

**Prehistoric and Historical Mounds in the Cultural Landscape of the Równina Bielska
(Bielsko Lowlands)**

Mgr. Michal Szubski's dissertation is the result of his interest in archaeology and the study of the organisation of settlement in the past, its continuity and transformation; for recognition of the spatial relationships of its individual components and the search for the connection between settlement activities and the natural environment in which our ancient ancestors lived and which they gradually transformed into what today is commonly referred to as the cultural landscape. Szubski's interest in this subject already appeared in his bachelor's and master's degree studies during my pedagogical activities at the UKSW Institute of Archaeology. We should note that landscape archaeology has enjoyed considerable scholarly attention in the last three decades in a large part of Europe, including Poland. The phenomenon of the landscape and its archaeological dimension has been addressed for years, especially in modern times thanks to the founding work of O.G.S. Crawford, W.G. Hoskins, M. Aston and A. Fleming. Meaningful research of large spatial units is heavily supported in the current digital age by the possibilities offered by modern methods and technologies. In terms of heuristics, they make it possible to apply non-destructive research procedures on a large scale (detection, identification and documentation of relics primarily through remote sensing methods), while in the analytical part of archaeological landscape projects, they can effectively work with large data sets, evaluate them statistically and then interpret them. M. Szubski has adopted these tools of modern research, mastered working with them and applied them in his dissertation. Considering the ethics of contemporary professional archaeology, which at least in European contexts (especially the Valletta Convention for the Protection of the Archaeological Heritage of Europe from 1992) clearly favours the use of non-invasive methods of field research, the topic of the evaluated dissertation thus meets the needs of the discipline and is therefore current and fully relevant for the needs of contemporary archaeology.

The topic of the study on which M. Szubski worked in the second half of the last decade as part of the project of the UKSW Institute of Archaeology, *Cultural and Natural Heritage of the Bialowiejski Virgin Forest* (2016–20), is the diverse forms of mounds, convex anthropogenic formations preserved on the surface of the terrain in the Bielsko Lowlands in northeastern Poland in the form of point/surface (not linear) features. In this heavily wooded

area, especially in the Białowieża Forest, a relic of one of the few original virgin forests in Europe, a large number – altogether 1890 - of these earthworks of prehistoric, medieval and modern origin have been preserved to this day, and the author included them in a database). Finding such a large number of this type of immovable archaeological relic – which was the author's first objective – was made possible precisely by the application of the mentioned modern methods of remote sensing, specifically aerial laser scanning, or the data obtained using this method were subsequently processed into a digital terrain model (it should also be noted that all features detected in this manner were subsequently verified by the author by means of field survey). The second objective was their morphometric, spatial, functional and chronological separation, while the third objective was an attempt to reconstruct the original form of the 'moundscape' in the investigated area in the past. To this end, the author chose a combination of two theoretically based approaches (paradigms): procedural (based on hypothetical-deductive work with sources using statistical procedures, GIS and predictive modelling) and culture-historical (classification of archaeologically investigated features in cultural and chronological contexts). Right from the Introduction, M. Szubski established two basic hypotheses in the spirit of the procedural paradigm, the validity of which he then tests in the creative part of his dissertation.

In the first chapter of the dissertation, the author deals with the theoretical foundation of landscape archaeology and the landscape phenomenon with an emphasis on the approach he prefers for his research – on the one hand, the procedural paradigm, on the other, the culture-historical paradigm. The second chapter provides a detailed overview of the sources and methods used by the author, which he describes both on a general level and at the same time in the context of their use in his own project. In the third chapter, attention is paid to a description of the investigated territory, its natural characteristics and the overall summary of the current level of archaeological knowledge of mounds. Chapters 4 and 5 contain the most important – the creative – part of Szubski's dissertation. It consists of a formal analysis of mounds, or morphometrics and location in the field, in which the author, by means of a cluster analysis, singled out a total of 15 groups (by statistical procedure of achieved types) of the investigated mounds. Moreover, in this part the author created a predictive model (or map) of the possible former location of mounds in the territory of the Bielsko Lowlands using the MaxEnt software, whose relevance he correctly assesses with a critical approach, which is the basis of the synthesis and interpretation of conclusions. Furthermore, this chapter describes the field research of mounds by excavation, which the author carried out as part of the project

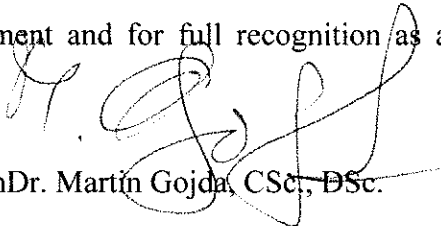
under strictly defined conditions (e.g. excavation of only 25% of each of the features intended for excavation). The sixth and final chapter summarises the results reached by the author and evaluates the extent to which they can be generalised and considered universally applicable, especially given that a more precise cultural (chronological) classification of mounds is in many cases either uncertain or directly unknown. Also, due to the nature of the terrain of the studied area (flat relief), it will be difficult to verify the achieved model on georelief types other than flat lowlands.

M. Szubský's approach based on the processing of large data files ('big data' as one of the key topics of contemporary science), specifically on the effort to analyse them with the help of mainly statistical methods of generalisation (however burdened by the inaccuracy of raw data included in analysis) of past human/social (structured?) behaviour, I consider positive. I also positively assess the authorship of practically all the illustrations forming an integral part of the work and depicting in various forms the individual steps and results of the author's research. From a formal point of view, I do not find any more significant omissions in the work, even at the stylistic level, and, with minor exceptions, not even in the selection of cited publications (e.g. in the citation of the work Kobyliński – Gojda ed. 2018, the opposite order of editors should be correctly provided). In my opinion, the publication, on the one hand, satisfies the demands placed on a professional text, while on the other, it is important testimony to the contemporary use of modern information technologies and, in particular, non-destructive methods of remote research both in the landscape context and at individual locations.

Conclusion

I see the basic mission of the work in the analysis of the results achieved by the author's extensive campaigns of computer and field data collection and, above all, in their critical evaluation. In the first part of the dissertation, the author actively uses (i.e. comments on) a number of scientific publications forming the theoretical basis of his work, but in the second analytical and interpretive part having relevance to the issue specifically addressed by the author, thus demonstrating a theoretically mastered readiness for his own research. The heuristic and analytical part of the work is on a high level, and the methodology of collecting sources and their analysis is coherent. The author typically states the steps leading to the use of specific heuristic procedures and argumentatively supports his opinions and acquired

knowledge with numerous references to literary sources, which he compares to the procedures applied by him and with the experience gained in the course of his own research. At the same time, the author's interpretation of the results primarily come from the results of his own empirical research. For the stated reasons, I consider the dissertation to be a high-quality contribution to the study of the social dimension of past landscapes and to the knowledge of one of the most widespread categories of preserved archaeological relics (almost exclusively in forest environments) in Central-Eastern Europe in a physically preserved anthropogenic terrain relief. I therefore recommend it for further treatment and for full recognition as a doctoral thesis in the field of archaeology.



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