The absolute chronology of Cucuteni-Trypillia: isotopic dates vs archeology

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For a long time, the Cucuteni-Trypillia cultural complex was dated using traditional methods. 60 years ago, the era of isotopic dating started, which went through several stages of development: obtaining the first definitions, calibration, and finally mass dating. For the first two, the number of dates was insignificant by modern standards (about 90 at the end of the 80th, up to 200 at the end of the century). Archaeologists worked with them, carefully compared isotopic dates with the finds and stratigraphy.

At the stage of mass dating, a wide range of people are involved in the process, who prefer statistical processing and other methods of working with isotopic dates to comparison with archaeological realities. At the same time, information about the context of the finds, the material of the samples, the reasons for the variety of dates (except for the reservoir effect) are not taken into account. The number of dates from one site is sometimes 30-90 or more, which can come from more than 10 objects (Verteba, Nebelivka, Maidanetske).

As a result, exotic hypotheses arise about the continuous existence of settlements for 400-600 years or the synchronicity of the monuments of different phases of Cucuteni-Trypillia. Both the first and the second contradict the archaeological realities, which, are not taken into account, while the results obtained in the laboratories are not subject to doubt.

Such a situation should hardly be considered normal. In our opinion, both the procedure for selecting samples for dating and the work with the archaeological context should be improved, which should include not only information about the depth of the sample, but also accompanying material.

It is worth standardizing the type of samples. These must be the bones of a certain kind of animal, and only certain parts of the skeleton. A separate topic is the dating of human remains, taking into account which part of the skeleton is used for dating. The geological features of the area are important, because sites are located in sedimentary and volcanic zones. Solving prob-

lematic issues with the samples finally requires joint research with specialists in isotopic dating.

It is also worth abandoning, at least at the initial stage of research, the practice of using dates from samples from small pits, which do not provide enough pottery finds to clarify the internal chronology of settlements, especially large ones. In order to normalize the situation, it is necessary to start dating only fully investigated objects – the remains of buildings, pits. They will date large series of finds for comparison.

At the same time, a series of dates should be made for each such object, not only on the bones of certain species of animals, but also on ceramics, plaster, coal, and grain discovered during flotation. Only after carrying out such a study does it make sense to continue accumulating hundreds of dates without the risk of finally plunging into the world of fantasies about chronology exclusively based on isotopic dates and conclusions about the bankruptcy of the archaeological periodization of Cucuteni-Trypillia.