

Ochre is a material often found on archaeological sites dated to different periods. However, due to the problem with its description and comparison, it constitutes some kind of scientific challenge. First of all, in order to study that mineral material, it is necessary to characterize it thoroughly and consider possible functions it performed among the prehistoric societies. Starting with the definition: ochre is a mineral pigment, with hues from yellow to red and brown, even dark purple. Its colour is conditioned by the iron content. It occurs in diverse geological contexts, that influences its chemical composition, dependent on natural mineral admixtures. That in turn enables its comparison and marking of potential sources, from which it was collected.

The functions of ochre among the prehistoric societies are varied. Scientists underline often its application during the rituals related to burials. This is indicated by the traces, discovered on the skeletons. Ochre could also be used to paint parts of clothing, bodies or various objects. Moreover, it also served utilitarian functions. Among others, due to its antiseptic properties, it could be used to treat wounds. What is more, its leather tanning utilization was also noted. Sometimes it was also added to mastics, meant to keep the stone tools in the wooden or bone hafts. Its acquisition from distant outcrops could indicate its great value for the stated human groups. It could even be hypothesized, that with the increase in general costs of ochre obtaining, which includes the length of trip to the outcrop and the ease to access to it, that pigment could become a luxury item of special cultural significance.

This project is designed to focus on three main research goals. The first of them would be a thorough analysis and characterization of the mineral material from various natural outcrops, among others from Rydno, that was the object of interest of prehistoric communities. That localization was visited by varied communities, dated among others to the Final Palaeolithic and the Mesolithic periods. Thus, this timespan between about 13000 and 7200 years ago will be the basis for further considerations. The next goal will be to check how far ochre pieces were transported and if those distances could be compared to those, observed for stone raw materials. The last of the basic goals would be to check, if there are traceable differences between the Palaeolithic and the Mesolithic societies in intensity of ochre usage and the distances over which it was transported.

It seems that undertaking of that topic could be a vital step towards better understanding of the discussed communities, along with the differences that separate them. The trials of ascertaining of the quarries of ochre and routes of transportation were already undertaken for different materials, such as stone or even ceramic masses. Nevertheless, the issue of ochre acquisition was not fully described yet. Even though there were led some research on that topic, those were aimed at different regions. Then, the possibility of description of intergroup contacts and potential points of exchange of mineral pigments would definitely influence our perception and characterization of cultural dynamism of the discussed societies.

The research would be led on several levels. The first step would be the description and organization of the available knowledge, derived from the archaeological research. Above all, there should be created a catalogue of archaeological sites with documented ochre traces from the range of around 300 kilometers from Rydno. On that basis, it would be possible to assess the approximate routes undertaken by the discussed societies for ochre acquisition and marking of probable trends in the directions of movements. Similar study has already been undertaken for the areas in south-eastern Germany, with excellent results.

The next level would include the laboratory research by means of appropriately elected methods. In this area especially helpful will be: (1) optical microscopy for observations of traces of usage on the surface of archaeological specimens, (2) scanning electron microscopy (SEM) suitable for observation of singular crystals of the analyzed samples, (3) energy-dispersive spectroscopy (EDS) fit for description of chemical composition and (4) LA-ICP-MS, particularly utilitarian for determination of trace elements. The chosen methods would be helpful for the thorough characterization of the analyzed samples, enabling later juxtaposition and comparisons.

Thanks to such extensive research questions and appropriately selected laboratory methods, it will be possible to obtain several important answers regarding the Final Palaeolithic and the Mesolithic communities. First of all, the ochre from natural outcrops and archaeological sites would be accurately characterized during that project. The results obtained in the course of laboratory work will be useful during further material comparison research. Those would also enable the ascertaining of connections between the human groups and the level of contact intensity. Furthermore, specifying the distance over which ochre from natural outcrops such as Rydno was transported will indicate its general value, that will also contribute to the assessing under what conditions it was a good subject to exchange among the communities.