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THE STUDY OF THE ARCHAEO-ZOOLOGICAL MATERIAL FOUNDED IN THE PIT NO. 26 OF THE PRECUCUTENI III SETTLEMENT AT TÂRGU FRUMOS-*BAZA PĂTULE*

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I. The Characterization of the Site, of the Pit and Environment`s Peculiarities

In the north-east side of the Târgu Frumos town, more exactly in *Baza Pătule* a precucutenian settlement of the third phasis of this culture was discovered, settlement in which archaeological diggings supervised by N. Ursulescu have been done for many years.

In the A sector of the settlement, a pit of great dimensions (pit no. 26) was searched between 1998-1999; on the basis of the material discovered by the archaeologists N. Ursulescu, D. Boghian and V. Cotiugă who performed the diggings, the pit was interpreted as being a worship pit, at least in a stage of its filling[*)].

The pit`s form couldn`t be determined precisely because about a quarter of it, is placed under a modern building with a concrete floor, a "pătul" (a kind of storehouse for cereals). The pit was digged by the precucutenian population at the basis of the second level (the II A living level) maybe with the initial purpose of clay extraction and after that its usage as such. Generally, the pit has an oval form, slightly elongated on the NW-SE axis (5x3 m., on the superior verge) presenting an about 1,20 m. long nooking to the south; it has about 1,20 m deep, the depth gradually diminishing to 2,10 m from the actual trading level. Judging from the way in which the pit was filled, the concentration of the pottery,

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archaeozoological and of the other kind of material, the existence of three filling levels could be established: the superior level (- 0,90 ─ 1,30 m), the middle level (-1,31 ─ 1,80 m) and the inferior level (-1,81 ─ 2,10 m).The middle level is the most representative for the cultual function of the pit, here being concentrated, probably, the remains of the rituals and religious ceremonies with animal sacrifices.

For the settlement as such, it is fairly extended being placed on a cuesta slightly inclinated from north to east, with an average altitude of 120m; the cuesta has an abrupt slope towards east, representing the right bank of the Adâncata brook, which flows from NW to SE.

This zone, belonging to the Central Moldavian Tableland, is known as "Târgu Frumos Gate"; it is prolonged towards WNW with the Ruginoasa Saddle, in front of which there is the water`s balance between the hydrographic basin of river Prut and the one of the Siret, this always constituting an easy way that unites the two hydrographic basins. Knowing that the average altitude in the area is maintained between 100-150 m we`ll find the Jora Knoll of 184 m high towards N and the Horpaz Hill of 199 m high towards south, the most southern heights belonging to the Great Hill. On a miocenic (the sarmatian) sedimentary foundation and less oligocenic there are quaternary deposits, partially deluvials, made up of loess, covered by soils almost totally of the leached chernozem type.

The hydrographic vet is pretty developed. The Bahluieţ brook is rolling down from NNW towards the town, then turning to ESE, straightening to Bahlui. It has as tributary the Orlea brook (or the Cucuteni brook), which runs almost parallel with the first one, flowing into it, even at the town`s entrance; the third brook – Adâncata- named probably after his abrupt right shore – runs from NW to SE making junction with the Bahluieţ brook right after it is running out of the town.

All of the three brooks, although they are permanent, they are rather small, they don`t have either holocene deposits or valley flats; there are small barages, for keeping water, made up during the modern epoch. Towards NE and SE at about 5-6 km distance from the town, there are small marshy areas with a halophyl vegetation.The present day vegetation has the following structure: the most part of the soils are covered with cultures, but there are also mezoxerophyl lawns; to NW and SE, on 6-7 km distance, then are patches of forest with *Quercus robur* as a dominant

species, but as all the groves with many other species of trees and bushes (so-called *Quercetae mixtae*).

II. The Determined Mammal Species and Their Description

The whole faunistic material disovered in the 26-th pit raises to 1312 pieces of which 1253 have been determined, that`s meaning a rate of 95,50%, rate considered rather high. Six of these fragments are represented by valves of *Unio,* 0,48% faunistic material (in fact, there are 10 fragments which mingle together in the 6 valves of the river shell, species for which there have been done determination only to the genus level); there are 13 bone fragments representing mammal ribs coming from high-sized individuals such as: *Bos/Cervus* , belonging to the cattle, the aurochs or the red deer (1,05%). The rest of 1234 (98,47%) fragments are clearly originated in a total of 13 mammal species, none of the other vertebrate group being evidentiated (in fact the undetermined are bone splinters belonging to the mammals too, especially to the high-sized ones: table 1).

If we distribute the material on the three evidentiated levels of the 26-th pit, taking into consideration the fragments` repartition, and also some of their characteristics of cultual type we ascertain the followings: the superior level contains 145 fragments (11,57%), the medium one contains 944 (75,34%) and the inferior one 164 (13,09%) although it should be more settled (see table 2, 3, 4).

Knowing that the pit 26 has been filled with different materials, all of them being thrown only in one phases of the Precucuteni culture, so, in a relatively short period, we consider that it couldn't have been any morphological changes somatoscopical or/and biometrical evidentiated of the faunistic remains, so, for each species the bony material will be considered as a whole. We shall also have a look upon a series of totally special frequencies from the medium level representing bone fragmenters from cattle and aurochs which evidentiate the usage of these two species in processes of the cultual type.

Bos taurus. There are 48 horn cores of which 46 from the medium level representing 8,93% of the cattle fragments from this level. More than half of the fragments could be measured and the others are big enough remains (table 7). On the same level, *Bos primigenius* is represented by 5

horn cores fragments quite well conserved and of measurable sizes, this meaning 6,75% of the fragments belonging to this species. There is an impressive number of horn cores (a quite unusual frequency) in the bovines coming from a common rubbish pit. More than that, at least four *bucrania*, have been found, a part of the posterior region of the forehead, bearing the two horns (some of them are now partly broken into pieces). One of the four bucrania belongs to a male aurochs and 3 of them from cattle (one with longer horns belonging to a geld male, one with shorter but thicker horns belonging to a male and the last one with a more graceful and thinner skeleton belonging to a female). It is obvious that these fragments stand for vestiges of some cultual practices; maybe of the other discovered horn cores must be connected with the same purpose.

Taking into account the cattle horn cores, we may ascertain that their morphology and biometry places them to the male, female, but almost certain to the geld category too; 10 male, 9 female and 5 geld individuals have been observed; part of these horn cores come from young individuals (7), both male and geld (table 7).

We mention the evidentiation (HAIMOVICI, MAN 1986, 135) of some geld males'existence in the cultural site Turdaş (late Vinča) from Zau de Câmpie; the lately studies of El Sussi (1987, 130), made on material coming from Foieni and *tells* of Parţa, all of them from Vinča culture, come to confirm this fact, evidentiated now for the Precucuteni culture.

The horn cores quite varied morphology and dimensions, framing into the "primigenius" type but also the "brachyceros" one (especially the young males with very short, right and laterally oriented horn core); some of the horn cores are strongly flattened and, some of them have almost round basis (the variation index from 59,53 to 97,18 – table 7). The interhorn line appears straight, sometimes slightly emersed on the level of the sagittal plan; it is slightly lifted up to a very few individuals (no matter what sex they are) but never strongly curved. We specify that two of the horn cores (one of them being relatively long) are sagittally sectioned, so we couldn't do the measurements and sex determination; no horn core has cut base, meaning that they have been thrown into the pit without the previous recovery of the epidermial horn (didn't they use the horns?); on a horn core, at about 7 cm from its basis it may be seen a narrow groove, parallel to the basis and stretching on the whole circumference; this showing that, maybe, a circular formation been applied on the living horn

producing a strangling transmited to the horn core. On another horn core, on oblique groove stretches only on the third part of the circumference.

Regarding the measurements executed on mandibles, teeth and limbs bones, analising the table 8, we can find that the studied cattle seem relatively massive, their size being similar to those found in pit 25 from the same settlement (HAIMOVICI 1999), as well, as the ones from the Târpeşti settlement (NECRASOV, ŞTIRBU 1981, 184).

Taking into consideration a so great number of horns, precisely attributed either to *Bos taurus* or to *Bos primigenius*, we must remark that we find no horn cores coming from the *Bison sp.*; it is known that the horn cores are the main element that makes distinction between the *Bos sp*. and *Bison sp*. So we can assume that there was no *Bison bonasus* in the area during that prehistoric period.

Ovicaprinae, known in the binar nomenclature under the names of *Ovis aries* and *Capra hircus* have less fragments than *Bos taurus,* the species with the greatest weight both as fragments and individuals (table 5). As we see in this table, the sheep are better represented than the goats but they are still rather numerous in comparison with the usual situation concerning the archaeozoological material.

The executed masurements show that sheep were relatively low sized (table 9, 10) specific for the Rumanian Neo-eneolithic (HAIMOVICI 1987, 163); there are also female sheep but with very small and flattened horn cores. The goats are higher –sized with relatively gracile "prisca" type horn cores for both sexes (tables 9, 10).

Sus scrofa domesticus. The pig has less fragments than the ovicaprins . The few measurements show a relatively low size, resembling the so-called "palustris" type characteristic for the Rumanian Neo-eneolithic (HAIMOVICI 1987, 163). The differentiating from their wild ancestor could be made quite satisfactory (table 11).

Canis familiaris is quite well represented in the archaeozoological material from pit 26, being found in two of its levels, but missing in the one coming from pit 25 (HAIMOVICI 1999). Otherwise, except one fragment, the all other 23 have been found in the medium level, giving a relatively high rate in comparison with precucutenian settlements as the ones from Târpeşti (NECRASOV, ŞTIRBU 1981, 177), Traian-*Dealul Viei* (NECRASOV, HAIMOVICI 1962, 262) and generally to the Cucuteni culture (HAIMOVICI 1987, 164).

We do not believe that its increased frequency in the medium level of the pit have any connection with the strictly cultual character of some of the bovines fragments on the same level, although an intact dog skull has been found here; that is quite rare for housekeeping remains. The skull, which has been damaged during its extraction from the level, has been partly reassembled; it`s a pity the part with *foramen magnum* is missing so it could be established only its estimated base length; but based on the mandible's existence this length could by calculated through coefficients and, at the same time, it could be ascertain that a whole dog head was thrown away (table 12; fig. 3).

As remains of the neural skull, we can mention four fragments representing the upper part of the occipital triangle when the sagittal crest makes for two of them a kind of small swelling.The fragment`s width and massivity appear different and there is no relationship between them and the little swelling's size; we may say that they come from low and medium sized dogs; the same thing can be observed studying three postorbitales apophyses of the facial skull.

Otherwise the measurements and the Brinkmann and Dahr coefficients appliance on the biometry executed for the mandible and the few measurements executed for the limbs skeleton fragments, lead us to the same conclusion: dogs had o size going from the maximum size for the *Canis familiaris palustris* type to the one established for the *Canis familiaris intermedius*, characteristic for the Roumanian Neo-eneolithic (HAIMOVICI 1987, 164) (table 12).

Equus caballus. The horse has relatively many remains in comparison to the precucutenian settlement from Târpeşti (NECRASOV, ŞTIRBU 1981, 182). In the Traian-*Dealul Viei*, this species is missing (NECRASOV, HAIMOVICI 1962, 262); we can not say whether it was domestic or not; we can only remark its existence. As we have shown before (HAIMOVICI 1999) we can only speak about a horse *lato sensu*, a medium sized one.

Let´s stop for the real wild mammal species among which, the red deer, the roe deer, the aurochs and the wild boar species are a great economic importance. The other species (as the beaver, the bear and the wolf) although they may be considered occasional, they have a first rank importance for the placement of the environment around the archaeological site of Târgu Frumos during the Precucuteni culture.

Cervus elaphus is nowadays known as the most characteristic species for the falling leaves forest from our latitudinal position. We notice that there are very few antler fragments, only a part of a relatively thin axis, slightly, pearl-like, broken not cut, towards both the inferior and the superior part, and also a small branch tip.

The talus are weak represented, being usually more abundant among the archaezoological fragments; yet, there are all the bony fragments of a mammal skeleton. The measurements indicate a high-sized, bulky individual with a marked sexual dimorphism (table 14).

Capreolus capreolus. This species has almost all the bony segments characteristic for a mammal skeleton; then are four little, insignificant antler remains, but there are 3 very specific frontal segments coming from male individuals on which the pivots (the frontal cilinders) the antlers are attached to, may be observed; for two of them, the pivots have been cut right bellow the antler's rosette; for the third one, a pivot is similary sectioned but the other one is cut on the frontal bone; we can say that those individual. were hunted during summer.

It can be remarked many mandibles, some of them seriously damaged, also some metacarpus but mostly metatarsus longitudinally sectioned, even splinted (this representing the rough material for making small and delicate bony tools or fragments resulted from their manufacturing).

The measurements are included in table 15, but as this species is a relatively low- sized one, the sexual dimorphism is not too obvious.

Sus scrofa ferus. The wild boar, the ancester of the domestic pig, has less remains, preeminently the mandible, an usual phenomenon for the archaeozoological material; this allowed a better appreciation of the slaughter's age comparative to other species.

The measurements are included in table 16, data from which we can admit the presence of a quite bulky wild boar, with a quite obvious sexual dimorphism, and a average withers height of 998,4 mm.

Bos primigenius, considered the ancestor of the domestic cattle, is a wild species with the most remains, more than the ones belonging to roe deer and the red deer, this being rather unusual not only for the precucutenian sites, but for the Rumanian Neo-eneolithic in general (and more than that, for the newer periods, from the historical point of view, when this species appears lesser and lesser, till its final extinction).

As really significant fragments we may enumerate firstly a male *bucranium* with the left horn core wholly conserved, a horn core first oriented slightly backwards, than laterally and towards the top, forwards and upwards; the horn´s pedicle is very short; the right horn core which has the same direction at the basis, is cut at about 4 cm from the basis (fig. 1). The interhorn space is only of 160 mm; the interhorn line appears relatively straight, even slightly concave on the level of the sagittal plan; the two temporal fosses are narrow but deep. The frontal bone´s surface, anteriorly broken on the orbit´s posterior level, has on his sides a quite smooth narrow, the orbits seeming not too proeminent; if this surface is slightly lifted up on its medial line along the sagittal plan, it´s slightly sinking to the right and to the left on both sides, creating two socketed parts very specific for the aurochs. A more gracile smoother female horn core is longer than the male one; the twisting around the axis is stronger, with a double spiral (as a layed "s"), its proximal part is short, then the longer part is laterlly oriented and with the peack upright (fig. 2). There are also two female horn cores, more gracile and shorter than the previous ones, but less typical (we believe that these horn cores are coming from females of *Bos primigenius* and not from geld of *Bos taurus*, evidentiated also on the basis of their horn cores); on of these horn cores has its basis carved, an evidence for the epidermical horne´s removal during life. It´s a pity none of the limbs bones is intact (table 17, 18).

An obvious sexual dimorphism can be distinguished and, at the same time the greater frequency of female individuals over the male ones. The distinction between them and the cattle has been satisfactory made.

Ursus arctos. This big carnivore, consumer of a rather omnivore food, is a common species for the old sites fauna, being always present among abundant bony remains and when the environmental condition are adequate: old and vast woods with hollow trees, eventually rocky areas. All the 5 fragments are strongly broken up, so no measurements couldn´t be done. On the medium level, there are 4 fragments coming from at least 2 individuals, a scapula from a very massive individual (maybe a male) and a parietal fragment from a gracile individual, maybe a young one. The inferior level contains a small humeral fragment, from another individual than the one with the humeral fragment on the medium level (table 19).

Castor fiber, popular denominated as "breb" ("castor" being a bookish denomination) is a high-sized rodend which appears when then are

many faunistic remains; like the bear it is a stenoecious species, needing woodlands and silent waters for building small barages behind branches from weak essence trees; the branches of these trees are his basic food, being a ierbivore species. The four discovered remains are coming from at least 3 individuals; two mandibles could have been measured (table 20).

Canis lupus it´s obviously a species accidentally found, uneatable, which must have been hunted for the damages it used to cause. It is represented only through an occipital fragment indicating an individual high-sized than a common dog.

We should finally mention that we have not found any human remains, the pit 26 being, at least partly, a formation filled with materials coming from cultual activities, showing precisely that human were not the object of sacrifices.

III. The Mammals` Exploitation

As it may be found in the second chapter, there are only two zoological groups as part of the discovered faunistic remains: on one hand, the molluscs (only shell valves) and on the other hand, the mammals, classified into wild and domestic species, the first ones with many species and the second more important from the economical point of view.

Studying for the few *Unio* valves, we could ascertain that the inhabitants of this settlement used to gather up small animals, an ancestral occupation. The few shells that have been found, are of no economical value but their almost negligible quantity, surely, is not due to the fact that the molluscs weren´t on the precucutenian´s liking. It most have been something else; maybe the environment didn´t allow their finding in a satisfactory, so in an efficient quantity. As it has been shown in a previous paper (HAIMOVICI 1999) not only the molluscs´gathering and eventually the picking of small terrestrial vertebrates couldn´t stand for a profitable occupation, the fishing and birds hunting (catching) weren`t practiced . The missing of fauna groups that could have been the object of this occupations, among the faunistic remains of the site, is not a result of human “negligence” but a consequence of the improper environmental conditions for existence of a large number of individuals of species and groups of animals shown above.

Another problem that is to be solved is to settle the degree in which the pit 26, especially through its medium level, represents a formation in which bony materials coming from cultual activities have been thrown. We believe that it has a cultual character induced only by bovids remains, only the remains coming from *Bos taurus* and *Bos primigenius* being connected with the well-known cult for the bull (there are bony fragments coming from male, female even geld individuals); because of this, the fragments coming from the two species have a higher than usual frequency and at the same time different weight of some bony segments in comparison to the normal one. For some of the *Bos taurus* and *Bos primigenius* fragments as well as for the other discovered species the pit is a common rubbish pit.

According to the data coming from the bony material in pit 26, the hunting of the wild macromammal species is a noticeable occupation as it was than a rate of 30% concerning the fragments and a rate of more than 40% concerning the number of individuals. This frequency overtakes the one specific for the 25 pit (HAIMOVICI 1999) and the ones for 2 other precucutenian settlements: Târpeşti (NECRASOV, ŞTIRBU 1981, 177) and Traian-*Dealul Viei* (NECRASOV, HAIMOVICI 1962, 262) but it is still inferior to the frequency of 51,60% characteristic for the precucutenian settlement Andrieşeni. The situation from Târgu Frumos must be a result of the existence of an environment more proper for the wild species or maybe of the orientation human community towards an economy based upon the more intensive use of hunting; regarding the site from Andrieşeni, placed on the Jijia river´s inferior course, a river with meadows and marshy areas, it most have been a vast gallery wood very proper for wild mammals as in the faunistic material from here there are even fragments of elk.

The wild animals are represented by the 4 species characteristic for the faunistic material from Neo-eneolithic: *Capreolus capreolus*, *Cervus elaphus*, *Sus scrofa ferus* and *Bos primigenius*. The greater frequency for the *Bos primigenius* in the 26 pit can be explained by the fact that part of the bony material is connected with the cultual activities of the Târgu Frumos inhabitants. Indifferently the frequency variation, its primar usage was that of a meat producer because of his high-size. According to this criteria, the *Bos primigenius* is followed by the *Cervus elaphus*, *Sus scrofa ferus* and then by the *Capreolus capreolus.* The other two species (the wolf mustn´t be taken into consideration as it is not eatable) the beaver, but

especially the bear brought some contribution to the necessary animal protein for the food´s inhabitants.

Watching the slaughter´s age for the 4 species mentioned above (table 21), it can be observed the same hunting strategy for each of them: the young ones, even the adults used to be protected (probably were hunted only the debile, diseased male individuals and with tare too), being hunted especially the mature ones; we should mention that some of the wild boars managed to reach quite extreme ages, when their teeth were extremely gnawed, no cuspid being on the mastication surface.

Therefore, hunting had a great contribution in the animal protein necessity for the diet of the inhabitants of the Târgu Frumos site. At the same time they could use a series of subproducts such as: skins, even fur, horns, antlers, bones, tendons, viscere and so on.

The main occupation (we may say the basic one as we cannot know, precisely, what was the agriculture´s weight evidentiated only indirect sources) was the animal breeding specific for the Precucuteni culture being *Bos taurus,* ovicaprins and pigs (the horse has an uncertain status, as it can be included neither in the wild animals nor in the domestic ones; although it is a high-sized animal, its low frequency makes him unimportant of the economical point of view; it has been a meat and subproducts supplier as any other eatable mammal species).

Bos taurus is the most important domestic species considering his very high frequency (more than 50% of the total fragments) his size and his multiple utilities. Considering as such, adding the *Bos primigenius* too, we may say that the animal economy practiced by the people of the Precucuteni culture, specially those from Târgu Frumos (where the distance between it and the other domestic animals, ovicaprins and swine is greater than in other settlements of this culture) is based on the massive exploitation of the bovids, which had a cultual function adding to the economical one.

As we have seen, the geld of the males was practiced and it is almost a certainly the net prevalence of the females that could be used for milk production (as well as milk derivative) but also for animal engine as well as the geld individuals (fewer than the female individuals).

Taking into consideration their high-size and also their frequency, we must show that they offered the greatest quantity of meat not only in comparison to other domestic mammals, but even globaly, covering about

50% of the animal protein necessity of the human population from the settlement.

Ovicaprines have a less rate than *Bos taurus*, its frequency being even lower than in the other two precucutenian sites: Târpeşti and Traian-*Dealul Viei* whose fauna has been studied (up to now). We may ascertain that the goats are almost as frequent as the sheep. It is known that the goat is more prolific and at the same time it gives more milk than the sheep; the sheep might have not been used for their wool, for the time being, their body might have been still covered only with hair, like their wild ancestors, or having only wool tufts – so a very low productivity. But a great number of goats could evidentiate another aspect: the existence of some disafforested areas around the settlement, gradually covered by a wooden vegetation, this being the most proper biota for the goat.

The pigs are even less represented than the ovicaprins, also a characteristic for the Târgu Frumos site. Evidently they were bred only for meat and maybe for fat and their low frequency show that the inhabitants didn´t consider too advantageous the breeding of a monovalent species, although it is very prolific and with a more growing rhythm than those of the ovicaprins .

Concerning the slaughters age for the three domestic groups (table 21), being under human control and easily manipulated, the strategy is more efficient: the subadults, youths and the adults constitute a half of slaughtered individuals, much of them probably being males (at birth the sex-ratio is 1/1, that´s why the males are more rapidly slaughtered) – aspect evidentiated at *Bos taurus* after its horn cores – the ones belonging to young individuals are generally of the male origin (table 7).

We should say, after we presented the three domestic mammal groups of economic importance, that for two of them *Bos taurus* and *Sus scrofa domesticus*, for which their wild ancestor *Bos primigenius* and *Sus scrofa ferus* are native, living together with the domestic ones, hibrids are formed trough natural crossing, about that time, cattle and pigs were bred totally free, not in stabling conditions. These hibrids have been evidentiated but we distribute either to the two domestic species or to the two wild ones, based on their similar size.

As regarding the dog, we must say that all the remains coming at least from the adults, especially old fragments of relatively blunt carnassial

being observed. Although the so-called "palustris" type is relatively low-sized, we don't believe in the existence of dogs as companions.

All the domestic animals, including dog (which is considered uneatable) provide subproducts after slaughtering. A series of the bone removal and meat chunking technique characteristics can be evidentiated on *Bos taurus* (the most frequent one) but also on material coming from other species, largely similar to the one observed on the remains discovered by us in pit 25 (HAIMOVICI 1999) .

By taking into account these facts and the frequency of the different bony fragments (table 1, 2, 3, 4), we may say that the processing and slicing the animal body – this being of great importance for the wild animals- has been made at once, inside the site not where they were hunted. We mention an interesting aspect connecting the way of food preparing, aspect notified on the material in pit 25, for the relatively many bony fragments, there is none calcined, not even easily burn, showing that meat wasn´t roast, but boiled in pots.

We must refer to the situation of the tools made of antlers and bones as well as the splinters resulted from their manufacturing. There are even less in comparison with the material discovered in 25 pit, except those mentioned in the roe deer´s description. *Capreolus capreolus* with his long limbs bones is almost the unique supplier for the rough material necessary for making the little, tiny bony tools. During the lately periods of the prehistory and history when this species became relatively rare, the ovicaprins substitute it as a purveyor. The people living those ancient times must have been observed, in an empiric way, that the bones of *Capreolus capreolus*, from the biomechanical point of view, are more advantageous end maybe easily processable.

We cannot end without a concise presentation of some fragments with marks of some diseases that affected the skeleton. We should mention two individuals with parodontosis: a fragment of the mandible from a relatively young individual *Bos taurus* (estimated age – 2 years) with a tipical marginal parodontosis and another fragment of mandible coming from a very old *Sus scrofa ferus*, which has a very advanced marginal parodontosis on the anterior part of M_3, at this level a very deep cavity – a fistula, going to the dental conduct (fig. 4). There are also two pieces which evidently caused the ankylosing of some mobile joints. Thus at the stilozeugopodal joint level of the anterior member of *Capra hircus*, in front

of the radius –ulna connection, there are some very strong exophite which have totally immobilized the two bones. The other piece is connected with the joint between the second and the third phalanx of a *Bos taurus* at the joint surface level on the hoof´s external side, a very bulky formation of spongy bone has been produced, caused maybe by the uncontrolled activity of the podophilosus tissue, formation which doesn't affect the plantal face of the third phalanx; we believe that the interphalangial joint became unfunctional.

IV.The Environment of the Settlement in the Incipient Eneolithic

From what has been known, up to now, it must have been a warmer climate than the actual one (the atlantic period), at least in the first part of the eneolithic, but it couldn't have influenced too much the vegetation characteristics, which, considering the settlement's latitudinal position and the local altitude it couldn't be than a nemoral level one made up of mezophile oak wood, having *Quercus robur* as a dominant species. The oak woods, especially those of low altitude (popular denominated "dumbrăvi"), are woods with a less density of trees and that's why more bright (lighted); allowing the existence, besides the tree level, of a rich level of bushes and wooden shrubs and of a various herbal level made up of yearly and perennial plants.

The mentioned facts are sustained by the faunistic material studied by us. There have been founded seven species of wild mammals: the red deer, the boar, the roe deer, the aurochs, the beaver, the bear and the wolf, whose etoecology comes to decipher the characteristics of the environment around the settlement. The first two species are stenoecious being part of the forest ecological group especially of the forest with falling leaves type being met in the great and old forests (the real woods) which have glade areas and muds where they can bathe themselves. The oak wood offers enough food for these species, on one hand, the mesophiles lawns from the glades but also the herbs among the trees and the rich and varied subtrees level for the red deer and, on the other hand, the very thick litter for the boars, where they can scratch at will and also great amounts of acorn; in this context, we should placed the bear, which feels at "home" in this wooden environment. The roe deer as well as the aurochs (an extincted

species) are considered rather skirt species might have been found in more opened (clears) areas subtrees, vaster lawns scattered with clusters of trees than deep in the woods they used to find an optimum environment on the surface limiting the wood, surface endowed with all the above mentioned characteristics, but at the same time, under the human's existence conditions, in the disafforested areas, left uncultivated, regenerating themselves, passing through a phasis with young trees and bushes; in this environment, connected with the three brooks, the beaver had optimum life conditions.

It is also possible that those marshy areas placed nowadays not far from the settlement, might have been part of the forest, the real eutrophic swamps around which weak essence trees were growing. In connection with a forest environment, the pluviosity might have been increased and the brooks, partly enclosed by the forest, might have had a greater flow, allowing the development of at least one row of weak essence trees along them.

It is obvious that man used to have a destructively action upon the forest in order not only to get new lands for agricultures of different kinds, but also for the need of wood, maybe for the parapets´rising on the ditches´sides, but mostly for combustion. The forest used to have some regeneration abilities, but due to the high civilization level of the respective culture, the demographic index being relatively high, that makes us believe that starting even, with this period the limitation of the forest becoming obvious, little by little, resulting the forest-steppe, of which we believe it is an artificial form, the human activity having a great part in its making. Simultanously, the red deer dissapeared from the low altitude areas, being present, nowadays, within a pericarpatic area; the wild boar also reduced its life area, being seen mostly in woods made up of hilly forest with *Quercus petraea* and bushes, popular "gorunete"; the aurochs extincted. Thus, the human involvment in the vegetaton's changing is rather old, but his severe intervention has been made in our country, later than in others only towards the modern period, when the demographic index rapidly increased, the cultivated areas greatly extended and the wood gained many uses.

Translated by *Monica Popa*

Table 10.1. The measurements of ***Ovicaprinae*** horn cores.

	Ovis aries		Capra hircus	
1. Greatest length	(100)	(92)	(200)	-
3. Greatest diameter	35	44	44	41
4. Smallest diameter	(22)	24	31	28
5. Circumferince	(108)	120	(125)	114
6. Ind 5x100/1	108,00	122,44	62,50	-
7. Ind 4x100/3	62,85	54,54	70,45	68,29
Type	-	-	"prisca"	"prisca"
Sex	F	F	M	F

Table 10.2. ***Ovicaprinae*** - Withers height.

		Ovis aries		Capra hircus	
RADIUS	Greatest length	129	140	-	-
	Proximal breath	28	28	-	-
	Proximal artic. surface breadth	26	27	-	-
	Proximal diameter	15	15	-	-
	Smallest diaphysis	15	15	-	-
	Distal breadth	24	25	-	-
	Distal diameter	18	18	-	-
	Withers height	518,6	562,8	-	-
META-CARPUS	Greatest length	124	-	-	-
	Proximal breadth	21	-	-	-
	Proximal diameter	20	-	-	-
	Smallest diaphysis	18	-	-	-
	Distal breadth	23	-	-	-
	Distal diameter	-	-	-	-
	Withers height	606,0	-	-	-
	Sex	M	-	-	-
META-TARSUS	Greatest length	-	-	115	116
	Proximal breadth	-	-	17	18
	Distal breadth	-		17	18
	Smallest diaphysis	-	--	11	11
	Distal breadth	-	-	23	23
	Distal diameter	-	-	15	15
	Withers height	-	-	614,10	619,44

Table 11. ***Sus scrofa domesticus***. The variability and the average of measurements.

		No.	Variability	Av.
MANDIBLE	M_3 length	3	43-45	43,67
	M_3 breadth	3	19-20	19,66
SCAPULA	Greatest length of artic head	3	(32)-37	34,34
	Artic. Surface length	3	24-32	28,00
	Artic. Surface breadth	3	22-25	23,67
	Breadth of colum	3	21-24	22,34
COXAL	Acetabular diameter	4	34-36	35,00
PHALANX I	Greatest length	2	36;40	-
	Proximal breadth	2	17;18	-
	Smallest diaphysis	2	13;15	-

Table 12. ***Canis familiaris***. Measurements.

		Measurements				
		A	B	C	D	E
CRANIUM	Greatest length	185	-	-	-	-
	Condillary length	(161)	-	-	-	-
	Basal length	(152)	-	-	-	-
MAXILLARY	$P^1 – M^2$ length	68	-	-	-	-
	$M^1 – M^2$ length	19		-	-	-
	$P^1 – P^4$ length	52	46	-	-	-
	Carnassial length	20	19	-	-	-
	Carnassial breadth	11	9	-	-	-
MANDIBLE	Cond.-ant. Part of I_1 alveolus length	133	-			
	Angular apophyz.-ant. part of I_1 alveolus length	136	-			
	Cond.-post.. part of C_1 alveolus length	119	-			
	Subcond. Hollow - post. Part of C_1 alveolus length	113	-			
	Angular apophyz.-post. part of C_1 alveolus length	118	-			
	P_1 - M_3 length	67	-	64		
	P_1 - P_4 length	34	-	31	32	34
	M_1 - M_3 length	40	-	36	-	-
	Cingulum carnassial length	22,5	-	22	20,5	20,5
	Carnassial alveolus length	22	-	21,5	20,5	20,0
	Carnassial breadth	8	-	8	7	7
	Cranium basal length: Brinckmann (average)	164,23	-	-	-	-
	Idem Dahr	150,3	-	141,6	-	-
HUMERUS	Distal breadth	28				
	Distal artic. surface breadth	26,5				
	Distal diameter	24				
ULNA	Proximal breadth	14				
	Proximal diameter	9				
FEMUR	Proximal breadth	33				
	Proximal diameter	17				

Table 13. ***Equus cabalus***. Measurements.

TALUS	Greatest length	56
	Greatest breadth	63
	Artic. surface breadth	52
PHALANX I	Greatest length	80
	Proximal breadth	56
	Proximal diameter	33
	Proximal artic. surface breadth	51
	Distal breadth	47
	Smallest diaphysis	34
PHALANX III	Greatest length	(70)
	Greatest breadth	(81)
	Artic. surface breadth	56
	Hoof highness	(58)

Table 14. ***Cervus elaphus***. The variability and the average of measurements.

		No.	Variability	Av.
SCAPULA	Greatest length of artic. head	4	61-67	63,75
	Artic. surface length	4	46-53	50,50
	Artic. surface breadth	4	42-46	44,75
	Breadth of colum	7	32-45	37,85
HUMERUS	Distal breadth	4	68-72	69,00
	Distal artic. surface breadth	4	63-67	65,00
	Distal diameter	4	64-67	65,25
RADIUS	Distal breadth	1	59	-
	Distal artic. surface breadth	1	56	-
	Distal diameter	1	55	-
ULNA	Artic. surface breadth	2	35;35	-
	Olecran length	2	80;81	-
TIBIA	Proximal breadth	1	(80)	-
	Proximal diameter	1	67	-
	Distal breadth	1	55	-
	Distal diameter	1	41	-
TALUS	Lateral greatest length	1	60	-
	Distal breadth	1	37	-
CALCANEUS	Greatest length	1	76	-
	Greatest breadth	1	39	-
METACARPUS	Proximal breadth	1	40	-
	Proximal diameter	1	(30)	-
	Distal breadth	1	49	-
	Distal diameter	1	36	-
METATARSUS	Distal breadth	2	52;56	-
	Distal diameter	2	35;37	-
PHALANX I	Greatest length	1	59	-
	Proximal breadth	1	22	-
	Proximal diameter	1	28	-
	Distal breadth	1	19	-
	Smallest diaphysis	1	19	-
PHALANX III	Greatest length	1	65	-
	Artic. surface breadth	1	21	-

Table 15. ***Capreolus capreolus.*** The variability and the average of measurements.

		No.	Variability	Av.
MANDIBLE	P_2 - M_3 length	5	63-71	68,00
	M_1 - M_3 length	5	39-43	41,00
	M_3 length	7	15-18	16,42
SCAPULA	Greatest length of artic head	6	29-32	30,50
	Artic. surface length	6	21-24	22,50
	Artic. surface breadth	6	22-24	23,00
	Breadth of colum	7	18-22	19,71
HUMERUS	Distal breadth	5	27-33	29,80
	Distal breadth of artic. surface.	4	27-28	27,50
	Distal diameter	5	25-30	27,60
RADIUS	Proximal breadth	1	27	-
	Proximal breath of artic. surface	1	25	-
	Proximal diameter	1	14	-
	Distal breadth	1	29	-
	Distal diameter	1	22	-
ULNA	Artic. surface breadth	1	6	-
	Olecran length	1	34	-
COXAL	Acetabular diameter	2	(26); 30	-
TIBIA	Proximal breadth	1	(35)	-
	Proximal diameter	1	37	-
TALUS	Lateral greatest length	3	26-32	28,34
	Distal breadth	3	16-19	17,00
CALCANEUS	Greatest length	1	(63)	-
	Greatest breadth	1	21	-
METACARPUS	Proximal breadth	3	19-21	20,00
	Proximal diameter	3	15-16	15,34
	Distal breadth	3	23-29	25,00
	Distal diameter	3	15-17	15,67

Table 16. ***Sus scrofa ferus***. The variability and the average of measurements.

		Nr.	Variability	Av.
MANDIBLE	M_1 - M_3 length	3	85-87	86,00
	M_3 length	5	45-47	45,40
	M_3 breadth	5	21-23	22,00
SCAPULA	Greatest length of artic. head	3	42-49	46,34
	Artic. surface length	3	39-40	39,67
	Artic. surface breadth	3	30-35	33,34
	Breadth of colum	3	30-37	33,70
HUMERUS	Distal breadth	5	50-57	52,80
	Distal artic. surface breadth	5	37-54	45,40
	Distal diameter	5	47-56	52,20
RADIUS	Proximal breadth	1	42	-
	Proximal artic. surface breadth	1	41	-
	Proximal diameter	1	29	-
	Distal breadth	4	44-55	48,25
	Distal diameter	4	33-39	36,00
ULNA	Artic. surface breadth	4	30-32	31,25
	Olecranon length	2	85;95	-
COXAL	Acetabular diameter	4	41-43	41,75
	Greatest length	1	(232)	-
TIBIE	Distal breadth	4	37-(42)	39,50
	Distal diameter	3	31-(38)	35,00
	Distal artic. surface breadth	4	32-38	34,25
TALUS	Lateral greatest length	2	50;50	-
	Distal breadth	2	29;30	-
CALCANEUS	Greatest length	2	96;105	-
	Greatest breadth	2	25;26	-
METACARPUS IV	Greatest length	1	(99)	-
	Withers height	1	1013	-
PHALANX I	Greatest length	3	44-55	50,34
	Proximal breadth	3	22	22,00
	Smallest diaphysis	3	17-18	17,67
PHALANX III	Plantar length	1	42	-
	Artic. surface breadth	1	17	-
	Hoof height	1	20	-

Table 17. The measurements of ***Bos primigenius*** horn cores.

	1	2	3	4	5
1. Greatest length	670	650	-	390	380
2. Smallest length	510	490	-	310	290
3. Greatest diameter	96	145	146	96	80
4. Smallest diameter	84	117	114	80	66
5. Greatest diameter at 5cm of base	84	114	(110)	85	70
6. Circumferince	280	420	420	275	230
7. Ind 2x1oo/1	76,11	75,38	-	79,48	76,31
8. Ind 6x100/1	41,79	64,61	-	70,51	60,53
9. Ind 4x100/3	87,50	80,69	78,08	83,34	82,50
10. Ind 3-5	12	31	36	11	10
Sex	F	M	M	F	F

Table 19. ***Ursus arctos***. Measurements.

SCAPULA	Greatest length of artic head	(83)
	Artic. surface length	(64)
	Artic. surface breadth	(38)
	Breadth of colum	(89)

Table 20. ***Castor fiber***. Measurements.

		No.	Variability
MANDIBLE	Greatest length	1	102
	Lower teeths	2	36;36

Table 18. ***Bos primigenius*.** The variability and the average of measurements.

		No.	Variability	Av.
MAXILLARY	M^3 length	3	32-35	33,00
	M^3 breadth	3	25-26	25,34
MANDIBLE	M_1 - M_3 length	2	96;105	-
	M_3 length	4	42-45	43,50
	M_3 breadth	3	16-19	17,67
SCAPULA	Greatest length of artic. head	3	(90)-99	93,67
	Artic. surface length	3	61-74	67,00
	Artic. surface breadth	3	72-80	77,00
	Breath of colum	3	70-75	72,00
HUMERUS	Distal breadth	7	97-113	105,43
	Distal artic. surface breadth	6	90-106	94,00
	Distal diameter	7	83-115	94,00
RADIUS	Proximal breath	5	99-115	109,00
	Proximal artic. surface breadth	5	90-105	98,40
	Proximal diameter	5	47-60	54,40
	Distal breadth	1	80	-
	Distal artic. surface breadth	1	75	-
	Distal diameter	1	60	-
ULNA	Artic. surface breadth	1	60	-
COXAL	Acetabular diameter	2	81; 82	-
FEMUR	Distal breadth	1	109	-
TIBIA	Proximal breath	3	(124) – 137	131,67
	Proximal diameter	3	114-135	127,67
	Distal breadth	5	81-90	85,00
	Distal artic. surface breadth	5	75-77	75,80
	Distal diameter	5	62-67	64,40
TALUS	Lateral greatest length	7	(80)-96	86,57
	Distal breadth	7	50-65	56,57
CALCANEUS	Greatest length	2	163;181	-
	Greatest breadth	2	61;62	-
CENTRO – TARSUS	Greatest length	1	78	-
METACARPUS	Proximal breadth	2	80;80	-
	Proximal diameter	2	45;51	-
	Distal breadth	2	81;82	-
	Distal diameter	2	42;45	-
METATARSUS	Proximal breadth	2	63;64	-
	Proximal diameter	2	60;61	-
	Distal breadth	1	(75)	-
	Distal diameter	1	43	-
PHALANX I	Greatest length	6	77-86	80,17
	Proximal breadth	7	35-40	37,85
	Proximal diameter	7	40-49	43,71
	Distal breadth	6	31-38	34,34
	Smallest diaphysis	6	30-33	31,67
PHALANX II	Greatest length	4	52-60	55,25
	Proximal breadth	4	37-44	41,00
	Proximal diameter	4	38-47	42,75
	Smallest diaphysis	4	29 –(35)	32,50
PHALANX III	Plantar length	1	(90)	-
	Artic. surface breadth	1	30	-
	Hoof highness	1	40	-

Table 21. The frequency of slaughter's age.

Bos taurus

Age	No.	%
- 1 year	6	8,11
-2year	14	18,91
2-2,5 year	13	17,56
2,5-3,5year	7	9,46
3,5-4year	16	21,62
4-5year	7	9,46
5-7year	6	8,11
7-10year	4	5,40
>10year	1	1,35

Bos primigenius

Age	No.	%
- 1 year	-	-
-2year	1	7,69
2-2,5 year	2	15,38
2,5-3,5year	1	7,69
3,5-4year	3	23,07
4-5year	3	23,07
5-7year	2	15,38
7-10year	2	15,38
>10year	-	-

Sus scrofa domesticus

Age	No.	%
6 month	1	10,00
6-12 months	2	20,00
12-18 months	1	10,00
18-24 months	1	10,00
2years	2	20,00
2-3years	3	30,00
3-4years	2	20,00
4-5years	-	-
5-7years	-	-
>7years	-	-

Sus scrofa ferus

Age	No.	%
6 month	1	4,54
6-12 months	-	-
12-18 months	1	4,54
18-24 months	-	-
2years	2	9,09
2-3years	3	13,63
3-4years	4	18,18
4-5years	3	13,63
5-7years	4	18,18
>7years	4	18,18

Ovicaprinae

Age	No.	%
-3 month	1	3,33
6-9 months	1	3,33
9-12 months	2	6,67
12-24 months	12	40,00
2-3years	3	9,99
3-4years	3	9,99
4-5years	4	10,00
5-7years	3	9,99
>7years	1	3,33

Capreolus capreolus

Age	No.	%
-1year	2	14,28
-2year	1	7,14
2-3year	1	7,14
3-4year	3	21,42
4-5year	3	21,42
5-7year	3	21,42
>7year	1	7,14

Cervus elaphus

Age	No.	%
-1year	2	10,00
-2year	3	15,00
2-3year	3	15,00
3-4year	5	25,00
4-5year	5	25,00
5-7year	2	10,00

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