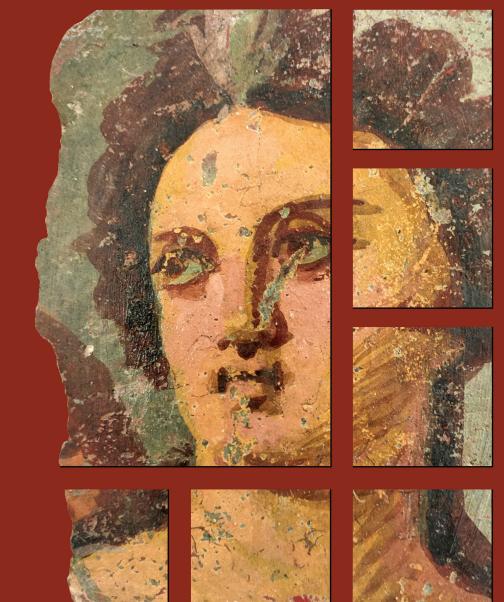
DISSERTATIONES ARCHAEOLOGICAE



ex Instituto Archaeologico Universitatis de Rolando Eötvös nominatae





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Czajlik, Z. – Crešnar, M. – Doneus, M. – Fera, M. – Hellmith Kramberger, A. – Mele, M. (eds): Researching Archaelogical Landscapes Across Borders – Strategies, Methods and Decisions for the 21th Century. Graz–Budapest, 2019.

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CZAJLIK, Z. – ČREŠNAR, M. – DONEUS, M. – FERA, M. – HELLMITH KRAMBERGER, A. – MELE, M. (eds): Researching Archaelogical Landscapes Across Borders – Strategies, Methods and Decisions for the 21th Century. Archaeolingua, Graz–Budapest, 2019, pp. 188, ISBN 978-615-5766-27-5.

Regional and microregional survey projects have a long history in archaeological research, aiming to understand landscape's settlement network in a cultural, social and an economic point of view. These projects have often proved to be the starting point of novel methodo-logical and scientific approaches, and created best-practices for a successful fieldwork and interpretation. Due to the recent theoretical and technical advances in non-invasive methods (e.g. detailed sampling resolution and increasing daily coverage), regular check-ups are advisable on our current integrated survey methods. Nowadays non-invasive survey methods, like field-walking, geophysical prospection, aerial photography or airborne laser-scanning are constantly growing major factor of the identification, monitoring and evaluating archaeological resources in scientific research as well as in development-led archaeological projects.

The reviewed volume is one output of the Interreg DTP Monumentalized Early Iron Age Landscapes in the Danube river basin (acronym Iron-Age-Danube) program, which involved professionals from Austria, Croatia, Hungary, Slovakia and Slovenia. The program focused on monumental landscapes of Early Iron Age, characterized by fortified hilltop settlements and large tumulus cemeteries between 9th–4th century BC (Hallstatt period). The aim of the publication was to "*create an easy-to-read guidebook for a comprehensive approach to archaeological landscape research in the light of Strategy 21*".¹ Due to the complex nature of the topic, 26 authors were involved.

The publication is divided into two main parts: Part I is focusing on the legal framework and evaluation of such projects according to the challenges and recommendations by 'Strategy 21'. The considerably longer Part II offers a better understanding on the available survey methods and their implementations during fieldwork and desktop studies.

Part I starts with Dimitrij Mlekuž's introduction into landscape research, focusing on theoretical framework, archaeological approaches, spatial technologies and their modern interpretation. The historical background and aims of 'Strategy 21' are explained in detail, shading light on concept, workflow and applications. The principles of 'Strategy 21' were applied on the Iron Age Danube Project, the three strategic domains (social, territorial and economic devel-

¹ European Cultural Heritage Strategy of the 21st Century; https://www.coe.int/en/web/culture-and-heritage/ strategy-21

opment, knowledge and education component) and the work packages are offering beneficial real-life adaptations for future heritage management practice.

Part II is dealing with baseline-assessment, the legal background and methodological overview. These chapters are focusing on basic principles, theoretical framework and workflows of the given topic with certain well-illustrated case studies and explanation. This chapter is also covering the question of cost, time and accessibility, highlighting a theoretical workflow and "optimal" order of surveys and researches. Although it must be noted that the published time and daily coverage numbers for field survey and geophysical prospection can have a much greater variance due to different survey methodologies or instruments. The environmental context chapter underlines the importance of a detailed landscape and terrain morphology study.

The summary about the legal framework and practical consideration offers compact information about the five participating country's heritage management system (Austria, Croatia, Hungary, Slovakia, Slovenia), which are aided with different tables containing website links and available data types.

The usefulness of the desktop assessment cannot be questioned for any archaeological research. Also the need of GIS environment is essential nowadays to digitize these data sources. The archive maps, aerial photographs, satellite images not only containing traces of archaeological sites and features, but one of the key sources of recent environmental changes.

Despite the rapid spread of geophysical prospection and remote sensing methods, the chronologically most detailed data is still coming from archaeological field surveys. The short summary of basic field survey approaches is followed by the description of five visibility factors of archaeological record, which is often neglected during the data analysis.

Soil analysis and archaeological soil chemistry is focusing on elements that are known to be elevated or depleted by specific human activities. Methodological descriptions (sample grid, sample rate, analysis options) are followed by applications and case studies.

The chapter about archaeological geophysics summarizes five methods (magnetometry, low-frequency electromagnetic, electrical resistivity tomography, resistivity, ground penetrating radar) by highlighting the basics, the workflow, and the application and limitations. The decision-making factors to choose the optimal survey strategies are straightforward, which are aided by two useful spreadsheets about the basic characteristics and their efficiency in recognition of selected archaeological feature types.

The remote sensing data collection methods (aerial archaeological photography and airborne laser scanning – ALS) chapters have also the same structure as the archaeological geophysics. The example of the aerial photography campaign in the Leitha valley (Austria) clearly shows the strengths of this remote sensing method (35 flying hours, more than 350 "potential" sites, 30000 archaeological features), although a brief summary of any "verification" about the field-walking results would have been a useful addition. ALS measurements and their outputs gained more and more acceptance in the recent decades as the technological circumstances developed. Unfortunately, due to various reasons ALS is a sparsely used tool with no integration into the Hungarian heritage management yet. However, it would be needed not just as a feature identification method, but to derive accurate Digital Terrain Models for GIS modelling.

"Archaeological excavation" and "Modern methods and approaches in archaeobotany" chapters are closing the "Methods" chapter. Archaeological excavation, as a tool which "allows a keyhole insight into human activity" is placed into the integrated research scheme. The results of non-destructive surveys make it possible to precisely zoom on the underlying archaeological features, and these "insights" can provide complementary information to non-invasive methods.

The guidebook ends with a glossary and a dictionary about the most used key terms on five languages (English, German, Croatian, Hungarian and Slovenian) with short definitions. The basic assumption or understanding of these terms and their definitions are generally accepted in the archaeological communities, although details in some cases are debateable. This can be related on the English and the Hungarian translations also. During the translation of these terms, mostly the ones connected with geophysical prospection, Hungarian terms seems to follow more "commonly spoken archaeological" terms, and in some cases these are not equivalent with the accepted geophysical appellation. These deviations exist because despite the recent rapid expansion of large-scale geophysical surveys in Hungary, no generally accepted "terms and definitions" have been established.

In recent decades in Hungarian archaeology it could be seen that the highlighted focus on "excavating" became much less obvious with the technical development of the non-invasive survey methods. This trend is observable either in scientific research or development-led archaeology as well. Non-destructive archaeological methods, and their development made it possible to explore the archaeological heritage of larger areas, landscapes efficiently. Our options to use non-invasive methods to avoid unnecessary disturbances on archaeological sites while mapping their intensity and structure is indeed opening new opportunities.

Overall, this volume provides an easy-to read guidebook about these approaches by connecting practical guidelines with state-of-art research methods and theoretical assumptions. The readers might have only slight reservations about the glossary and due to the lack of an archaeological GIS modelling chapter. Nevertheless the book can be recommended not just for students and professionals, but to anyone interested in looking for new paths to explore our archaeological heritage.