

## *Review Articles*

### **Some Dental Problems of the Romanian Bronze Age**

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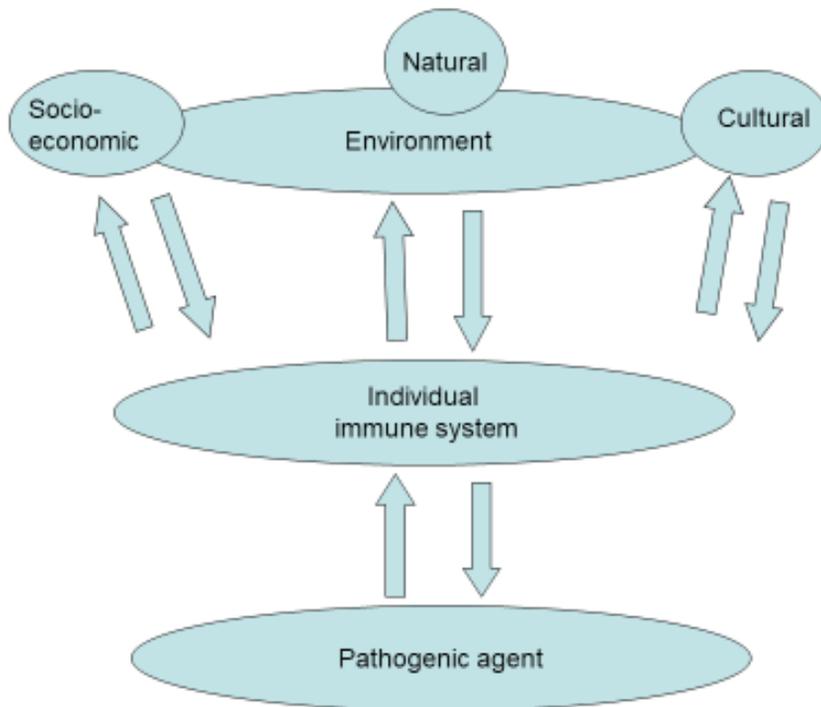
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The evolution and history of past communities have shown us that the human body is in permanent change, meaning in a dynamic balance, in order to get adapted and compensate the environmental modifications, which occurred over time. Moreover, its pathology, both dental and skeletal, is also different, depending on the conditions of the natural, socio-economic and cultural environment in which those people had lived. This paper refers to the dental pathology in the Bronze Age Romania, which is obviously variable, depending upon the populations that we refer to and the food regime that they had. The most important aspect that we want to emphasize is that an obvious difference could have been observed between the dental pathology of the bearers of the tumular ochre burials (Yamnaya, Mnogovalikovaya and Katakombnaya cultures) compared to the other ethnic groups, existing during that time.

*Key words:* dental pathology, Bronze Age, skeletons, Romania

### **Introduction**

Bronze Age was an epoch characterized by large population movements, which affected not only the territory of today Romania, but also the entire Europe. The larger, or smaller ethnic groups which migrated from one place to another, had interacted with the environment (which was a natural, socio-economic or cultural one) (**Fig. 1**) but also the local communities. Some consequences could be observed, either on one, or another of them. In Romania, for instance, the bearers of the tumular ochre burials had exerted an obvious influence upon the cephalic index of the local populations, which, during the Bronze Age, had decreased in the extra-Carpathian regions, but, they had also changed, at least in part, some of the dental pathology existing in the epoch, by their mixture with other communities from this region. As they were semi-nomadic steppe populations, they used to consume, besides meat, also milk and dairy products and



**Fig. 1**

this provided them with whiter and healthier dentition, compared with other people of those times. Moreover, the food regime initiated the formation of an alkaline milieu in the mouth of those people, which favored the appearance of tartar, also named dental calculus. Thus, they could be easily distinguished from other populations.

The other ethnic groups of the Bronze Age had consumed both products resulted from cattle breeding, but also from the practice of agriculture, the latter ones being richer in fibers and carbohydrates. These were not only more abrasive, but they also created acid conditions in the mouth of those individuals, which were favorable for the caries occurrence. As we could see, tartar and caries excluded each other, as they used to appear in distinct, different conditions (acid and alkaline). The poor mouth hygiene had also favored the existence of other pathologies, like parodontosis.

## **Materials and methods**

We have studied the dental pathology existing in various skeletal series of the Romanian Bronze Age (Păuleni-Covasna County, Tureni-*La Furci*-Cluj County, Truşeşti-Botoşani County, Trestiana-Vaslui County, Leţcani-Iaşi County, Covurlui Plain-Galaţi County) we have used the macroscopic examination of the teeth, sometimes using also a magnifier.

The methodology is the one existing in the Dental Anthropology [4] practice and in the Human Paleopathology [6], in general.

## Results

In a study of dental pathology that was done during the 6th decade of the past century, it was mentioned that the most important aspect of this kind was represented by caries, whose incidence had grown constantly, beginning since prehistory up to the recent times. In fact, during the Neolithic and metal ages, the caries frequency was similar, being situated between 20 and 30%, while a remarkable increase in its occurrence was noticed just later, in the pre-feudal series (53%) when, a significant change in the food regime of those communities must have appeared [3].

In present day Romania, there are no other similar complex analyses but, the general picture existing by now had shown that, during the Bronze Age, caries had remained on the first position as concerns dental pathology, in spite of exceptions, like bearers of the tumular ochre burials, mentioned above. Still, even in such communities, there were situations when caries existed, like in the series from Cămpia Covurlui (Galati County), comprising 39 skeletons. The caries had affected just the crown and root of the teeth in that series [1]. It is interesting to note that, also, in the populations that were mixtures between the local and steppe communities, the same healthier dentition could be found. We could mention here, as examples, the skeletal series from Trușești (Botoșani County), comprising 127 skeletons, which had a small incidence of caries. Also, at Lețcani (Iași County) and Trestiana (Vaslui County), also with Noua skeletal finds, no caries could be found [5]. Of course, this diversity with regard to the presence, or absence of the caries could be explained by the food customs and habits of the people, which are very important and sometimes change the entire food regime of some individuals, or families. We should not forget that the caries is also connected with the absence of fluorine, that assures protection of the teeth enamel against the acid conditions in the mouth.

**Dental abscess**, is a complex problem, which might be a complication of a carious process, but it could be, also, the result of an injury or of an intense wear of the teeth, thus the dental pulp being exposed. Initially, a granuloma is created, after the spreading of infection (pulpitis) from the dental pulp towards the apex of the tooth. This is accompanied by an intense pain and pus accumulation that, finally, results in the formation of a dental abscess. In fact, this is a pus bag but, it is very dangerous for the life of the respective individual, as the pus might get disseminated through the blood stream and produce septicemia. A very large dental abscess could be found on a female skeleton discovered at Tureni-*La Furci* (Cluj County – **Fig. 2**), having the dimensions of 17,56x11,21 mm. As the bone structure around the respective molar was much affected, we could not say, for certain, which was the initial cause that produced this dental abscess. Such a pathological condition was not frequently found in other Bronze Age series, but some cases could be found in the sample from the Covurlui Plain (Galați County) [1].

**Tartar**, as already mentioned, was often present in the series belonging to the bearers of the tumular ochre burials but also in other skeletons of the Bronze Age, being an indicator of the food regime consisting in meat, milk and dairy products.



**Fig. 2**

based upon the receding position of the dental alveolus and often without taking into consideration the presence of inflammation signs upon it. Still, when we have already several teeth missing, like in a male mandible from Păuleni-Ciuc (inv. no. 7311), Harghita County, with the age of 40-45 years, we could be sure that this situation was determined by such a pathological condition [2].

## **Dicussion**

Every new finding of dental paleopathology brings its contribution to a better knowledge, not only about the health conditions in past communities, but also, about their lifestyle and social organization, occupations, individual activities (when teeth are used as tools), as well as some rituals, in which teeth were involved (**Fig. 2**). This paper had referred strictly to the more usual interpretations related to teeth, which are the social-economical ones, that we have considered as being more appropriate for the topic of the Morpho-Days Conference, as their ritual, or symbolical meanings were closer to archaeology, the same like their use as tools. Therefore, this study of the teeth was somehow limited but, we hope it still brought some interesting information.

## **Conclusions**

This paper had provided a glimpse into the importance of the teeth in the archaeological samples of the Bronze Age as, besides other aspects specific to a society, they reflected all types of living conditions in which those communities had lived. Of course, as expected, we could observe the lack of mouth hygiene, which favored the infections and their complications, beginning with the carious process which was more frequently found and dental abscess which was rarely documented and ending up with parodontosis. Tartar was not an infection but it facilitated such processes that would have affected the gums and surrounding tissues.

**Parodontosis** is the result of the poor hygiene of the mouth. The mentioned condition is usually associated with a porous appearance of the maxillaries in the region of the teeth and also with their loss. Still, this problem could not be so easily established as, in the archaeological skeletal samples, there are also taphonomic factors that might act in a manner that results in the same effects upon the teeth and surrounding bone. In fact, we believe that, the presence of parodontosis is rather often overestimated, simply

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