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STATE OF THE DENTITION OF THE BRONZE AGE POPULATIONS

The dentition of the recent population is more and more intensively affected not only by caries but also by other changes of both the hard and soft tooth tissues. Since we wanted to understand the increased intensity of these changes and their etiology, we have decided to examine the osteological material from various archaeologically defined periods:

Our material was formed by 5 specially selected samples (from the collections of the Anthropological Dept. of the Archaeological Institute of the Czechoslovak Academy of Sciences):

1. Bronze Age, Únětice culture.
2. Period of the Slavnikovci Dynasty (9th cent. to mid-11th cent.) from the locality Libice nad Cidlinou near Poděbrady.
3. Prague population from the surrounding of the Černín Palace, 10–12th cent.
4. Oškobrh, Middle Ages (Gothic Period), 14th to 15th century.
5. Oškobrh Modern Times (Renaissance), 16th to 17th century.

Chart No. 1 shows the number of examined skulls divided in to the individual epochs, to males and females and to the adult and mature age groups. It appears from the chart that some 50 skulls have been examined in each sample.

The results of the examination of the teeth in all categories of male skulls are indicated in chart No. 2. The columns are for intact teeth, teeth with stopped caries (caries nigra), teeth affected by caries, radices and intravitaly lost. The Bronze Age is characterized by a large number of teeth with stopped caries in both jaws — in other periods this phenomenon appears very seldom or is completely unknown. The number of caries affected teeth in the Bronze Age skulls corresponds roughly to the

number of carious teeth in the Libice skulls. The number of radices is practically the same in all epochs. The number of intra vital losses is in keeping with the losses in the Libice material, and even with the Medieval Oškobrh material.

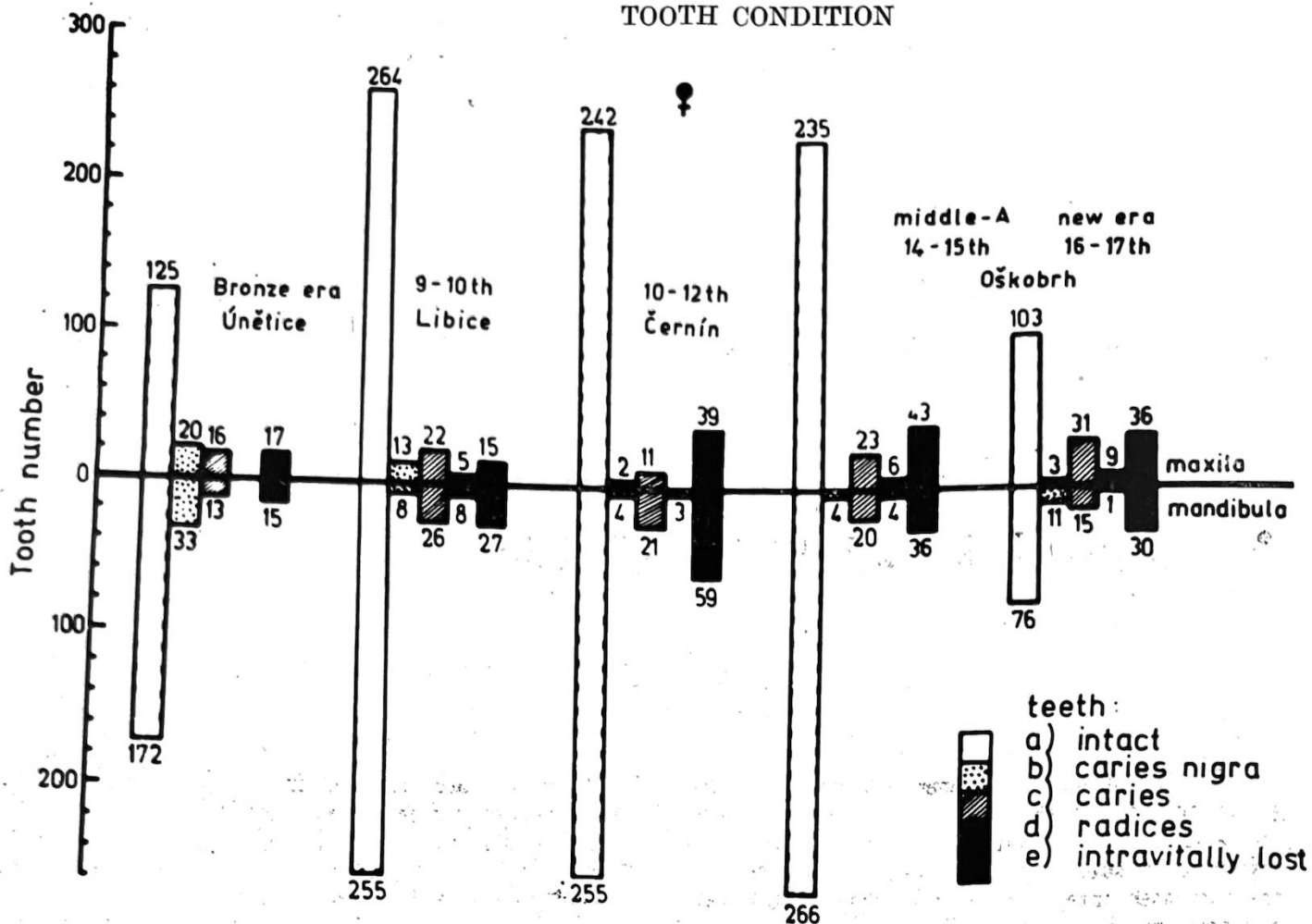
Chart No. 3 dealing with the dentition of women indicates similar conditions. The teeth with stopped caries prevail over the other periods. It is interesting that not a single radix occurred in the group of the Bronze Age women.

The two previous charts dealing with men informed us besides the state of the dentition also about the quantity of the caries. Chart No. 4 indicates the quality of caries in men: we have divided it into three groups: superficial, caries profunda and gangrene. In the Bronze Age, similarly as in most of the other period prevails the superficial caries and caries profunda and gangrene occur in relatively very small numbers, similarly as in the group of finds from the period of the Slavnikovci Dynasty. We show in this chart also the conditions in the 10th and 16th centuries, when gangrene and caries profunda almost prevail.

Chart No. 5 dealing with women is quite in keeping with the conditions of men, emphasizing furthermore what has been said of the 10th and 16th centuries.

Besides the above indices we followed also the occurrence of tartar. We considered its hue, location, fragility and adhesion to the hard tooth tissues. The subgingival tartar was considered according to its black-brown and black-green hue. We found it in various positions. Sometimes it had twisting garland-shape, in other instances if formed cinguli around the neck of the tooth. In some cases it adhered to the enamel or cement in the form of dots or isolated incrustations or flat sediments on

TOOTH CONDITION



the approximal surfaces of the enamel or cement. The subgingival tartar was determined according to the light, eventually yellow hue. Its consistency was fragile, gypsum-like. Tartar was evaluated also according to the Martin-Saller scale in three degrees. We found it chiefly, similarly as in the recent population, on the oral side of the lower incisors and on the vestibular side of the upper molars.

The presence of teeth with tartar was a very important index for the evaluation of the dentition. We realized that the percentage of teeth affected by tartar was steadily increasing from 15 per cent in men and 9 per cent in women in the Bronze Age to 42 per cent in the Middle Ages and 45 per cent in the Modern Times.

Further we considered also the resorption of the alveolar process as an important factor influencing the state of the teeth. It was evaluated according to the Martin-Saller scale, i.e. teeth without resorption were marked as 0, further degrees were 1, 2 and 3. This phenomenon was studied from various viewpoints and the material was divided according to sex and age (adult and mature groups). The results were indicated separately for the medial

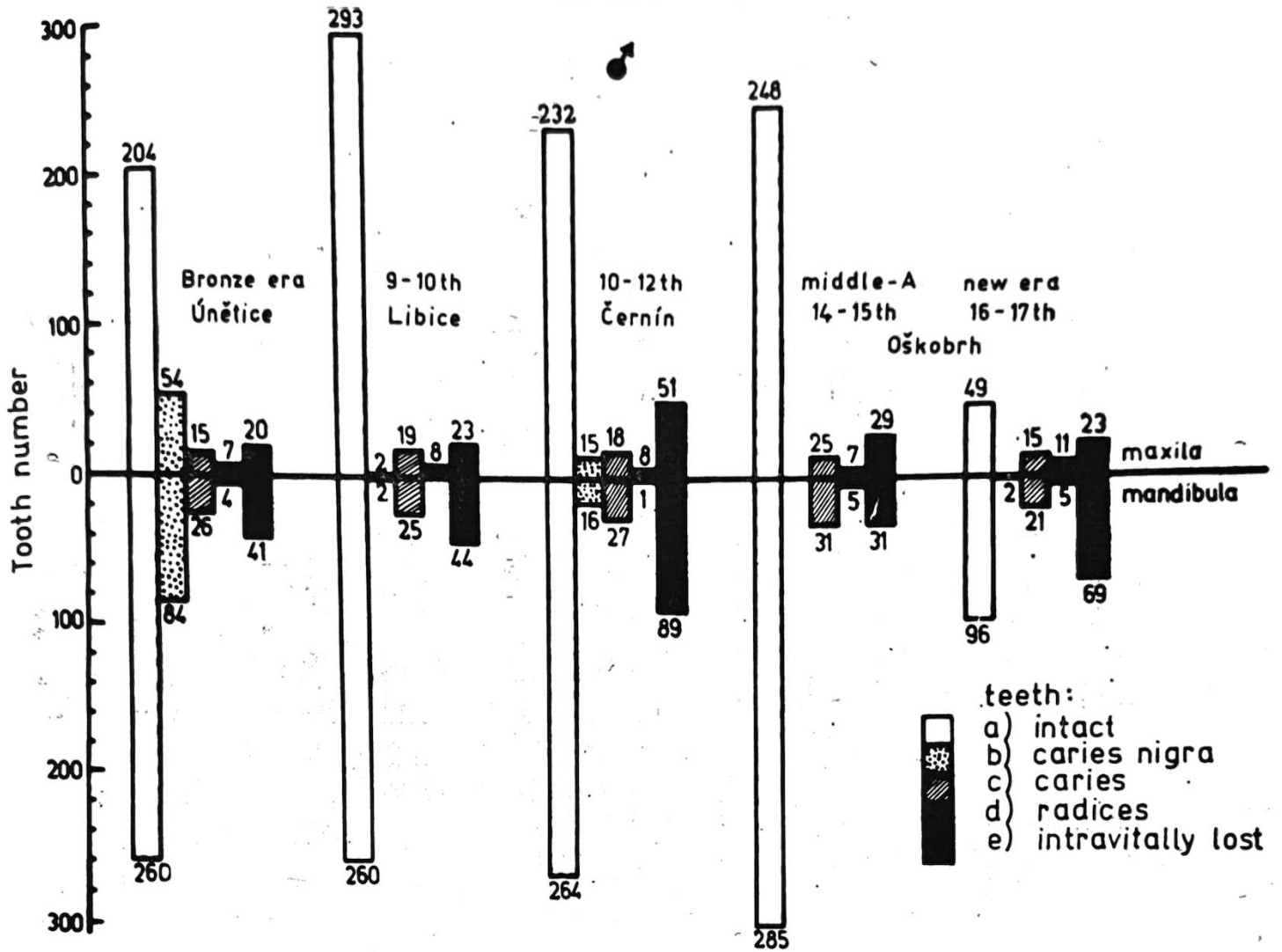
section, i.e. incisors and canines, and for the lateral section.

In men in the group of the adults prevailed 0 resorption degree in both jaws. In the mandible relatively frequently appeared the 1st and 2nd degrees. The medial section was similar as the lateral only in the maxilla, in the mandible prevailed the 1st and 2nd degree. In the mature group prevailed in both jaws and also in both sections the 3rd degree.

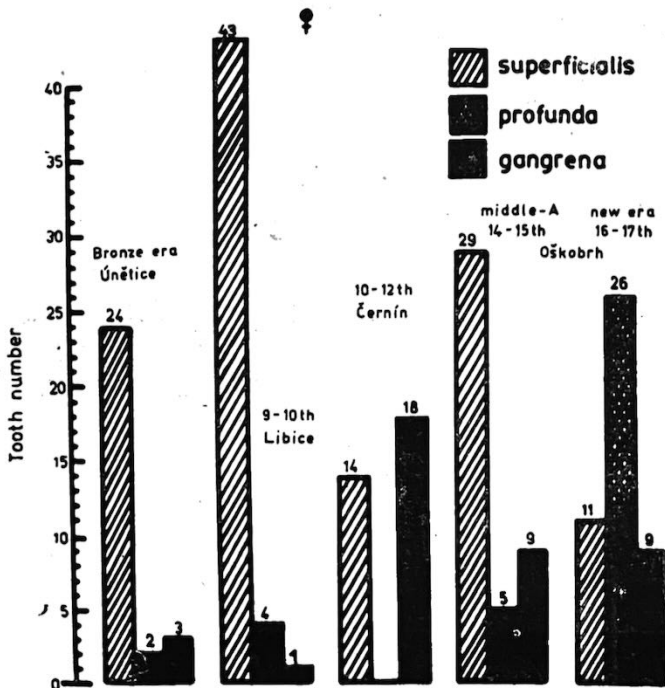
In the group of adult women the situation is similar as in the group of men. In the lateral section prevails 0 degree in both jaws. In the medial section prevails 0 degree in the upper jaw and 2nd and 3rd degree in the lower jaw. In the mature group in the lateral section appears the 3rd, 1st and 2nd degrees in the upper jaw and in the mandible are represented all 4 degrees. In the mature group in the maxilla prevails the 2nd degree and in the mandible the 3rd degree.

In this context we were looking for relations with tartar and we have found that the appearance of tartar is not influenced by the degree of resorption of the alveolar process.

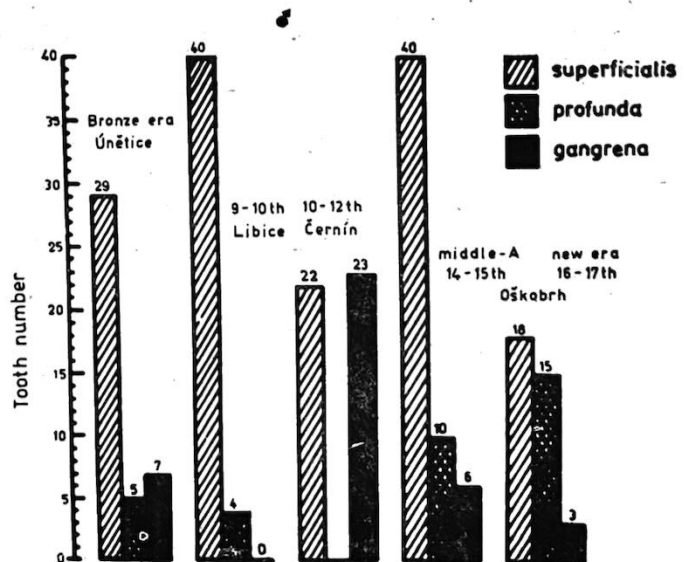
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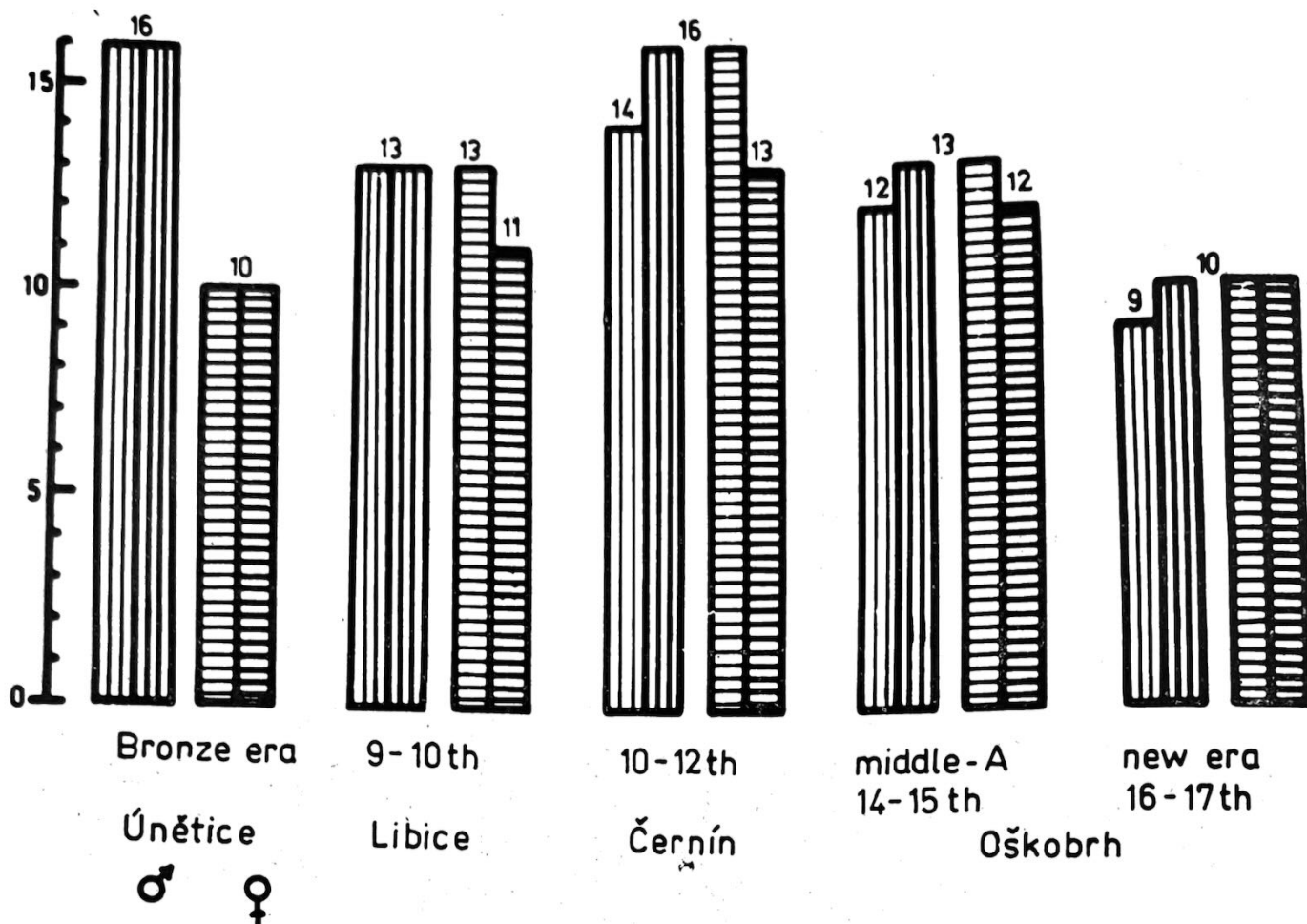
CARIES TYPES



CARIES TYPES



THE NUMBER OF SKULLS IN EACH OF THE EPOCHS



CONCLUSIONS

The state of the dentition in the Bronze Age populations has the following specific indices:

1. The teeth with stopped caries in both jaws, both in men and women prevailed compared with all the other periods.

2. Caries were approximately the same as in the other periods, with the exception of the Renaissance.

3. We did not find a single radix in the Bronze Age women.

4. Superficial caries prevail; caries profunda and gangrene appear rarely.

5. Tartar appeared in this period minimally in both sexes (15 per cent in males and 9 per cent in females).

6. The resorption of the alveolar process is higher in mandibula and in the mature group. No relation of this phenomenon to the appearance of tartar was found.

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