

Agnieszka Dziedzic

DOI: 10.15584/anarres.2021.16.11

ORCID: 0000-0002-8889-5181

(review) D. Wolski. *Krzemieniarstwo wczesnobrązowe w Małopolsce w świetle analizy wybranych źródeł. Perspektywa traseologiczna* [The Early Bronze Age lithic chipped industry in Lesser Poland in the light of analyses of selected evidence. Use-ware research perspectives] (= *Collectio Archaeologica Ressoviensis* 42). Rzeszów 2020: Wydawnictwo Uniwersytetu Rzeszowskiego, 199 pages.

The reviewed monograph concerns the activities of Early Bronze Age farmers and breeders from the perspective of research on the traceology of flint tools. The main axis of the narrative considers the phenomenon of the dualism of the lithic chipped industry in the community at the turn of the Neolithic and Bronze Age in Lesser Poland. The publication is a shortened form of the PhD dissertation defended at the Institute of Archaeology of the University of Rzeszów.

The cover of the book refers to the title – the photo on it is a compilation of traceological micrographs prepared by the author. The work opens with an introduction. The rest of the content is divided into six chapters, and the work ends with a bibliography, an extensive abstract and a summary in English.

In the introduction and the first chapter, the author specifies the purpose of the work, i.e. the analysis of functional microtraces on flint materials from the Early Bronze Age discovered in “loess” sites in Lesser Poland. This area was chosen because of its special cultural role and economic potential in prehistory. The subject of the study were materials dated 2200–1600 BC related to the Mierzanowice and Strzyżów cultures. The author set himself the task of making a detailed analysis of representative flint products from the above-mentioned cultural contexts. At the outset, he draws attention to the technological duality of selected assemblages – on the one hand, technologically advanced bifacial tools, and on the other, simple flake forms. The author believes that the observed bipolarity probably resulted from needs related to specific economic activities.

The aim of the work was therefore to define the way of using tools and to understand the reasons for

their technological and functional distinctiveness. For the analysis, the author chose flint tools considered representative of the cultural groups of the geographical area in question. He considered it important to carry out their morphometric, typological, and raw material analysis, as well as to conduct experimental tests which would be helpful in determining the functions of the analysed products. Products from settlement and sepulchral sites were analysed in terms of typological categories, regardless of their place of origin.

Chapter II of the publication – as the author points out – concerns the methodological solutions adopted in this work. Addressing the issues of the history of traceological methods, the author refers the reader to both foreign and domestic literature. He presents issues related to optical microscopy, the multi-stage inference procedure and the research equipment used. To research hundreds of flint products, he used light microscopes and used high-class equipment available at Institute of Archaeology in Rzeszów University.

He also considered the method of cleaning remains important in terms of methodology and used a non-invasive method employing ethyl alcohol. He also emphasized the important role of the proper documentation of data, postulating the need for a standardized form of descriptions. In order to meet the demand for detail, he created cards with a multifaceted description of the examined monuments, and also described the model of the adopted research procedure, presenting it in the form of a diagram in the figure. He emphasized that some assemblages were selected in a chronological and adequately representative manner for the analysis. Importantly, he drew attention to

the factors accompanying traceology as important in determining the functions of individual tools.

In this chapter, he also explained the ambiguities regarding research terminology and provided a definition of terms important in the analysis. He broadly discussed the concept of a tool, taking into account its typological and functional classification. He also emphasized the importance of experimental tests that would support the hypotheses put forward in them. Thus, in order not to duplicate the work already done by other researchers, he opted to conduct relatively few experiments.

In Chapter III, concerning the characteristics of the lithic chipped industry in the Lesser Poland loess areas in the Early Bronze Age, the author carries out a critical analysis of the sources, as a result of which he distinguishes the features of this production. He considers the selection of typical Bronze Age forms necessary for the correct inference about the function of flint products. Therefore, he reviews representative and chronologically certain inventories and cites elements of the flint-making of the Corded Ware culture as a unit preceding the settlements in Mierzanowice and Strzyżów cultures. He draws attention to the problem of the non-homogeneity of certain sets and the related risk of incorrect dating and incorrect functional interpretation of a given set of remains. It also signals a problem with the cultural connection of materials from mine and workshop sites. The author, while reviewing certain inventories chronologically, emphasizes that they have not been subject to traceological observation in such a wide range thus far.

In the first subsection, he presents the history and state of research on the lithic chipped industry of the Early Bronze Age in Lesser Poland. He draws attention to the work of subsequent researchers who contributed to the identification of flint-processing in the region and signals the moment when the bipolarity of the development of flint technology was noticed.

The next subsection deals with the characteristics of sources and their types. The author describes in turn the most important funeral, settlement, and mining sites, important from the point of view of research on lithic chipped industry of the Mierzanowice and Strzyżów cultures. He discusses the resource economy, based mainly on nearby deposits, less often on the distant ones. He introduces the flint techniques used, starting from the techniques related to obtaining the raw material and the preparation of tools.

The next subchapter defines the typological features of the created tools. The author – based on the literature from the end of the 20th century – writes about the abandonment of the production of stan-

darized tools in the Early Bronze Age, which took place in the Neolithic period. He draws attention to the phenomenon of transforming chronologically older tools to meet local needs and notes that all products, even scrap ones, were used as tools.

The sixth subsection deals with the issues of macrolithic bifacial forms. The author discusses their chronology and scope, as well as morphological and technological features. The author discusses their chronology and extent, as well as morphological and technological features. We learn from it, among other things, that the production of bifacial forms in Lesser Poland began in the early phase of the Mierzanowice culture and was completed by the end of the Early Bronze Age. In turn, the presented sickle knives began to be produced in the late phase of this culture. The author draws attention to the range of these tools. For research in this category, he uses a typological method. The uncertainty in determining the chronology, resulting from the possibility of altering the tools, prompts the author to postulate the simplification of their division. He points out that the Mierzanowice bifacial forms could be reused by the Trzciniec and Lusatian cultures. He cites the content of works describing the technology of making macrolithic backed-shaped knives and encloses an illustration with a diagram he considers more probable. He concludes that the flint-processing is very similar in the entire zone. The aforementioned dichotomy is confirmed – there are simple flake forms and technologically advanced bifacial forms.

Comparing the Eneolithic materials with the Early Bronze Age ones, the author notices some differences, e.g. in relation to the raw material preferred for various tools and typological differences. The reuse of tools became increasingly popular in the Middle Bronze Age. The author draws our attention to the contact points between the Trzciniec and Mierzanowice and Strzyżów cultures and presents the analysed features in a tabular summary. He considers bifacial forms and sickle knives to be markers of dichotomy and shows that they differ from the settlement tools in terms of technology and raw material functions.

In chapter IV, the author lists flint products selected for the traceological studies, describing the sites and the materials derived from them in the following sections. He drew attention to bifacial forms as characteristic tools, most often found in graves or discovered as loose finds. For the analyses, the author chose materials from the sites: Targowisko 16, district Wieliczka, Raciborowice-Kolonia 1 and 2, district Chełm, Orlińska Sokolnickie 1, district Tarnobrzeg and loose

finds of bifacial tools from other sites. This choice was duly justified, and a list of tools is provided in the form of a table. For the analysed materials, the author has also prepared typological and chronological schemes in the form of illustrations. The Targowisko 16 site was of a domestic nature, Raciborowice-Kolonia was a cemetery associated with the Strzyżów culture, Orliśka Sokolnickie 1, in turn, is a multicultural sepulchral site. The author assumed that he would confirm the functional duality of the tools in the above-mentioned sites from different archaeological contexts.

Chapter V is the main analytical part in which the author discussed the types of individual microtraces and described the principles of separating products for microscopic analysis. The analysed materials were divided according to sites, chronology, and percentage frequency. Within this framework, he described the microtraces observed in individual categories of remains.

The author described the various categories of the analysed remains in detail. He began by explaining the term used to describe a given product, and then described it in terms of typology, technology and chronology. He provided metric data, took into account the raw material and applied technical procedures, as well as the recorded microfracture transformations and diagnostic utility features. This chapter is richly illustrated.

In the analytical part, he referred to the technological and functional issues of special products, recreating the sequence of operations (*chaîne opératoire*) necessary to produce them. This multi-stage sequence of actions has been described in detail in the table. The analysis of subsequent sites was completed with an extensive summary and conclusions presented in a descriptive and tabular form. The author managed to capture the activities performed with the analysed flint tools. He observed, among other things, that the same activities were performed with different tools and vice versa, e.g. sickle knives were used to process wood, meat and plants. This is very clearly presented in the tables.

The analysed bifacial remains from the cemeteries discovered in Raciborowice-Kolonia and Orliśka Sokolnickie were made of high-quality raw materials. This proves that both the Mierzanowice and Strzyżów communities used the nearby raw material, as long as it was of adequate quality.

In the summary, the author gave the percentage of microtraces registered on 411 analysed flint products. They most often indicated the use of tools for processing grain, wood, hides and meat, less often for processing bones, antlers and herbaceous plants. Traces

noticed on backed-shaped knives, in turn, indicated contact with the soil. At the site in Targowisko, he noticed the pursuit of a certain standardization of forms, which could facilitate the use of tools for various activities. By discarding tools with slight traces of use, and therefore used briefly, the researcher observed that only a few percent showed clear traces. This led to the conclusion that most of them were prepared for *ad hoc* activities and then abandoned.

Chapter VI is the main interpretative part. It has been divided into five sections describing subsequent issues. The first issue concerns the form and function of artifacts in the context of comparative microscopic analyses. The first issue concerns the form and function of artifacts in the context of comparative microscopic analyses. The author noticed here the possibility of a correlation between the form and function of certain tool forms. He presented subsequent categories of typological tools and the issues related to their use. He emphasized that taking a position on the formal and functional relationship of flint tools is extremely difficult and requires further detailed research. While postulating the multifaceted work to be undertaken by the team of researchers, he also recalled his own interpretations of the functional tools.

The second issue is the interpretation of unusual traces of use based on the conducted experiments. We can read here about unusual traces observed on arrowheads and the experiment consisting in storing them in a quiver, which was meant to confirm the manner in which these traces were created.

The third subsection introduces the interdisciplinary perspective. It shows the potential elements of economic activity in agricultural and breeding communities from the early Bronze Age in the light of environmental, traceological and ethnographic findings. The author highlights a number of elements of economic activity, such as soil preparation for cultivation, harvest and threshing, animal husbandry, preparation of food and dishes, processing of organic materials and inorganic raw materials, preparation of armaments. The author comes to several conclusions. Among other things, he noticed that certain tools that were involved in the performance of certain seasonal jobs were carefully made, and the signs of use were very distinct. On the other hand, the tools used for *ad hoc* work were quite simple and the traces of use were poorly visible. After use, they were probably thrown away, so easy access to the raw material was important.

In the next section, on the example of Targowisko 16, the author presents the role of flint tools on the Early Bronze Age settlements, taking into account

other traceological interpretations from Europe. He showed the aspect of everyday use of tools and emphasized the important role of lithic chipped industry due to the lack of copper and bronze tools. He showed that at the Targowisko 16 site, manufacturers showed pure pragmatism, making tools quickly, often without retouching the edges.

In the last section, the author deals with the interpretation of macrolithic bifacial forms in the context of traceological findings concerning other areas of Europe. He considers the nature of their manufacturers, users, and the practical significance of these tools for the Early Bronze Age communities in Lesser Poland. He emphasized the fact of the deepening duality in the development of flint-processing, which was already visible at the beginning of the period. The author, writing about the Early Bronze Age Lesser Poland, showed it against the background of Europe. Here we find references to numerous publications in which traceology plays a significant role. As an example of the bipolar development of the lithic chipped industry, the author mentioned Scandinavia, where the specialized tools were long, backed knives, and common forms made on flakes. He showed Scandinavia, unlike Lesser Poland, as an area with a broad source base, suitable for conducting in-depth studies. He also noticed a similar dualism in the Netherlands, where the same specialized tools were discovered as in Lesser Poland. The author introduced the reader to the directions from which the imports came here and the places where they were found. He also presented interesting hypotheses explaining the frequent occurrence of flint sickles as loose finds.

The author describes the presented traceological study on the Early Bronze Age materials as a set of probable hypotheses, based on theoretical and empirical grounds. At the end, he expressed the hope that this work will be a contribution to further studies. He emphasized that the analyses carried out in it take into account the entirety of flint-processing, and their aim was to test the most likely way of using the tools. The author assessed that he achieved the intentions of

the work despite the shortcomings of the source database. He managed to determine the production and functional course of the analysed forms. Thanks to the extensive research process, he demonstrated the multifunctionality of tools used cyclically and the existence of *ad hoc* tools for one function, which is an important achievement of this work. He emphasized that the essence of terminal lithic chipped industry is most visible precisely in the double-track development of flint-making.

The publication provides a comprehensive look at the activities of representatives of the Early Bronze Age communities. The author expressed the conviction that a valuable supplement to his achievements would be research conducted by representatives of other fields related to archaeology, which would complement the attempt to comprehensively look at the activity of farmers and breeders from this time.

The author concluded the prepared monograph with a rich bibliography and an extensive summary in English. The work has a high cognitive value, although there are a number of threads in it that require further development, something which the author himself highlights. The axis of the narrative is the dualism in flint production, which is repeatedly and consistently referred to in this work.

We will also find here a multitude of conclusions, endings, and summaries. It sometimes give the impression of overwhelming the reader with too much information, but the cyclically repeated conclusions remain in the memory for a long time, and the publication itself is suitable even for occasional use, because each of its parts reflects the meaning of the whole. Readers wishing to broaden their knowledge of the Early Bronze Age lithic chipped industry in Lesser Poland will find a wealth of literature here. The work is written very meticulously and methodically. The author's ambition, which was to put forward further theses and lead the logical course of argumentation, was fulfilled here. This publication undoubtedly makes a significant contribution to the state of the art concerning terminal flintwork.

Agnieszka Dziedzic

Archeological Museum in Krakow
Senacka 3
31-002 Kraków, Poland
e-mail: agnieszka.dziedzic@ma.krakow.pl