

„ALEXANDRU IOAN CUZA” UNIVERSITY OF IAȘI
FACULTY OF HISTORY

**LATE BRONZE AGE IN JIJIA RIVER
CATCHMENT (ROMANIA). HABITATION AND
MATERIALITY**

SUMMARY OF THE PHD THESIS

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TABLE OF CONTENTS

Volume I:

INTRODUCTION.....	6
I. DEFINING THE WORKSPACE.....	11
Physical-geographical characteristics.....	11
Geological characteristics.....	14
Pedological characteristics.....	17
Hydrographic network.....	19
Climatic characteristics.....	20
Details regarding the fauna and flora of Jijia river catchment.....	21
Toponymic highlights	23
II. THE PERIODIZATION AND CHRONOLOGY OF BRONZE AGE	27
The evolution of cultural manifestations during Late Bronze Age.....	30
III. HISTORY OF BRONZE AGE RESEARCH IN JIJIA RIVER CATCHMENT.....	35
IV. THEORETICAL ASPECTS.....	42
Theory in archeology.....	44
Defining the operating concepts.....	48
V. METHODOLOGY.....	55
Materiality study.....	57
Macro-regional spatial analysis.....	59
Micro-regional spatial analysis. Case studies.....	68
Non-invasive prospections.....	70

VI. SETTLEMENTS.....	76
Ashmounds.....	89
Dwellings.....	84
Firing installations.....	88
Pits.....	90
VII. FUNERARY PRACTICES.....	92
General data regarding the organization of funerary spaces.....	93
Highlights on the spatial analysis of funerary finds from Jijia river catchment.....	100
VIII. MATERIALITY.....	107
Stone and flint.....	107
Bone and horn.....	118
Pottery.....	139
Volumetric typology.....	144
Functional typology.....	148
Aspects regarding the decoration of Noua pottery...	168
Metal.....	170
Evidences of metallurgical practices	190
IX. THE INTERDISCIPLINARY ANALYSIS OF NOUA COMMUNITIES HABITATION.....	201
The spatial analysis of Noua settlements from Jijia river catchment.....	201
Case studies.....	218
Ibăneasa river catchment.....	220
Jijia river middle sector.....	224

Jijioara river catchment.....	229
Interpreting the aerial photographs.....	233
Geophysical prospections.....	249
Invasive research.....	254
CONCLUSIONS.....	260
LIST OF ILLUSTRATIONS.....	274
LIST OF ANNEXES.....	295
LIST OF ABBREVIATIONS.....	296
BIBLIOGRAPHY.....	299
Volume II - ANNEXES	
Annex 1. ARCHAEOLOGICAL DISCOVERIES CATALOGUE.....	360
<i>Settlements</i>	361
<i>Funerary discoveries</i>	497
<i>Deposits</i>	505
<i>Isolated discoveries</i>	508
<i>Uncertain discoveries</i>	516
<i>Addenda</i>	520
Annex 2. HISTORY OF THE INTERPRETATIONS OF „ASHMOUNDS”.....	524
Annex 3. FIELD EVALUATION REPORT – COARNELE CAPREI – <i>DEALUL ARAMEII</i> (COARNELE CAPREI, IAȘI COUNTY)..	530
Databases for artefactual tipologies.....	536
Databases for spatial analysis.....	631
Plates.....	665

- **Introduction**

It has been 120 years since J. Teutsch introduced in the scientific literature some burial tombs discovered in the Noua neighborhood of Braşov. These were related 30 years later, by I. Nestor, to the human groups characterized by the “zolniki” settlements in eastern Europe, so that after another 30 years they would receive, from the same researcher, the name of Noua Culture and be included in the cultural complex Noua-Sabatinovka-Coslogeni. The study of the cultural manifestation could be considered a long and intense one, numerous studies being dedicated to it, both punctual and extensive. However, the stage of knowledge makes it a pressing issue, for which satisfactory answers were not yet found. This, together with the large amount of archaeological potential of the Jijia river basin (the area with the highest population density specific to the Late Bronze Age), were the main factors that influenced the selection of this research topic.

The presence of Noua communities in the workspace has been treated, over the last two decades, in synthesis works (Dascălu 2007; Diaconu 2014) and not only, but, nevertheless, the general impression is that of resuming and reinterpreting the information emphasized in the second half of the twentieth century by A.C. Florescu (1964, 1991).

Starting from this, the present approach is meant to be an interdisciplinary research, with a monographic character, that will identify, first of all, the relationship between the communities of the Late Bronze Age and the occupied environment, applied for the Jijia

river catchment (on Romania's territory). The material component that these human groups “left” to posterity was also targeted, as a link between the two main “actors” mentioned above. Such a theme highlights the way in which the geographical peculiarities determined the establishment of new settlements, which are the preferences of human groups during the studied interval, but also the way in which the communities occupied, respectively transformed, the inhabited environment. In addition, the analysis of materiality provides a set of data on the behavioral specificity, and related to the results obtained from spatial analysis, can complete the picture already formed on the late period of the Bronze Age.

In this sense, the research entitled *Late Bronze Age in Jijia river catchment (Romania). Habitation and materiality* was structured as follows: presentation of general guidelines on the chosen topic, explanation of theoretical and methodological aspects that accompany the approach, presentation of the existing set of knowledge, conducting the actual interdisciplinary analysis and discussion of results, drawing conclusions such as following the relation of all the research segments pursued, all these being completed by a series of annexes.

Although, as mentioned above, studies dedicated to Noua human groups are current, with substantial approaches that include the territory of interest, this research is highly original as it aims to analyse the relationship between communities and the environment using modern methods (GIS, non-invasive prospecting, aerial photography, LiDAR measurements), such studies being new for the

research of Late Bronze Age in Jijia river catchment. Also, the introduction in the scientific circuit of 60 newly discovered settlements, together with many artifacts identified during the field research, certainly contributes to shaping a completer and more complex image of the chosen chronological range, in general. In this regard, I would mention the low number of invasive investigations carried out in the workspace, and not only, along with the low degree of publication of the archaeological material discovered and the results obtained.

Thus, the proposed doctoral thesis intends to address in a critical and personal approach the cultural phenomenon that characterized the end of the Bronze Age in the basin of Jijia river, by correlating archaeological and bibliographic sources with novel information obtained from my own field research, with sets of data revealed by spatial analysis and with the results provided by non-invasive and invasive investigation methods, constantly using data originating in related fields. All this was done in attempt to reveal as much information as possible about the Noua human groups, much discussed but very little researched and understood.

This brief introduction cannot be concluded without expressing my gratitude to those who helped me during the research. Thus, I would first of all address respectful thanks to Prof. PhD. Lucrețiu-Ion Bîrliba, the scientific leader of this paper, for the trust and support provided during the three years of doctoral studies.

A thought of deep gratitude goes to assoc. professor PhD. Neculai Bolohan, for the guidance offered during the last eight years,

for the numerous indications and valuable advices and, also, for suggesting this research topic.

I would like to thank PhD. Felix-Adrian Tencariu, first of all, for all the support and trust given, for the acceptance to use the newly discovered artifacts from the settlement of Isaiia - *Balta Popii* and, also, the results of the radiocarbon analysis from Ruginoasa – *Dealul Ruginii*. I also express my gratitude for coordinating the archaeological survey from the site of Coarnele Caprei - *Dealul Aramei I*, but also for the help offered in conducting non-invasive surveys.

A special role in carrying out and finalizing this research belongs to PhD. Andrei Asăndulesei, to whom I sincerely thank for all the support provided, for guiding my steps in order to use interdisciplinary research methods and, also, for the availability to conduct geophysical investigations and field researches.

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I. The **definition of the workspace** focused on exposing the physical-geographical, geological, pedological and hydrographic characteristics that transformed the area of interest into the main area of concentration of Noua human groups. On this occasion, the features of the paleoenvironment were also highlighted, using the results obtained from studies of paleoclimate, archaeobotany and archaeozoology. Last but not least, issues related to the toponymy of the area, an important working tool in the proposed research, were also addressed.

II. The **periodization and chronology of the Bronze Age** in general, and of the Noua Culture in particular, were very important themes, without which it is difficult to understand the transformations that took place in the chosen chronological interval. The chapter started with the systems elaborated at the level of the whole Europe, the emphasis being put on the exposition of the various periodisations and chronologies proposed for the Romanian territory.

III. The **history of the Bronze Age research in Jijia river basin** has followed the key moments in the study of this chronological interval in the workspace, starting with the end of the 19th century and up to the most recent publications. I considered it necessary to supplement this information with some of the essential works in the present approach, even if the geographical area concerned was not the proposed one. Also, since one of the main objectives of the doctoral thesis is the interdisciplinary analysis of various characteristics specific to Noua communities, I chose to dedicate a few lines to the history of interdisciplinary research undertaken for the Late Bronze Age in the east of the Carpathian Mountains.

IV. The chapter dedicated to **theoretical aspects** was structured so as to provide, first of all, information on the context in which the concepts and methods used appeared (from the perspective of the main paradigms that influenced the archeology of the last century), their definitions and working principles and a short history of their application.

V. As the present paper involved the integration of various working methods, we considered it necessary to dedicate a separate chapter to **the research methodology**. Thus, all the steps followed in the study were exposed, the aspects considered in performing spatial analysis and materiality, in the use of geophysical and remote sensing surveys and in conducting invasive research being treated in particular.

VI. The chapter dedicated to Noua **settlements** focused, in particular, on the existing information in the specialized literature. Thus, their main characteristics, together with the numerous identified opinions,

regarding the functionality of the ashmounds, and with the types of discoveries made inside them (housing, combustion plants and pits) were synthesized and presented. In addition, was included information revealed as a result of the identification of 60 new settlements (with the help of satellite images, orthophoto-plans and LiDAR type measurements).

VII. The presentation of the characteristics related to the **funerary practices** of the Late Bronze Age communities focused, in particular, on the data sets obtained from the research of the necropolises from Trușești - *Țuguieța*, Probota - *În Baie/Dealul Unchetea/Dealul Moșanca* and Brăești – *Vatra satului*. Also, landmarks from the calculation of hydro-geomorphological indicators and from the use of spatial analysis methods of funerary discoveries were exposed.

VIII. The **materiality** was treated by creating functional typologies, specific to each of the raw materials used. The support of the approach was represented by the artifacts identified in the invasive research, which provided a clear archaeological context. The vast majority of them were taken from the bibliography, but new pieces were also introduced, discovered in the settlement of Isaiia - *Balta Popii*. In order to be able to outline an image as complete as possible, I also chose to mention the objects identified in the field research, of older or more recent date, also making references to analogies outside the workspace. Also, for each of the four sub-chapters, a brief history of research was added, accompanied by the methodology followed in establishing the classifications.

In the case of pottery, I tried to identify the intended functions of ceramic containers, starting from the volumetric typology and relating the information thus obtained with those regarding decoration, context and dimensions.

Also, regarding the metal artifacts, we considered it necessary to dedicate a special segment to the evidence of metallurgy practice in the area of interest.

IX. All of the above represented the illustration of the entire stage of knowledge existing for the Late Bronze Age period in the Jijia river basin, constituting, at the same time, the foundation of the **Interdisciplinary Analysis of the habitat of the Noua communities**. The latter was performed at both macro- and micro-regional level. The first part consisted in the calculation of hydrogeomorphological indicators (absolute altitude, degree of slope inclination, degree of exposure of the slopes to the sun, Topographic Position Index, automatic classification of landforms, distances to the nearest water sources and settlements) for each settlement, complemented by the use of spatial analysis methods such as the calculation of the aggregation coefficient or the estimation of density, at the level of the entire workspace. Due to the fact that on the surface of many sites have been signaled ashmounds, it was possible to carry out a new type of study, which aimed to establish the occupied areas, the number and diameters of the ashmounds, and the distances between them.

As the geographical framework of interest is vast, presenting various relief features, in order to be able to determine whether it is a

common set of preferences or an adaptation to environmental conditions, I considered useful the comparative analysis of the results obtained in three micro-areas, considered as case studies: the Ibăneasa river basin, the middle sector of Jijia and the Jijioara river basin. These were chosen so in order to belong to each subunit of the Jijia catchment and to present as different physical-geographical characteristics as possible. Within this segment of the research, significant results were provided by the visibility analyses, performed for the three case studies.

Since the current research benefited from numerous personal aerial photographs, LiDAR measurements etc., I chose to dedicate a subchapter to the interpretation of aerial photographs, for one of the previous case studies (Jijioara basin), but also for some special archaeological situations, identified during field research.

An interdisciplinary approach such as the one proposed cannot be considered complete without the use of non-invasive prospecting methods. Their relevance in the research of archaeological sites has been demonstrated many times over time. However, for the period in question, there is very little such research. In order to use these geophysical techniques, it was necessary to select a settlement verified in the field, which would present, on the surface, ashmounds and archaeological material, specific to the Noua culture, and for which the consent of the land owner would be obtained. Thus, we chose the settlement from Coarnele Caprei - *Dealul Aramei I*, a new discovered site, identified with the help of satellite images. It was investigated magnetometrically and by measuring the electrical

resistance of the soil, later being conducted also an archaeological survey.

- **Conclusions**

The interdisciplinary research of the communities of Noua culture that occupied Jijia river's basin, and not only, is increasingly necessary in the approach of archaeologists to reconstruct, as truthfully as possible, both the environment and the space inhabited by these human groups.

The key element of this approach was the concept of *landscape*. It designates the space, as it was "seen" and perceived by the communities that populated it, gaining a symbolic expression. The natural environment, together with its geomorphological features, both at micro and macroregional level, has influenced over time not only the location of settlements, but also the population and development of human groups. The physical-geographical characteristics and the present natural resources determined the appearance of microzones, in which the population density was higher. The various features of the occupied space had a major impact on the behavior of prehistoric communities, so that, by analyzing and interpreting it, a number of constants and preferences could be established regarding the choice of place for the establishment of a new settlement, exploited resources and among contemporary human groups. In addition, the present study also used non-invasive methods of geophysical prospecting and remote sensing, but also actual archaeological research (field trips, archaeological survey), in order to build an integrated model of a geo-environmental system. At the

same time, the emphasis on the use of methods from environmental archaeology, landscape archaeology and geoarchaeology was influenced by their ability to provide a very important amount of data, without requiring a very consistent archaeological material since, although the number of studies dealing with the end of the Bronze Age in the Jijia river basin is quite consistent, in reality, the data we have is extremely low and far from satisfactory, at least for the suggested workspace.

Thus, through this paper, I wanted to propose a model of interdisciplinary research that can be a starting point in resuming investigations on the Late Bronze Age in this territory, and as an argument are the novel data sets obtained by using methods and techniques complementary to archaeology.

In conclusion, I believe that this approach has helped to complete the already existing image of the human groups that inhabited Jijia river's basin, by signaling a consistent set of new settlements, introducing a significant number of archaeological materials in the scientific circuit, asserting new sets of data, obtained with the help of analyses of environmental and landscape archeology and their correlation with the results of the use of non-invasive and invasive research methods.

LIST OF ABBREVIATIONS

Am.Anthropol. - American Anthropologist, Wiley for the American Anthropological Association, United States of America.

ArhMold - Arheologia Moldovei, Institutul de Arheologie, Iași.

CCA - Cronica Cercetărilor Arheologice din România (Campania..), Institutul Național al Patrimoniului, București.

CCDJ - Cultură și Civilizație la Dunărea de Jos, Muzeul Dunării de Jos Călărași, Călărași.

JAA - Journal of Anthropology & Archaeology, State University of New York at Oswego, United States of America.

MemAnt - Memoria Antiquitatis, Complexul Muzeal Județean Neamț, Piatra Neamț.

PAS - Prähistorische Archäologie in Südsteuropa, Berlin-Kiel-München.

SAA - Studia Antiqua et Archaeologica, Seminarul de Istorie Antică și Arheologie al Universității „Alexandru Ioan Cuza” din Iași, Iași.

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