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INTERDISCIPLINARITY IN ARCHAEOLOGY
UISPP2023 BOOK OF ABSTRACTS

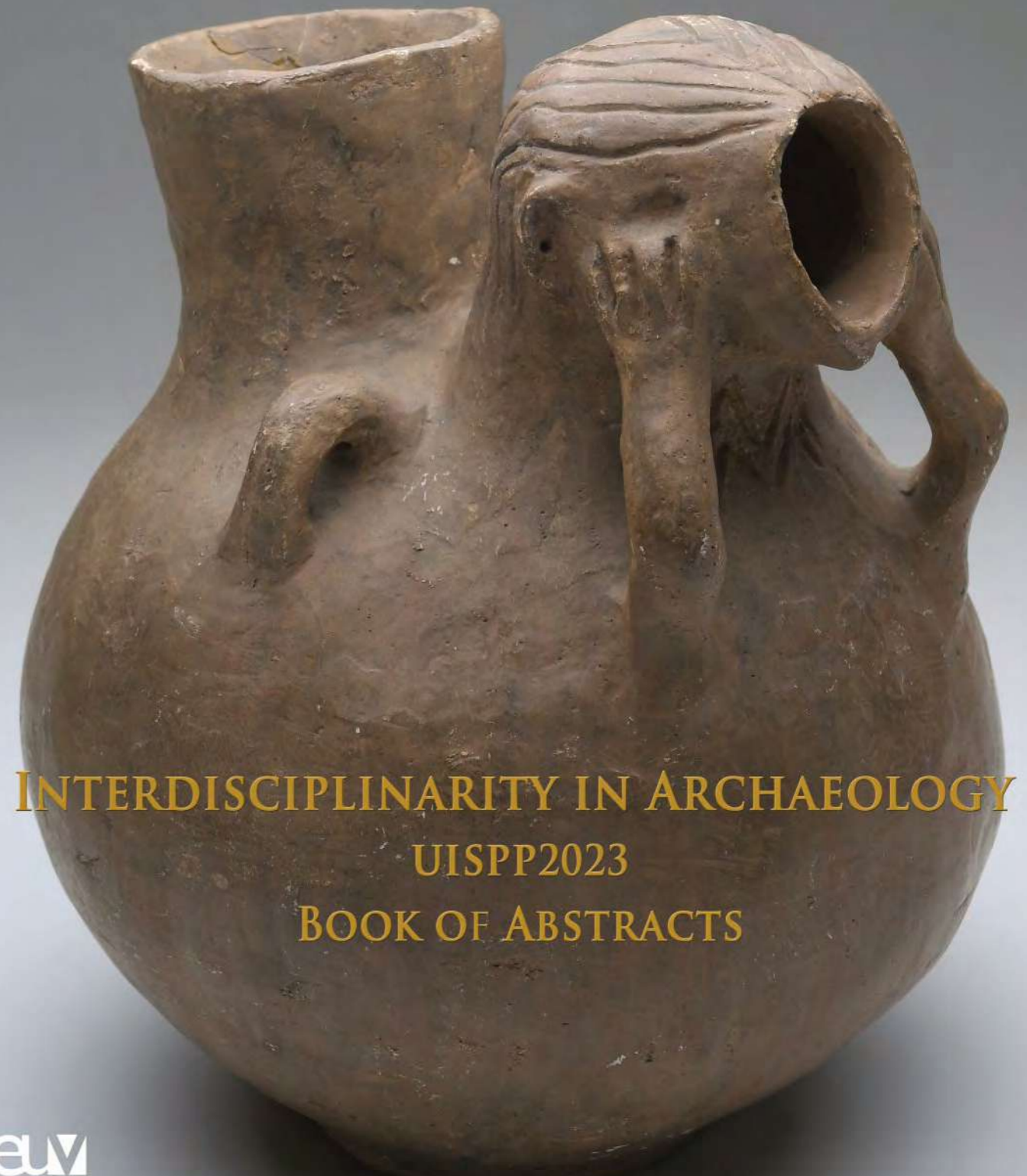
ANDREI STAVILĂ, CRAIOVAN BOGDAN, ROXANA CÎRȚ
COORDONATORI



Editura Universității de Vest din Timișoara

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Welcome to UISPP World Congress 2023

Timișoara, Romania

Marilen Gabriel PIRTEA

Rector of West University of Timișoara

It is a great honour for us, at the West University of Timișoara, to organize the anniversary XX UISPP World Congress in Timișoara. After a long period of time in which the state of the pandemic has affected all the major scientific events, we look with confidence to returning to live presentations and joyful debates on the hottest topics in Pre- and Proto-historical archaeology, and also on the cutting-edge approaches leading to the ever-new achievements in the science of archaeology.

West University of Timișoara (WUT) is the main higher education institution and research hub in Western Romania. Here, we encourage inspiring and competent research, education, and artistic creation with due regard to academic rigour as we scrutinize the future through how we bring together advanced knowledge from various disciplines taking a great focus on trans- and interdisciplinary research. This is why we fully resonate with the general theme of this edition of the UISPP congress which is **Interdisciplinarity in Archaeology**. Beyond the prospect of a permanent renewal and necessary synchronization with the global scientific landscape, the interdisciplinary vision in archaeology brings new hopes for the conservation of **endangered archaeological heritage** through the latest technologies in the field of digitization.

Once again, the great disasters that are destroying communities and human lives are returning where none of us thought it would be possible. Beyond human suffering, what we see more often are the incredible series of destructions of archaeological sites and archaeological heritage in museums and collections. It is the duty not only of the body of archaeologists, but of the entire scientific community to always find new solutions to ensure the preservation in the best conditions of the universal archaeological heritage and its transmission to future generations. Here at West University of Timișoara, we will be permanently involved in the generous purposes of this mission.

The scientific debates are to be continued far beyond the spaces that our university offers for the works of the congress, in the enchanting setting of Timișoara, one of the most beautiful cities in Eastern Europe, acting as a bridge between east and west, a model of historical harmony and modern development in a cultural multi-ethnic environment.

Welcome to Timișoara!

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FOREWORD

Dan Ștefan

The National Museum of Eastern Carpathians

In the long journey of humankind, archaeology stands as a bridge between the past and the present, unearthing the remnants of long-forgotten civilizations and piecing together the puzzle of our shared human heritage. Over the years, the field of archaeology has not only evolved but has also woven itself into the intricate fabric of various disciplines, giving birth to the fascinating realm of interdisciplinarity.

From its very inception, archaeology displayed a natural affinity for the insights offered by other fields. Early archaeologists intuitively borrowed methods from diverse disciplines to unravel the mysteries of the past. Inspired from geology, they harnessed the power of stratigraphy, carefully deciphering the layers of Earth to reconstruct ancient timelines. Engineering contributed the meticulous art of archaeological drawing, based on horizontal and vertical sections, enabling the transformation of buried remnants into precise visual narratives. These pioneers adopted various survey methods, a gift from the engineering domain and cartography, to navigate landscapes teeming with historical secrets. Meanwhile, early statistical insights breathed life into archaeology's core. Typology, inspired by biological classification, became a dynamic system for categorizing artifacts based on shared traits. This, paired with foundational principles of quantitative analysis, illuminated patterns and narratives hidden within the archaeological record, forming the bedrock of traditional archaeology. This collaboration marked the dawn of interdisciplinarity in archaeology, setting the stage for a journey that would see the discipline enriched by an ever-expanding array of methodologies.

The emergence of processual archaeology marked a watershed moment in archaeological practice. A profusion of novel methodologies, grounded in physical and chemical analyses, remote sensing techniques that paved the way for Landscape Archaeology, geophysics, and advanced statistical tools, reshaped the landscape of archaeological investigation. As archaeologists embraced these new methods, they unlocked unprecedented insights into the lives, cultures, and landscapes of antiquity.

Anthropology, sociology and basic philosophy, with their profound insights into human behaviour and societal dynamics, subsequently found their place within the archaeological narrative. The contextual interpretation of archaeological records acquired a new dimension, as archaeologists began to appreciate the intricate relationship between material remains and the sociocultural milieus in which they were embedded. This fusion of disciplines brought human stories to life, turning ancient artifacts into vessels of narrative.

As we stand on the precipice of a new era, the advent of Artificial Intelligence (AI) has thrust archaeology into uncharted territory. Archaeologists now find themselves at the vanguard of a technological revolution, experimenting with Language Model models (LLMs) and AI-driven algorithms. These digital tools hold the potential to revolutionize data analysis, enabling us to parse through vast volumes of information with unprecedented speed and precision. The marriage of archaeology and AI exemplifies the pinnacle of interdisciplinarity, where the analytical prowess of AI meets the nuanced understanding of human history.

The role of interdisciplinary approaches in archaeology has long been a subject of discussion, with each decade marking a resurgence of this debate. While interdisciplinarity brings undeniable benefits, it has, at times, resulted in a dispersion of focus and a divergence of research directions. Therefore, it is only natural to occasionally pause and question, especially as archaeology solidifies itself as an independent scientific field, whether interdisciplinarity remains essential. In a context where archaeology is increasingly asserting its autonomy within an academic landscape characterized by the growth of all disciplines, the answer remains resoundingly affirmative. Yet, it is the archaeologist

who ultimately shoulders the responsibility of selecting the most effective interdisciplinary tools and techniques. This responsibility is crucial in piecing together the intricate fabric of past human societies.

This is way we devoted the UISPP XX World Congress to "**Interdisciplinarity in Archaeology**". Here in Timișoara we embark on a journey through time and knowledge, tracing the evolution of archaeological methodology from its humble beginnings to its contemporary frontiers. We delve into the symbiotic relationship between archaeology and its interdisciplinary partners, acknowledging the profound contributions of each field to the collective pursuit of understanding our past. Just as a mosaic is composed of diverse fragments, so too is the realm of archaeology enriched by the collaborative efforts of archaeologists along physicists, chemists, geologists, statisticians, anthropologists, IT specialists, and more.

Defining itself as a unique scientific pursuit, archaeology is tasked with carving its own trajectory while harmonizing with the tapestry of knowledge woven by various disciplines. The intertwining threads of interdisciplinarity enhance our ability to decipher the narratives etched into ancient artifacts and landscapes. As the chapters of this volume, echoing the sessions of the Congress, unfold, we invite you to explore the captivating interplay between archaeology and its interdisciplinary companions. Each facet contributes to the ever-evolving saga of the pre and protohistory of humankind.

A revision to Tostevin's method for studying cultural transmission in the Pleistocene

Sofija Dragosavac*¹, Mihailo Radinović¹

1. Department of Archaeology, Faculty of Philosophy, University of Belgrade, Čika Ljubina 18-20, Belgrade, Serbia

The lithics are by far the most common class of material culture on the Paleolithic sites. Since the 19th century, researchers have developed different approaches for comprehending the variability of stone tools in time and space and generating insights about the past based on lithic remains. But, despite long research history and several approaches, large-scale assemblage comparisons remain largely subjective, descriptive, and vague.

One approach that enables large-scale comparison is developed by G. Tostevin to study cultural transmission in the Middle to Upper Paleolithic transitional period (Tostevin, 2012). This method is based on reduction sequences according to the behavior approach- the flintknapper's behaviors and decisions made during the process. Two behavior sets are recognized: technological behavior- blanks production and the curated behavior- retouched tool kit production. Quantifying those behaviors through attribute analysis based on knapping experiments, Tostevin combined qualitative technological insights with different statistical tools to make a quantitative, more formal assessment of the similarity of pairs of assemblages.

Even if Tostevin's approach was an improvement over qualitative methods when many sites were analyzed, several issues could improve aspects of this method. This study suggests several modifications of method to improve validity, applicability/repeatability, and interpretability. By applying the modified version of Tostevin's approach, we show how it can be used as a general method for conducting large-scale technological comparisons.

Key words: lithics; cultural transmission; technological behavior; Tostevin's method.

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Tostevin, G. 2012. Seeing lithics. A Middle-Range Theory for Testing for Cultural Transmission in the Pleistocene. Oxford, UK, & Oakville, CT: American School of Prehistoric Research Monograph Series, Peabody Museum, Harvard University; and Oxbow Books.

* Speaker/ Corresponding author: sofija.dragosavac@gmail.com.

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