Anotace EN

Petr Limbursky: Tři kapitoly z problematiky konce eneolitu a počátku starší doby bronzové ve střední Evropě. / Three chapters from the Late Aeneolithic and the EarlyBronze Age Transition in the Central Europe/

Encompassing the inconsistence of period of the Late Aenelithic and beginnings of the Early Bronze Age that has been widely discussed in its entirety in the literature is limited on one side by the detailed analyses of archaeological material at the levels of regions or find collections, and by the existence of supra-regional models and interpretative schemes on the other. By using detailed insights into the above-mentioned issues, the submitted thesis can draw its attention mainly to the topics of chronology based on Radiocarbon dating, testimony of change of the grave equipment in the observed period of time, and properties of burial inventories. Moreover, results of field excavations conducted by the author of so-far the most extensive cemetery of the Bell-Beaker culture in Bohemia at Vlíněves, Mělník district, have been also introduced and utilized in this thesis.

Three distinct milestones can be highlighted in development of the Radiocarbon dating method. Without questions, the first one is represented by the enforcement of credibility, applicability, and relative universality of this dating method during the 1960's and partly in the 1970's. The second milestone consists in disengagement of this method from the direct archaeological and scientific problems regarding mainly the fact that the almost philosophic issue, concerning the way how to divide the measured probability of conventional dating results using calibration among two or more incoherent time intervals, each of which can represent an independent realisation of the result, has ceased to be discussed or there has not been any need for discussing it within the scope of determination of results of this method. In fact, it was precisely in this stage of development when the Radiocarbon dating was established as an almost independent scientific discipline. Since that particular point of development onwards, a latent internal stress exists within the Archaeology regarding the way how to exactly handle the Radiocarbon data. The third distinct milestone in this method's development can be seen in elaboration and specification of individual factors that can influence the obtained results. Such uncertainty caused by practically non-revision of majority of the achieved results mirrors also in an effort to determine the maximum possible corrections with preferably the most universal validity. Another source of uncertainty is represented

by mutual comparisons of results obtained from laboratories that standardly show outliers.

Two different approaches can be identified while working with Radiocarbon dates. The first, an optimistic, is based on confidence that this method can be universally used, of course only after determination and specification of all the possible factors that may influence the data, and will yield data that can be processed in the same way as the event quotations. Currently, this approach is quite common in Archaeology, and is not completely without justification. On the other hand, this approach does not define the obvious criteria regarding the comparative data evaluation or selection. The other approach, rather pessimistic in its nature, respects the probability character of Radiocarbon information; and, as such, also processes it. Validity of this approach is substantiated mainly by quantity of various corrections (cf. for example Fig. 10), and, last but not least, by results of inter-laboratory comparisons. Mutual corrections of the data using repetitive measuring of the observed phenomenon with a hypothesis that generally the data measured under different circumstances and influences tend towards correct value of the result may lead in improvements of general chronological information.

Disputed issues associated with Radiocarbon dates have been used for processing Radiocarbon dates coming from the Late Aeneolithics and the beginning of the Early Bronze Age in Europe (Corded Ware Culture, Bell-Beaker Culture, and Unětice Culture; altogether 799 C^{14} dates). An independent methodology for processing the data has been established on the basis of the above-mentioned second approach for working with Radiocarbon dates, i.e. the pessimistic one.

Unlike the majority of information obtained during archaeological excavations, the Radiocarbon dates possess a distinct, probability character. In the case of humanities, it is more common to work with chronological information in the event representation. However, the only way to convert the probability data to the event one and vice versa is to use the re-interpretation. Proposed and elaborated methodology of Radiocarbon dates re-interpretation that is independent from accompanying information, enables processing of data files that document certain continuous phenomenon with expected course of occurrence intensity.

Overall evaluation of Radiocarbon dates cited for the Corded Ware, Beaker, and Unětice cultures analyzed after individual regions has clearly shown that the

Radiocarbon dates can not be used as primary argumentation for solution of the issue of chronological successiveness or contemporaneity of these cultures.

Comparing the testimony of Radiocarbon dates from the Alpine region with dendrochronological dating of the Corded Ware culture has clearly demonstrated a relatively low informative yield of the Radiocarbon dates regarding solution of the issue of archaeological cultures lifetime. On the other hand, application of the established procedure during analysis of absolute dating of the Proto-Unětice culture cemetery resulted in specification of its chronological position.

Hypothesis regarding absolute chronological position of the observed cultures in the Elbe Valley region has been raised on basis of the above-mentioned method applied to Radiocarbon dates. The sequence has been stated as follows: Corded Ware culture existed between the years 2590–2210, Beaker culture between 2320 and 2110, and the Unětice culture between 2130 and 1770 BC. The above-mentioned dates represent centres of cultural transformation periods. The current total number of dates forbids any further subdivision within the observed region or finer chronological categorization. The most effective usage of this method seems to be its application for analyses of absolute chronology of cemeteries with sufficient number of Radiocarbon dates (approximately more than 10 dates per supposed time duration of 100 to 200 years).

From the mentioned results clearly emerge that chronological argumentation based only on Radiocarbon dates can not solve the problem of transition of the Late Aeneolithic and beginning of the Bronze Age.

When paying attention to testimony of meaning contents of archaeological inventory originating from the selected culture transformation period, a passing methodological approach has been sought. Discussing style concepts and typological analysis has clearly demonstrated that the normative style concept leading to definition of individual types and to determination of culture or find collections, both in time and space, is less effective for analysis and description of intermediate periods. Style concept understood as a means of communication between members of communities and society can be easily applied for description of changes in archaeological material. However, this approach demands arbitrary determination of the selected region containing proposed manifestation of observed elements present in evaluated measure.

Submitted thesis also includes content comparison of individual elements of archaeological inventory of the Beaker and the earliest stage of Unětice cultures in the

regions of Central Germany, Bohemia, and Moravia. No reasons for any direct contribution of the Corded Ware culture for formation of the Unětice or Proto- Unětice cultures have been detected during analyses and evaluation of the relevant archaeological material.

Results of the performed comparisons have clearly demonstrated change in meaning contents of the burial equipment (grave goods). As far as the non-ceramic equipment is concerned, a clear shift in the burial equipment can be seen. The burial equipment changed from manifestation of a supra-regionally comprehensible and meaning-determinated symbols language regarding qualities of the dead person towards manifestation of relationship of the community to the dead. In the case of pottery, a clear shift from funerary to profane pottery can be determined. This transformation process occurred proportionally in all the observed regions with varying intensity rate, and it led to the advanced Unětice culture.

Using comparative analysis of several Bohemian cemeteries (Čachovice, Lochenice, Brandýsek, and Vlíněves) it was possible to determine the above-mentioned elements of grave goods within the Beaker material culture. Following items can be classified as basic elements related to qualities of the dead person: wrist-guards, arrow-heads, tusks, buttons with V-shaped boring, pots, and ewers. The other element within burial equipments of the Beaker culture represents relatively frequent discoveries of jugs and bowls. On the basis of performed analysis it seems clear that correlates of social or biological age or social structure can be assigned to those pottery groups, of course with a certain degree of probability. However, the above-mentioned correlates include not only manifestation of relationship to the dead person in general but also manifestation of relationship between the buried person on one side and a group of community members on the other who demonstrated their special relationship towards the dead through placing gifts and grave goods in the tomb during burial rites.

However, attested processes of transformation between the Late Aeneolithics and beginning of the Bronze Age can be interpreted only on levels of differently variant hypotheses. One of the possibilities relates that observed change to the outset of transformation process during which the early structured societies with various social integrity of its members converted to societies with elements of chiefdom that are for sure estimated for the beginning of the Middle Bronze Age (Heyd 2007). The transformation process that mirrors in the burial rite may also represent a consequence

of changes that occurred in economic potentials of the observed cultures. However, due to absence of settlement material these potentials can only be deduced than corroborated on the basis of climate development.