wild and domesticated horses were present simultaneously. In Mtskheta for instance ceramic horse figures have been excavated (Sadradze, Murvanidze 1987; Sadradze 1991), which obviously display two types of horse. One has a long graceful neck, a beautiful small head, and an elongated body. Externally, it looks very much like an ancient Parthian horse (today the so-called "Akhaltekin" breed). The second, attested by only one ceramic figure, is more massively built, has a muscular neck, a large head, a low body and long thick mane. In all probability, one breed was for racing and the other for work.

At the end of the Palaeolithic the wild horse also lived in West Georgia as well. Many horse fossils have survived in caves of Zemo Imereti. In the 1970s, I participated in D. Tushabramishvili's expedition at Dzudzuana Cave, where many horse fossils were found. Unfortunately, Dzudzuana Cave, just like Jinisi, did not yield horses' skulls or at least enough fragments of skulls for analysis to enable a more detailed discussion of the morphological type of this horse. We can only remark that, unlike the sub-types of horse widespread in East and South Georgia, the West Georgian horse probably belonged to a different, larger

sub-species (*Equus caballus strictipes* Gabunia), while the wild horse of East and South Georgia belonged to the sub-species *Equus caballus binagadiensis* Gajiev (= *E. caballus zurtakensis* Bendukidze) which was originally described in the Binagadi Pleistocene area (Azerbaijan). Judging by to the type (tooth enamel ridges, smart hooves and a solid body) this sub-species displays a close affinity to Edzani, Zurtaketi, Bavra and Jinisi horses, which suggest that they all belong to the so-called "southern" group, the ancestor of the Arab breed and its near relative, the ancient eastern horse.

In antiquity, fast animals were harnessed to military chariots, which were mainly used to break through an enemy's line. The ancient Sumerian (Ur) military chariot was extremely primitive, rough and inconvenient. It had four heavy wheels and four onagers were harnessed to it. All this is perfectly illustrated on the so-called "standard from Ur" and on a lid of a box also discovered in Ur (Woolley 1961). In my opinion, the later Assyrian-Babylonian military two-wheeled chariots were more advanced than the Sumerian ones. Although these chariots also had very rough and massive wheels, can be seen in images, they were pulled by two horses. The same type of chariot, with huge wheels, was used in Urartu as well, as shown on the representations on King Argishti's armour.

Another type of chariot was used by the Greeks, the Etruscans, the Romans and, probably, the Achaemenids, who had nearly the same type of military chariots. Such chariots were usually decorated with representations in relief. Furthermore, the ends of the axle between the wheels of Greek and Persian chariots were pointed and served a useful belligerent purpose in themselves.

Major changes in chariot manufacture were initiated by the ancient Aryans of India and Afghanistan. They made chariots from a particularly strong wood, which meant that the chariot was light and a man could lift it with one hand. This type of a chariot first emerged in Asia. Then the Egyptians adopted it from the Hyksos having appreciated its military qualities. The Hittites also had such chariots.

The use of horses for racing started relatively late, and can also be related to the Hyksos invasion in Egypt. It must be mentioned that, apart from chariots, the Hyksos already used horses for racing (17th c BC). Thus, by that time cavalry units already existed (Bendukidze 2005).

In conclusion, we can trace the evolution of the chariot as follows: from the military four-wheeled chariot of Sumerians and Assyrian-Babylonians, and then to the chariot of the Aryans, which was more advanced and much lighter.

I believe that it would be useful in this context to analyze different types of chariots of Europe and Asia. It is likely that systematization of these data may enable us to define several main horse-breeding centres existing at the prehistoric stage of development.

In my opinion, the diffusion of two different types of chariots indicates the existence of two main centres of horse-breeding. One of them was probably in the Near East; this is where the domesticated horse emerged, from Babylon, Assyria and Urartu. The second was probably in Central Asia, in the area of distribution of Aryan peoples.

As we know from ancient sources, in ancient times Hurrians, particularly Mitannians, were the most skilled at horse breeding; it was Mitannians who taught the Hittites this art. In a treatise by Kikuli, a Mitannian, recovered in the Boghazkoi cuneiform archives, we find methods of horse training which hardly differ from modern ones.

The frequent discoveries of Khurit (Mitannian) artefacts in South Caucasia (South Georgia, Armenia) during recent excavations (Narimanishvili 2006) might indicate that these Caucasian regions, in particular, the prehistoric state union "Diaokhi" (historical region of Tao) could have been the center of horse-breeding in Caucasia in the 2nd millennium BC. This view is supported by the finds at Jinisi and Sapar-Kharaba.

It should be mentioned that Assyrian and Urartuan conquerors used to search for pedigree horses on the territory of Diaokhi. Cuneiform texts speak of the tax levied on subject peoples. Horses top the list, as the most precious part of their booty (Melikishvili 1959). Even later, in the Classical period, South Georgia still remained a region of advanced horse breeding. This is indicated by a large quantity of horse fossils in

the osteological material from Chorati (Akhaltsikhe), where they much exceeded those of other animals.

It is believed that the emergence of the horse in Mesopotamia and Near East was connected to the immigration of the so-called sea peoples (among whom were the ancient Aryans). Afterwards the horse spread quite fast in west Eurasia, and later reached Egypt through the Hyksos. After the emergence of this strong animal, there was no need for onagers any more and, presumably, by the beginning of the 2nd millennium BC humans had forgotten them as domestic animals. This process gained momentum from the following factors:

1. As mentioned above, the onager was weaker than the horse;

2. The bridle having not yet been invented, it was more difficult to direct an onager than a horse;

3. Finally, and most importantly: Judging by representations on the Ur standard, Sumerian chariots were very heavy and were equipped with four massive wheels.

These considerations suggest that the emergence of the domesticated horse was the reason for the disappearance of the onager. The onager belongs to the sub-family of *Hemionus.* Although reminiscent of a small horse, it bears a number of morphological peculiarities common to asses (sub-family of *Asinus)*: longer ears, a thinner neck, a tail ending in a brush, a very short (as if specially trimmed) mane. The most important thing is that, judging by their surface relief, the onager's back teeth clearly differ from those of a horse (sub-family of *Equus*). Besides, the onager has elegant and slender legs and by this feature it stands closer to the Stenon horse and to some hipparions. An onager is also characterized by a double loop of stenon-like lower incisors, the thin enamel of the incisors, with an undivided mesostyle; a distinctive outward protrusion on the lower teeth, with a weakly developed additional ridge on the front wall. On the lower teeth this protrusion is deeply cut into the neck of the double loop.

In the past the area of distribution of different sub-species of onagers (seven in all) embraced the territories of Iraq, Syria, Iran, Afghanistan, Mongolia, China, Pakistan, India, Tibet, Turkmenistan and Kazakhstan (Sokolov 1957; Sosnovskii 1987). In the Holocene onagers lived in the southern part of the Russian Plateau, in the regions beyond the Caspian Sea, in the southern part of Siberia, in Caucasia, in Asia Minor and practically all over the Kazakhstan and Turan (Middle Asia) plains. But already in the first third of the 20th century the onager only survived in central (Betpakdala) and eastern Kazakhstan (Jungaret), as well as in Turkmenistan (Batkhiz). At about the same period onagers lived in Mongolia, north-west India, western Pakistan and central Iran (Deshtekevir, Deshte-Lut). Today its presence in India is limited to the desert region, the so-called *Kachis Ran.* It must be stressed that despite a vast area of distribution of this animal, only the Iraqi sub-species was domesticated (*Equus hemionus hemippus* Geoffroy). With the development of agriculture and livestock breeding the area of onager distribution was reduced. In the 17th and 18th centuries in East Europe onagers survived only in the area between the Volga and the Urals. At the end of the 19th century onagers became extinct in western Kazakhstan and their number dramatically decreased in Turkmenistan too. It is remarkable that in the Soviet period three protected areas were established to preserve onagers: in Turkmenistan (Batkhiz, 1941), on one of the islands in the Aral Sea (Barsa-Kelmes, 1953) and in Kazakhstan (Qapchagai, 1982).

The onager is a very fast animal. An adult male can run at 60-70 km/h over a distance of 10 km, while at a lower speed it can run 20-25 km without rest. This animal is also rather big: about 200-260 cm in length, height at the base of neck 1.5 m, and weight up to 350 kilos. Onager meat had a high price in olden times, while its skin was used for producing shagreen leather. The most desirable conditions for onagers are dry steppes and semi deserts with good pastures and a lot of water, e.g. the foothills of Kopet-dagh, the area between the Tejeng and the Murghab in Turkmenistan (Sokolov 1957; Sosnovskii 1987).

It is probable that in Caucasia onagers lived in places with suitable conditions: in east Transcaucasia, the eastern part of the Northern Caucasus, South Georgia and on the plains of the Caspian Sea. In particular, in the past onagers lived in the regions where wormwood and capers grew in east Azerbaijan, at Mughan and on the Mil steppes, in Qobustan and other regions of Apsheron peninsula. This is why Azeri

archaeologists discovered onager fossils in Neolithic and early Bronze Age dwellings of Qobustan. Apart from this, judging by the archaeological data, onagers lived in the south-west (Akhaltsikhe) (Bendukidze 2006) and southeast (Kvemo Kartli) (Bendukidze 1979) regions of Georgia. In the Northern Caucasus they lived on the plains of Daghestan, near Derbend (Vereshchagin 1959). On the basis of archaeological material it can be assumed that the wild onager was widespread in South Georgia from the Late Neolithic to the Classical period (Chorati). This is suggested by the discovery of onager fossils at Arukhlo and Imiris Gora (Neolithic) (Bendukidze 1979), Orchosani (Early Bronze Age) (Bendukidze, 2006) and Chorati (Classical period strata). Given these discoveries, it is likely that onagers were widespread throughout South Georgia. The onager probably lived in the plains of Shida Kartli, as is shown by the recovery of its fossils in Kvatskhelebi (A. Javakhishvili's excavations). Judging by this discovery the domestic onager could have been around in the Early Bronze Age. The onager thus inhabited areas westwards as far as Urbnisi (given the discovery in Kvatskhelebi). It is thought that in such a case, when the simultaneous presence of two forms of onager (wild and domesticated) is attested, there arises the need for marking the difference between these forms, and especially so since there already exists an individual systematic name for the domestic form, which was proposed by U. Duerst for the onager from Anau (Turkmenistan): *Equus hemionus pumpellii*. We suggest using this name for the domesticated onager which was lived in Mesopotamia and Hither Asia. The point is that Duerst described a relatively small horse with elegant legs as *Equus pumpellii* (Duerst 1908). However, later V. Gromova expressed the reasonable view that the bones of *Equus pumpellii* could, in fact, belong to an onager and not to a horse (Gromova 1947). I have no reason to challenge V. Gromova's proposal and believe that the bones from the Anau settlement really belonged to an onager. But, because the Early Bronze Age strata from Anau II belong to the same Hilmend Culture (information from S.M.S. Sajadi) as well as to the Shakhre-Sukhte, I believe that the onager fossils from Anau also belong to the same domesticated form. In order to distinguish this domesticated onager from its wild form, we suggest calling it by the name introduced by Duerst, namely, *Equus hemionus pumpellii*.

We assume that it was during the xerothermic Early Holocene period that onagers were the most widespread in Georgia and its contiguous areas: Caucasia, Asia Minor, Iran and Near East. We must also assume that the particularly wide distribution of onagers and other xerophilic animals was closely linked to significant warming and a dry climate in this epoch.

A Russian zoologist, N. Vereshchagin, has collected historical accounts relating to onagers. Xenophon describes the Greeks hunting onagers at the source of the river Euphrates. An Armenian historian, Mose Khorenats, describes the royal hunts of the Arshakid dynasty of onagers in the middle part of the river Araxes. The Armenian historians Anania Shirkats and Grigol Narekats mention the presence of onagers in Armenia. The famous 10th century historian Mose Kagankatvats speaks of wild onagers on the steppes of Mil and Qarabakh. The Azeri poet, Nizami of Gandja, describes the hunting of onagers in the area between the Mtkvari (Kura river) and the Araxes. Rashid-ed- din (14th century) recounts that during a hunt arranged by Ilkhan Qazan Khan in Talish, there were, among other animals, wild asses (or onagers). According to the Polish scientist and traveler Adam Olear, the Shah of Iran kept so-called onagers in a menagerie in Isfahan. And finally, it should be mentioned, that one of the Sassanid shahs (Bakhram) is nicknamed as "khuur" or onager in Nizami of Gandja *Seven Portraits* (Vereshchagin 1959).

There is no information about where onagers lived in Georgia. Shota Rustaveli, however, describes Rostevan's and Avtandil's hunt in his *Knight in the Panther Skin*, where the onager is mentioned alongside other animals (Rustaveli 1957:22).

Fossils and semi-fossils of onagers were discovered in the Zurtaketi Epipalaolithic dwelling (Burchak-Abramovich 1951), in Arukhlo I and in the Imiris Gora Early Agricultural dwellings (Bendukidze 1979), at Orchosani (Early Bronze Age), at Kvatskhelebi (Early Bronze Age, A. Javakhishvili's excavations) and in Chorati (Classical period). The lower jaw of an onager of the Pleistocene was also discovered at Kirmaku (Azerbaijan, N. Burchak-Abramovich's material). And, finally, A. Vekua described a very special form of an early

onager as a new type (*Equus hipparionoides* Vekua) (Vekua 1962). Teeth of this form, as well as those of its related form Binagadi (Azerbaijan) is characterized by features typical of onagers: thin enamel of the back teeth, undivided mesostyle, the special shape of the outer protrusion of the lower teeth, which have a weakly developed additional ridge. On the lower teeth this protrusion is deeply cut into the neck of the double loop. But, unlike the modern and Late Pleistocene onager from Kirmaku, it is characterized by very short protokon (the protokon of the upper molars of modern onagers is close to the length of the protokon of real horses' molars). The form of onager from Akhalkalaki, described by A. Vekua, can be considered to be the ancestor of Late Pleistocene and modern onagers.

As mentioned above, in the 4th and 3rd millennia BC the onager was domesticated and lived in Mesopotamia and the territories adjacent to it. This is proved by the discovery of onager bones in burials of the 4th millennium BC and also by drawings from Ur which show onagers harnessed to chariots (3rd millennium BC), although recently new data suggest that in the Early Bronze Age onagers were also to be found in eastern Mesopotamia (north-east Iran, particularly on the territories of the administrative regions of Belujistan and Sistan) (Bendukidze 2003). They also lived to the north of this territory, in Turkmenistan (Anau), where there are also settlements belonging to the same Hilmend Culture, which existed in north-east Iran.

In the autumn of 2001 I joined the Expedition of the Cultural Heritage Protection of Iran under the leadership of Dr S.M.S. Sajadi. We discovered onager bones in Shakhre-Sukhte (province of Sistan and Belujistan). Furthermore, onager remains had been discovered by an Italian expedition working in Shakhre-Sukhte before the Islamic revolution, although all the remains of onagers were then considered to belong to the wild form. In this case the remains were discovered in the conditions indicating to the domesticated form. In particular, three skeletons (two adult and one young onager) were discovered in room in E.R.A. (East Residential Area) section together with one type of a cow and several skeletons of sheep and goats. Nearby were fragments of pottery and charcoal. The position of the skeletons discovered in Shakhre-Sukhte (the skeletons were disturbed, but the joints were not, and so complete skeletons could be reconstructed) suggests that the animals died as a result of a disaster, probably a fire. A large amount of charcoal was found with the skeletons. It is likely that all the animals were gathered in a stable, where they were trapped under the collapsed roof and walls. Thus, the death of the animals in section E.R.A. came about in seconds.

In which season did this disaster occur? We cannot prove anything, although, if we take into consideration the fact that besides onager bones there were those of sheep and goats with a preserved third milk tooth (dp3), we can suggest that the disaster came about in the middle of the summer. It must be mentioned that the belief of some archaeologists that the E.R.A. room served as a place of sacrifice. Onagers are very skittish animals, difficult to approach, and would naturally try to avoid such crowded places as Shakhre-Sukhte. In addition, hunting an onager and bringing it to the settlement must have been time-consuming and in the eyes of contemporaries an irrational act. Another suggestion, that the pile of bones discovered in the E.R.A. room must have been the remains of a supply of onager meat, does not ring true either. The point here is that the temperature in this region of Iran-Sistan normally reaches 50-55 degrees Celsius in summer, which would speed the decay of such meat. The stench would make human life nearby impossible. In our view, therefore, the recovered onager skeletons in fact belonged to domesticated animals tethered in the stable in which they died. This is supported by the fact that the domestication of the onager in Mesopotamia is thought to be established at more or less this period. The discovery of onagers together with other animals is, moreover, perhaps the most convincing pointer to their being domesticated onagers. Although this might appear to be an unconventional view, it is not inherently unlikely since we know that domesticated onagers existed not only in Mesopotamia, but also in Turkmenistan (Anau), where onager bones were discovered as early as the beginning of the 20th century (Gromova 1947). The Anau strata, as we mentioned above, belonged to the Hilmend Culture. We should also mention in connection with the domesticated onagers from Shakhre-Sukhte the fossils of a small horse at Anau (Turkmenistan), described by U. Duerst, which belong to the later stage of the same Hilmend Culture (Werst 1908). Accord-

ing to V. Gromova, the small, slender-legged horse must be identified as an onager (Gromova 1947). Since the Bronze Age strata of Anau are of the same age as those in Shakhre-Sukhte (information from S.M.S. Sajadi), it may be said that the onagers from Anau also belonged to a domesticated variety.

In the Shakhre-Sukhte laboratory the monolithic rock brought for us from the E.R.A. displayed skulls and other bones (neck vertebrae, bones of front legs and fragments of ribs). It is particularly important that osteological material be naturally articulated, which points to the animals' death during a catastrophe in the building where they were kept. In this connection, we would like to emphasize that in the necrocenosis of the onagers and other animals of Shakhre-Sukhte we find more direct analogies with the necrocenosis of past geological epochs than to archaeological material which is as a rule decayed and disturbed.

There are thus three areas in which Early Bronze Age domesticated onagers have been found: Mesopotamia, Iran (Shakhre-Sukhte), and Turkmenistan (Anau). Because Georgia and Caucasia are geographically situated between the extreme west (Mesopotamia) and extreme east (Iran) of these discoveries, we may expect to find fossils of domestic onagers in Caucasia too, especially as Akhaltsikhe (Orchosani), where fossils of onagers were discovered in Early Bronze Age strata, is only 1000 km from Mesopotamia. It is not out of the question therefore that those onager fossils excavated on two Early Bronze Age sites, Orchosani and Kvatskhelebi, could belong to this domesticated variety. This is suggested in the first place by Georgia's geographical situation within an area where, as we have seen, domesticated onagers did exist in the Early Bronze Age. These conclusions concerning the likely presence of domesticated onagers in South Georgia are hypothetical, and need to be confirmed by archaeological discoveries in the future; they do, however, have a firm logical basis.

There is also the question of the discovery of the domesticated onager in Iran; where and when did the domesticated variety emerge for the first time, in Mesopotamia or in the east, in Iran or Turkmenistan? An answer is suggested by recent remarkable discoveries at Um-Dabania (dated by British archaeologists to 6200-5750 BC). Here the British archaeologists discovered a number of strange small square rooms without roofs, which very much resemble modern places for tethering horses. Presumably, the primary taming of captured onagers occurred here, since remains of nets for their capture were also recovered. It is interesting that the proportion of onager bones was 70% of the relevant osteological material from Um-Dabania (Iankovskaia 1985).

Judging by the data from Um-Dabania we can conclude that the domestication of the onager in Mesopotamia began in the late Neolithic and that later the domesticated onager reached Iran and Turkmenistan. Others believe that the domesticated onager might have emerged from different sub-species in parallel, although early centres of its domestication, like the one in Um-Dabania, have not yet been discovered. This is, however, unlikely since today the monophyletic origin of domestic animals is widely accepted. We can thus conclude that despite wide distribution of the onagers only its extreme western sub-species, found in Syria, Palestine and Iraq, was domesticated in Eurasia (Sokolov 1987).

The process of onager domestication began in Mesopotamia far earlier, before the 4th-3rd millennia BC; the discoveries at Um-Dabania reflect only the initial stage of such domestication and completely domesticated animals are known from the period of Uruk Culture (4th millennium BC). According to the British scholars, there are plenty of onager (but not horse) fossils that have been excavated in the so-called king's burials in the epochs after Uruk and Ur Cultures.

Discoveries of onager bones together with ritual chariots and remains of kings often found in Mesopotamian city-states of prehistoric epoch suggest that in the 4th-3rd millennia BC onagers were used to harness to burial chariots of kings.

Finally, it should be mentioned that like all domestic animals which existed for over 2000 years (4th-3rd millennia BC), the domesticated onager might have adopted some morphological and diagnostic peculiarities, on the basis of which it may become possible in the future to distinguish a domestic onager from a wild one. This problem certainly requires further study; the detailed study of the domesticated onager

has only just begun.

Conclusion: Domesticated horses appeared late on the Near Eastern and Caucasian scene. Other types of domestic animals already existed in Europe and Asia in the Neolothic period, while the domesticated horse appeared in South Caucasia not earlier than the Middle Bronze Age (2nd millennium BC). Nevertheless, we can assume that there were attempts to domesticate another horse-like animal before the emergence of the domesticated horse in the Near East, namely the onager. For example, the well-known standard of Ur (Mesopotamia) represents four onagers, and not horses, harnessed to a four-wheeled chariot. But at a later stage the domesticated onager was replaced by a stronger animal, the domesticated horse, which probably came from Central Asia.

The discovery of domesticated onagers at Shakhre-Sukhte and L. Woolley's finds at Ur allow us to see the role and significance of different types of horses (including Sensu Lata, onaser) at a prehistoric stage of human history in a new light. It becomes clear that the onager probably came before the horse as one of the domesticated animals of the Near eastern Early Bronze Age (2800-2850 BC). This important fact allows us to estimate more or less accurately the time of emergence of the domesticated horse in populated areas, which may be the Middle Bronze Age. An indication of this is the invasion of Egypt by the Hyksos, who displayed their military power with horses harnessed to two-wheeled chariots. This is why all horse remains of early periods of the Bronze Age can be automatically attributed to the wild horse. The domesticated onager had already existed in the first half of the 3nd millennium BC in Mesopotamia, and at Shakhre-Sukhte and Anau; and even earlier, during the Uruk period (4th millennium BC), although the domestication of the onager occurred in Mesopotamia even earlier, in the Late Neolithic, as indicated by discoveries at Um-Dabania that reflect the initial stage of domesticating this animal.

References:

Bendukidze O. 1979: *Golotsenovaya fauna pozvonochnikh Gruzii* (The Holocene fauna of vertebrates of Georgia). Tbilisi.

Bendukidze O. G. 2003: New data about *Equus hemionus* of the prehistoric period in I. R. of Iran. *Proceedings of the Regional Scientific Conference dedicated to the 60th Anniversary of the Institute of Zoology NAN RA,* 36-37

Bendukidze O. 2005: jinisshi aghmochenili osteologiuri masalis shesakheb **(***On Archaeological Material excavated in Jinisi*). *Report of fieldwork carried out by the Trialeti archaeological expedition in 2004*. Manuscript. Tbilisi.

Bendukidze O. Devnozashvili I. 2006: akhali monatsemebi orttshosanis osteologiuri masalis shesakheb **(**New Data on the Osteological Material of Orchosani). *V. Bagrationi Institute of Geography.* New Series 1 (80), 239-249. Tbilisi.

Burchak-Abramovich N. 1951: Materialy k izucheniyu fauny paleolita zakavkaz'ya (zurtaketskaya stoyanka) (Material on the study of Paleolithic fauna of Transcaucasia) (Zurtakert dwelling). *Izv. AN Azerb. SSR* 9. Baku.

Duerst J.U. 1908: Animal remains from the excavations at Anau. In: R.W. Pumpelly (ed.), *Explorations in Turkestan* 2, 341-442. Washington

Gamrekeli N. 1976: brinjaos periodis tskhenis dzvlebis nashtebi sakartvelos teritoriidan (Fossils of Bronze Age horse bones from Georgia). *SSMM* 29, 292-300.

Gamrekeli N. 1980: shinauri da gareuli tskhovelebi trialetis qorghanebidan (Domestic and wild animals from Trialeti Kurgans). *SSMM* 30, 207-216.

Gromova V. I. 1947: Istoria loshadei (rod *Equus*) v starom svete. I, Obzor i opisanie form (History of the horse (*Equus*)

in the ancient world. I, Review and description of forms). *Activities of the Palaeontological Institute* 17/1. Moscow.

Iankovskaya N. B. 1985: Novie Dannie k voprosu o mezhoblastnom razdelenii truda v drevnem Dvurech'e (New data on the problem of interregional distribution of work in ancient Mesopotamia). *Cultural Heritage of the East*, 84-88. Leningrad.

Japaridze O. 1998: *kartveli tomebis etnokulturuli istoriisatvis dzveli tseltaghritskhvis mesame atastsleulshi (adreqorghanuli kultura)* (*On Ethnocultural History in the 3rd Millennium BC* (*Early Kurgan Culture*). Tbilisi.

Kuftin B.A. 1941: *Arkheologicheskie raskopki v Trialeti* (*Archaeological excavations in Trialeti*). Tbilisi.

Melikishvili G. 1959: *K istorii drevnei Gruzii* (on the History of Ancient Georgia). Tbilisi.

Mezhlumyan S. K. 1972: *Paleofauna epoch eneolota, bronzy i zheleza na teritorii Armenii* (Eneolithic, Bronze and Iron Age Palaeofauna on the territory of Armenia). Erevan.

Narimanishvili G. 2006: saphar-kharabas samarovani (Sapar-Kharaba Cemetery). *Dziebani* 17-18, 92-126 (in Georgian).

Rustaveli 1957: *vephkhvistqaosani* (*Knight in the Panther Skin*). Tbilisi.

Sadradze V. G. 1991: *Mtskheta v 15-13 v.v. do nashei eri* (*Mtskheta in the 15th-13th centuries BC*). Tbilisi.

Sadradze V., Murvanidze B. 1987: tskhenis kandakeba didi mtskhetidan **(**Sculpture of a Horse from Greater Mtskheta). *SMAM* 127/2, 437-440

Sokolov V. E. 1957: *Sistematika mlekopitayushchikh* (*The systematization of mammals*). Leningrad.

Sosnovskii I. P. 1987: *Redkie I ischezayushchie zhyvotnie* (*Rare and extinct animals*). Moscow.

Vekua A. 1962: *akhalkalakis kvedapleistotsenuri dzudzumtsovrebis fauna* **(***Lower Pleistocene Mammal Fauna from Akhalkalaki*). Tbilisi.

Vereshchagin N. K. 1959*: Mlekopitayushchie Kavkaza* (*The Mammals of the Caucasus*). Leningrad.

Woolley L. 1961: *Ur Khaldeev* (*Ur of the Chaldees*). Moscow.