

THE ROMANIAN MINISTRY OF EDUCATION
„LUCIAN BLAGA” UNIVERSITY FROM SIBIU
„NICOLAE LUPU” FACULTY OF HISTORY

**FORTIFICATION SYSTEMS
IN NEOLITHIC AND THE COPPER AGE**

SCIENTIFIC COORDINATOR:

Prof.univ.dr. Gheorghe Lazarovici

PhD CANDIDATE: Sechel Ovidiu

Sibiu 2014

CONTENTS

CHAPTER I. INTRODUCTION. THE AIM OF THE DOCTORAL DISSERTATION. HISTORY OF DISCOVERIES.	
RESEARCH METHODS	3
CHAPTER II. THE TYPOLOGY OF THE FORTIFICATION SYSTEMS.....	4
CHAPTER III. NEOLITHIC AND COPPER AGE FORTIFICATIONS IN ROMANIA	5
II. 1. ICLOD	6
II. 2. ŢAGA.....	6
II. 3. TURDAS	7
II. 4. PARŢA	7
II. 5. UIVAR	8
II. 6. RUGINOASA.....	8
CHAPTER IV. THE PARTS OF A DEFENSIVE SYSTEM	9
III. 1. THE DITCHES.....	9
III. 1. THE PALISADES.....	9
III. 1. ACCESS SYSTEMS	9
CHAPTER V. BUILDING TECHNIQUES OF THE FORTIFICATION SYSTEMS.....	10
CHAPTER VI. THE WARRIOR CHARACTER OF PREHISTORIC SOCIETIES	10
CHAPTER VII. THE FUNCTIONALITY OF THE DEFENSIVE ARCHITECTURE	11
VII.1 FUNCTIONALITY ISSUES	11
VII.2. FUNCTIONALITY HYPOTHESIS	12
CONCLUSIONS.....	14
REFERENCES.....	15

Keywords: *fortification, Neolithic, Washers, conflict, defense system, palisades, systems access, prehistory*

CHAPTER I. INTRODUCTION. THE AIM OF THE DOCTORAL DISSERTATION. HISTORY OF DISCOVERIES. RESEARCH METHODS

Once the English poet John Donne said "*No man is an island, Entire of itself,*" a statement still very true as man cannot stand alone in time which comes to prove that there is a complex relationship both in interpersonal relations and the ones between man and the surrounding environment. These interconnections and networking had existed since the "dawn" of humanity, whilst nature and the features of these reports had led to the division of "the long historical time" in the periods known after the raw material used for making basic tools: 1) stone and 2) metal. These ages were subdivided into eras, after processing techniques: 1) carved stone and 1b) polished stone; or after the metal used: 2) copper; 2b) and 2c bronze) iron (until modern times).

The magnitude/range of the new discoveries and archaeological excavations have been accelerated by: *the methods of terrestrial physics* (electrical resistivity, magnetic resonance imaging, remote sensing, gravimetric, GPS, topogrametrie etc.); *access to aerial photos* (older ones in the archives and more recent satellite-base ones); *interdisciplinary projects* generated by national programs for modernization of road infrastructure (motorways, national road, etc.) and construction of industrial parks or residential neighborhoods; *widespread use of computers* both for data storage and information processing have opened new perspectives for analysis, research and interpretation of prehistoric fortifications.

The prehistoric defense structures are the starting point for studying this phenomenon.

This paper frames a synthesis based on multi-level analyses performed on the components of the defensive systems of Neolithic and Copper Age - period of time marked by profound changes at all levels (individual / community / economic / social / cultural / religious / political / military : especially psychosomatic and mental).

Various classifications according to shape or other aspects of the defensive elements reflect the architectural design in that particular period as well as the place every defensive fortification held within the defensive system throughout the Neolithic. In addition, a novelty for the study of defensive structures in Romania is devising working templates or catalogs.

Based on these elements, numerous reconstructions can be operated thus getting a more realistic image of the prehistoric "fortress".

On the other hand, the analysis of the human and material resources involved in building these settlements offer a different perspective on the Neolithic and Copper Age social structure, the hierarchy within the society and its organization.

Consequently, the analysis of the fortifications from this period opens the door to a world perceived as "primitive" until recently but ready to make the transition towards a *state like* organization. Even if one cannot yet speak of institutions or a social hierarchy very clearly outlined, the almost military organization of communities reminds us of the city-states of the Fertile Crescent.

CHAPTER II. THE TYPOLOGY OF THE FORTIFICATION SYSTEMS

Since the first detection of defense systems and so far, researchers' minds have been constantly analyzing, ordering and comparing them. The shape, composition, certain architectural patterns have led to the development of classifications, comparisons, attempts to explain their evolution in time and spread of architectural concepts in certain areas.

Despite peculiarities architectural "groups" can be distinguished with dominant features related to the shape of the settlement, the number of grooves, entry systems, etc. These architectural patterns almost overlap the range of the cultural similarities but one can identify elements of the defense structures, which, we believe, are connected to the development of military architecture; the differences between them are given by the geomorphological characteristics of the controlled area, human and material resources at their disposal, etc. The design and construction of such a system depends on several factors, such as: relief structure, local topography and geology, human resources, materials, time available.

The architectural variety of these monumental constructions caused us many problems in terms of their classification. The difficulties were given by the variety of present elements (ditches, palisades, alleged defense banks, entries, towers, different constructions), the shape of the shape of the entire system (circular, semi-circular, rectangular, irregular, undefined), the number of elements (number of ditches, palisades, ways of access). After numerous attempts we managed to create a typology of "*the system*". The defense system means a set of

dependent fortification elements put together and forming an organized ensemble (DEX). Thus we have developed a classification by form and then defining elements of a defensive system: number of ditches, palisades, access systems.

For automatic processing and synthesizing information, the fortification systems were grouped into 6 types, each with subtypes based on the number of grooves, variations according to the number of palisades and subvarieties depending on the number of access systems. From this point of view the following types of fortifications resulted: circular, semi-circular, oval, rectangular, irregular shaped, unspecified. The last type "*unspecified shape Fortifications*" comprises unexplored deep trenches or palisades, with an unknown route. We treated separately bank defense systems. These items are rare relative to the number of defense systems and their existence as a supplementary defense is questionable. From a total of 400 analyzed systems only about 30 of these have these elements, interpreted as waves/banks of defense. For this reason, these items will be treated in a separate chapter.

Thus the systems have been analyzed based on the following format

TYPE = BY FORM

SUBTYPE = number of grooves

VERSION = by the number of palisades

SUBVARIETIES = by the number of gates

CHAPTER III. NEOLITHIC AND COPPER AGE FORTIFICATIONS IN ROMANIA

As mentioned in the history of discoveries, on the present territory of our country, the defense elements are observed and investigated since the late nineteenth century. But one shall not dwell on all Neolithic and Copper Age settlements with fortified elements discovered and researched in the last 150 years. Negligible research, in the interwar period (site of Cucuteni, Ruginoasa etc.) or the post-war (Hăbășești, Teiu etc.) has brought new extremely precious information about the prehistoric military architecture. The research of fortifications especially Cucuteni was facilitated by the location of settlements (cliffs, hill snouts etc.) which did not require such complex defense systems and monumental scale such

as the Banat and Transylvania area. In recent decades research has identified dozens of defense systems Neolithic and Copper Age. Most of them being insufficiently investigated.

II. 1. Iclod

The station from Iclod began to be investigated early in the beginning of the last century. In 1903, Roska Marton performed the first surveys and beginning with 1978 settlement began to be investigated under the supervision of Gheorghe Lazarovici. Research has identified dwelling structures, numerous ritual pits, cemeteries, and some of the elements of fortification.

Magnetometric research conducted by researchers from Cluj (George Lazarovici) in 2007, in collaboration with the Institute of Pre and Proto-History of Kiel (Carsten Mischka) revealed the true extent of the system of fortifications here. Measurements identified the structure of the entire settlement and defense system. The defensive constructions have a circular route, being developed in successive phases. The data obtained so far tend to confirm the existence of 4 phases of fortification.

II. 2. Țaga

The station of Țaga was discovered in 1995 by Michael Wittenberger while doing sewage and utilities works for a water treatment station. Since then the site has been researched in many rescue excavations, diggings and magnetic prospects. There were targeted both housing structures, and, especially in the last campaigns, the defense system of the settlement. The Neolithic settlement belonging to Iclod Group (I-II), with Petrești influences (phases A-AB), was situated on a high terrace about 20-40 m above the lake from Țaga, Big Lake, between the towns of Țaga and Sucutard ranging on an area of about 15 ha/hectares. On this terrace impressive fortification systems were built in two, maybe three successive phases. Stratigraphy confirmed the existence of three living levels (Lazarovici 2009, 233). The fortress was apparently designed to control the means of communication with central, eastern and southern Transylvania, important areas for cultural exchanges.

II. 3. Turdas

The Turdaş – „Luncă” site has been investigated since 1875 by ZsofiaTorma, to achieve a comprehensive collection of materials from Turdaş. In 1992 Turdaş site receives a new "chance" through systematic research coordinated by S. A. Luca (Luca 1994; 1995; 1996; 1997). The first research aimed at clarifying the stratigraphy and captured the structures of the dwellings architecture (huts, housing surface). The Neolithic settlement was large, lying from east to west on over 1200 m, and from north to south on 300 m (Luca 2012, 19). Approximately 30% of the site was destroyed by the river Mures. Fortification systems were investigated in three areas: A, B and C. The research in 2011, coordinated by S. A. Luca discovered the existence of one of the most complex Neolithic defense systems with numerous stages of development, consisting of concentric groove systems and palisades. An extremely tortuous, but well developed entry system was researched and in the eastern part of the fortification (area A).

II. 4. Parța

The site is located almost 18 km south-west of Timisoara. The site is one of the first and most famous prehistoric settlements in Banat (Lazarovici 1986, 12).

As it regards the fortification systems research has revealed the existence of a fortification system belonging to the developed Neolithic (Banat culture II-III) and the defense items dating from the Copper Age, the Tiszapolgar culture (Lazarovici 2001, 196). Being developed in several phases, the defense was circular (some of it was destroyed by the river Timis). From the oldest fortification only the defense ditch was investigated. The large moat surrounded the sacred area. The trench was 4 m wide and 2.5 m depth (Lazarovici 2010, 290).

II. 5. Uivar

The Neolithic settlement Uivar (Knoll "Gomila") is situated almost 40 km from Timisoara. Visible since the Middle Ages the settlement was not systematically investigated until 1999 as collaboration between the Museum of Banat from Timișoara (Fl. Drasovean) and the University of Würzburg (prof. H. Becker). Magnetic prospecting took place between 2-6 October 2000 (Schier, 2004, 150). Since 2001 extensive archaeological sections have been done (see Fig. II.4.). Magnetic detection revealed the existence of a circular settlement with a diameter of about 160 m, in which one can observe ditches and palisades. The entire area was surrounded by defensive elements, about 8 ha, maybe even 11 to 12 ha/ hectares.

II. 6. Ruginoasa

Ruginoasa site began to be systematically investigated since 1926 by Hortensia Dumitrescu (Dumitrescu 1933). The site was partially affected both by the arrangement of trenches, the machine gun nests in World War II, and especially by the starting of quarrying since 2001, during which about 20% of the site had been destroyed (Lazarovici 2012, 22, 24) . Magnetic research in the autumn of 2008 captures the existence of a complex fortification system on the northern side of the settlement. The semicircular fortification was made up of four defensive ditches and a palisade (Lazarovici 2012, 27). The 4 magnetic scanned surfaces captured the existence and the partial route of the elements of defense. Four concentric grooves on the visible surfaces 2-4 there can be seen. The dimensions of the ditches were estimated based on the foundlings: the first trench was 2-3 m, trenches 2 and 3 were about 6-7 m wide and the outer groove was about 4 m wide, being studied on a distance of about 30 m (Mischka, 2008, 113). The distance between ditches 1 and 2 was about 50 m; 10-12 m, between trenches 2-3; 30-40 m between trenches 3-4 (Lazarovici 2012, 27).

CHAPTER IV. THE PARTS OF A DEFENSIVE SYSTEM

III. 1. The Ditches

The ditches are basic components of a defensive system. They must be analyzed from several perspectives: depth, width, profile, shape etc. Thus, we created typologies based on these characteristics that define them. Systems analysis solely based on these criteria (eg. depths and widths) can be misleading as there can be ditches close in size in different cultural areas, which are not related to each other. Due to this reason their comparative analysis should include multiple filters in shape, length, width, etc.

III. 1. The Palisades

One extremely complicated problem in terms of reconstructing are those related to palisades. Through their location, construction techniques, reconstructions, architectural aspect, efficiency, palisades raise many questions.

Almost all fortifications come with palisades that provide protection by elevation (and certainly "surrounding road") and provides control over a certain range of the outside territory.

III. 1. Access Systems

For a consistent and logical classification of the access systems we have devised a classification system of the integral parts. Thus we separated "the entrance" from „the gate". The "entrance" referring to the passage through the trench (ditches). "The Gate" is the access by palisade. I set therefore separate kinds of typologies for the two elements, although they are sometimes being treated (if they belong to the same living phase) as a whole, making up a system of access.

Inputs are, as is the entire structure of the fortifications, extremely varied. Their position, their number, their pieces present within the gates (towers, turrets) provides a highly

complex image on this issue. In this "chaos" only dividing a typology and using a database can give us an overview of some common issues.

The gate symbolizes the crossing place between two moods, two worlds, between the known and the unknown, between light and darkness, between wealth and poverty (Chevalier, 1993, 113-118). The gate opens onto a mystery. But it also has a dynamic value, a psychological one: for, it does not only mark a threshold, but it also invites the man in.

CHAPTER V. BUILDING TECHNIQUES OF THE FORTIFICATION SYSTEMS

The structure, complexity and the size of fortifications discovered through archaeological excavations or just Archaeometrically sighted over time , have aroused interest, the search for answers to many questions, prompted the development of a hypotheses as well as the experimental performance of technical work to assist the understanding of the prehistoric architecture. In this context one will present some technical and methodological principles underlying the defensive system design and reconstitution attempts made by Romanian and foreign specialists, ourselves helping to reconstitute graphical layout of palisades after typological catalogs of dump posts. The understanding of such constructions involves understanding the lifestyle, way of thinking, social and inter-tribal relations, and last but not least, it is closely connected with the universe, with the perception of cosmic and terrestrial world.

CHAPTER VI. THE WARRIOR CHARACTER OF PREHISTORIC SOCIETIES

"The Neolithic Revolution" brought and at the same time produced major changes not only on the economic, social, cultural, religious leves. It is the time that captures the birth of military thinking. The economic, social, political transformations caused profound changes within the structure of human relations, the relationship between the individual and the community. Communities (agricultural, pastoral) are in fact both entities and identities. There is an umbilical connection between the individual taken as part of this entity (clan, tribe) and

the entity itself. He is dependent on it, the community offers everything and takes it all away; the individual is also defined by and lives through it. As a result the leading role in conflicts is the maintenance of this identity.

Archaeological and ethnographic evidence of prehistoric conflicts invite us to reconsider the image of the presence of this phenomenon in the Neolithic and Eneolithic societies. The idyllic image of farmers coexisting peacefully begins to change. More and more studies and ethno-archaeological excavations come to show the high frequency of conflicts. If until recently wars were treated only when the Indo-Europeans appeared, new findings challenge this view.

CHAPTER VII. THE FUNCTIONALITY OF THE DEFENSIVE ARCHITECTURE

VII.1 Functionality issues

The functionality issue was "developed" when the rondels occurred. These fortifications were circular, with sizes between 55-200 m diameter without dwelling structures within them. They are particularly specific to the Lengyel Culture. Their orientation, mostly towards the solstices, lack of housing spaces and many rituals detected fueled a growing literature around this topic. However, discoveries made in recent years, not only in the Lengyel Culture area, but across the entire Europe (from Britain to the Caucasus) imposed rethinking this issue, redefining the concept of "Rondel" their spread and hence their functionality.

VII.2. Functionality Hypothesis

VII.2. 1. Military Constructions: defense or shelters

The idea of defense or shelter was the first interpretation on the role of ditches and palisades, although, nowadays this hypothesis is not fully supported by all researchers. We do not exclude multiple functionalities, but take into consideration that defense is the primary function of these buildings. The fact that architectural diversity of the fortifications is extremely complex lead to numerous interpretations about their role. Statistics confirm the frequency of these buildings. At least 70% of the Early Linear Pottery Culture settlements (LBK) were fitted with defense and for 54% of these entry systems had been identified in order to control and direct access (Curtis, 2009, 173).

VII.2. 2. Political and Social Center

Another use of these constructions was the social one. Thus it includes the idea of protection and control of surrounding settlements. The existence of such a relationship between the center and the territory it defends, but it also controls it while assuming the existence of a series of additions. Firstly one must presume the existence of economical, political interdependence and not least the defense.

VII.2. 3. Places of Worship

The hypothesis regarding the religious and astronomic role of the prehistoric defense assemblies is widely spread, especially in recent years. The comparison with the famous Stonehenge complex, despite the fact that there is a difference of at least 2000 years between the two types of constructions triggered the creation of an extensive quite popular literature. These "deviations" related to interpretations do not necessarily have a positive effect for scientific research, although they attract the public attention to the existence of such constructions. Thus the whole picture of the design of the buildings would indicate the center of the universe, that *axis mundi*. The main argument supporting this hypothesis is the entrance orientation.

VII.2. 4. The Domestic Role

To meet the domestic role these constructions should meet a series of criteria. First, there must be an open space large enough to accommodate the herds of cattle. Also there should not be any permanent housing in that area. The presence of the cattle in this context would lead to a rapid deterioration of the houses, since homes were built of adobe, extremely vulnerable to cattle in particular their bucking. If we start from this premise we must assume the existence of a settlement in the vicinity of the building. The presence of a permanent water source is another vital requirement for this hypothesis.

VII.2. 5. Astronomical Observatories

In recent decades a new interpretation "*became famous*" and *sensational* in literature. The Circular Constructions, the ones called "rondels" in particular, have been labeled as "solar observatories", "special calendars", "Cathedrals of the Stone Age" (Schier, 2011, 24)

If we consider such a situation, one must set a number of basic principles. First of all, the doors must have a certain orientation at certain times of the yearly calendar. The observation of a celestial body requires the existence of at least two fixed points on the ground as the basis of observation. This positioning should be visible and "decipherable" today. Certainly, the existence of such a calendar would have had many benefits: when establishing both a celebration and profane activities: planting, picking, harvesting, etc. Setting the holidays was sufficient, knowing that the traditional agricultural societies establish their agricultural year depending on the religious calendar.

VII.2. 6. Cemeteries

The fact that some fortifications protected the cemeteries within could not be omitted when analyzing their functionality. This can be linked to a cult of ancestors or simply witness the mentality of a community. It is hard to understand why some cemeteries were located inside the fortified settlement, as that this would require large additional costs. Advancing the hypothesis that some of these constructions had the special function as a cemetery served for many communities cannot be supported.

CONCLUSIONS

The Neolithic brings about major changes in the socio-economical religious, inter-community and especially the military relations. Technical and economic transformations underly the evolution of these types of relationships. The economy becomes more prosperous with an intense life and well organized in terms of administrative, political, religious, economical and especially military aspects. Increasing production capacity through intensive and extensive use of resources developed in parallel with the introduction of effective work and a rational organization of labour. The accumulation of resources had created the necessary framework to conduct extensive municipal works, regardless of their socio-religious or military usefulness. The traces of these large urban works conceal the existence of new economic relations of cooperation (mutually beneficial) or enmity between different communities.

Military conflicts are hidden by the insufficient information that we have; therefore we use terms like "*fortified settlements*" instead of "*city*" or "*important person*" instead of "*king*", "*a new cultural horizon*" instead of "*the annihilation of a population*" (Vencl 1984, 130). Studying these relationships, alliances and conflicts, is actually the study of a historical phenomenon which left disproportionately mere traces of certain urban works.

Under these "footprints" there lies a complex world with everyday joys and tragedies, the genesis of ancient political-military relations tend to define a particular piece of history.

REFERENCES

- ***Hăbășești 1954
VI. Dumitrescu și alții, Hăbășești. Monografie arheologică, Ed. Academiei R.P.R., 1954, p. 204 și urm.
- Becker H. 2002
Becker H. 2002: Vorbericht über die rumänisch-deutschen Prospektionen und Ausgrabungen in der befestigten Tellsiedlung von Uivar, jud. Timiș, Rumänien (1998–2002)
- Becker H. 2004
Becker H., Geomagnetische Prospektion, în Schier W., Drașovean Fl. et alii 2004
- Bejan-Micle 2006
Bejan, A., Micle, D., Arheologia o știință pluridisciplinară. Metode clasice și moderne de lucru, Editura Excelsior Art, Timișoara, 2006
- Bem 2001
Cătălin Bem, Les fortifications de l'aire Precucuteni et Cucuteni. Entre les axiomes et archétypes, în Preistoria Dunării de Jos, Călărași, 2001, 53-98
- Bem 2007
Cătălin Bem, Traian Dealul Fântânilor fenomenul Cucuteni A B, Ed. Cetatea de Scaun, București, 2007
- Bîlcu 1981
Silvia Marinescu Bîlcu, Tîrpești. From prehistory to history in eastern Romania, BAR International Series 107, 1981, 24-30
- Chagnon 1988
Napoleon A. Chagnon, Life histories, blood revenge, and warfare in a tribal population, în Science 26 February 1988, Vol. 239 no. 4843, p.985-992
- Chevalier 1993
Chevalier, J., Gheerbrant, Alain, Dicționar de simboluri, Edit. Artemis, București, 1993
- Christensen 2004
Jonas Christensen, Warfare in the European Neolithic, în Acta Archaeologica vol. 75, 2004, pp. 129–156
- Ciubotaru 2003
Dan Leopold Ciubotaru, Raport de săpătură Dudeștii Vechi, CIMEC 2003
- Ciută 2006
Marius Mihai Ciută, Introducere în arheologia

generală – note de curs, Universitatea „1 Decembrie 1918”,
2006

- Comșa 1986 Eugen Comșa, Șanțurile de apărare ale așezărilor neolitice de la Radovanu, în Cultură și civilizație la Dunărea de Jos II, Călărași, 1986
- Curtis 2009 Curtis N. Runnels, Warfare in neolithic Thessaly – a case study, în Hesperia 78 (2009), 165-194
- D. Micle *** Lazarovici C.-M. et alii 2010 Lazarovici C.-M., Lazarovici Gh., Țurcanu S., Știrbu M., Micle D., Măruia L., 2010, Ruginoasa, com. Ruginoasa, jud. Iași, în CCA Cronica Cercetarilor Arheologice 2010,
- Drașovean 2007 Florin Drașovean, The neolithic tells from Parța and Uivar. Similarities and differences of the organization of the social space, în Analele Banatului, Arheologie-Istorie, XV, 2007, 19-32
- Dumitrescu 1933 H. Dumitrescu, La station préhistorique de Ruginoasa, în Dacia, III-IV, (1927-1929), 1933, p. 56-87.
- Dumitrescu 1957 H. Dumitrescu, Șantierul arheologic Traian, în Materiale și Cercetări Arheologice, vol III, 1957, p. 115-128
- Dumitrescu 1967 Vladimir Dumitrescu, Hăbășești, satul neolitic de pe Holm, Ed. Meridiane, București, 1967
- Eckert 1990 Jörg Eckert, Überlegungen zu Bauweise und Funktion Michelsberger Erdwerke im Rheinland, în Jahresschrift für Mitteldeutsche Vorgeschichte, Berlin 1990, 399-414
- Gogâltan 2004 Florin Gogâltan, Tell uri în orientul Apropiat și bazinul Carpatic, în Acta Terrae Septemcastrensis III, Ed. Economică București, Sibiu, 2004
- Guilaine 2005 Jean Guilaine, Jean Zammit, The Origins of War Violence in Prehistory, Blackwell Publishing, 2005
- Hamblin 2006 William J. Hamblin, Warfare and History in the ancient Near East to 1600 B.C., Routledge, 2006
- Harding 2006 Anthony Harding, Susanne Sievers, Natalie Venclova,

Enclosing the Past: inside and outside in prehistory, Sheffield Archaeological Monographs 15, 2006

Höckmann 1990 Olaf Höckmann, Frühneolithische Einhegungen in Europa, în Jahresschrift für Mitteldeutsche Vrgeschichte, Berlin 1990

Kazdova 1990 Eliska Kazdova und Zdenek Weber, Arhitektur der Lengyel Rondelle im mittleren Donauraum, in Jahresschrift für Mitteldeutsche Vrgeschichte, p.159-169, Berlin 1990

Laszlo 1993 Attila Laszlo, Așezări întărite ale culturii Ariușd-Cucuteni în sud-estul Transilvaniei. Fortificarea așezării de la Malnaș-Băi, în Arheologia Moldovei XVI, 1993, 33-50

Lazarovici - Kalmar 1993 Gh. Lazarovici, Z. Kalmar, Săpăturile arheologice de la Iclod (campania 1988), în Apulum, XXVII-XXX, 1993, 23-57

Lazarovici 2001 Gh. Lazarovici, Fl. Drașovean, Z. Maxim, Parța: monografie arheologică, Editura Waldpress, Timișoara, 2001

Lazarovici 2004 Cornelia Magda Lazarovici, Gh. Lazarovici, Noi săpături arheologice la Ruginoasa – Dealul Drăghici, în Acta Terrae Septemcastrensis III, Sibiu 2004

Lazarovici 2004a Gh. Lazarovici, Raport de săpătură. Dudeștii Vechi. Punct: Movila lui Deciov, CIMEC 2004

Lazarovici 2009 Gh.Lazarovici, Zoia Maxim, M.Meșter, Istoria societății, în Monografia comunei Țaga, I. Mârza (Eds.), Primăria Comunei Țaga, Editura „Delroti”, Cluj-Napoca, p. 220-272

Lazarovici 2010 Gh. Lazarovici et alli, Cercetările arheologice de la Parța, CIMEC 2010, 289-291

Lazarovici 2012 Cornelia-Magda Lazarovici, Gh. Lazarovici, Ruginoasa – Dealul Drăghici. Monografie Arheologică, Ed. Karl A. Romstorfer, Suceava, 2012

- Lazarovici 2013 Gh. Lazarovici, Despre sistemele de fortificații neolitice din Transilvania și Banat (Partea I-A Fortificațiile neolitice), Comunicare la Krosno, Polonia, în Studii și Comunicări, nr. XXIX/1, 2013 (55-110)
- Lazarovici 2014 Lazarovici Cornelia-Magda, Fortificațiile culturii Cucuteni în lumina cercetărilor vechi și noi, în Studii de Arheologie, Editura Muzeului Țării Crișurilor, Oradea, 2014, p.115-126
- Lazarovici-Maxim 2014 Lazarovici Gh., Maxim M., Unele elementele ale fortificațiilor neolitice din vremea culturii Zau, în Studii de Arheologie, Editura Muzeului Țării Crișurilor, Oradea, 2014, p. 23-44
- Luca 2008 Sabin Adrian Luca, Cronica Cercetărilor Arheologice din România 2008:
<http://www.cimec.ro/Arheologie/cronicaCA2009/cd/index.htm>
- Luca 2009 Sabin Adrian Luca, Miercurea Sibiului, jud. Sibiu, *Punct Pietriș*, Cercetărilor Arheologice din România, 2009, p. 147-149
- Luca 2010 Sabin Adrian Luca, Miercurea Sibiului, jud. Sibiu, *Punct Pietriș* Cronica Cercetărilor Arheologice din România, 2010 - Campania 2009, p. 124-126
- Luca 2012 Sabin Adrian Luca, Cercetările arheologice preventive de la Turdaș-Luncă (județul Hunedoara) campania 2011, în Biblioteca Brukenthal LIX, Sibiu, 2012
- Makkay 2001 Janos Makkay, Die Grabenlangen im Indogermanischen Raum, Budapest 2001
- Marinescu 1969 Marinescu Florin, Așezări fortificate neolitice din România, în Muzeul Brukenthal. în Studii și Comunicări, nr.14, Sibiu 1969
- Micle 2010 Dorel Micle et alii, Archaeological geomorphometry and geomorphography. Case study on Cucutenian sites from

Ruginoasta and Scânteia, Iasi County, Romania, în *Annales d'Université Valahia Targoviste, Section d'Archéologie et d'Histoire*, Tome XII, Numéro 2, 2010, p.23-37

Mischka 2008 Carsten Mischka, Geomagnetische Prospektion neolithischer und kupferzeitlicher Siedlungen in Rumänien, în *Eurasia Antiqua*, Band.14, 2008

Morariu V. V. et alii 1996 V. V. Morariu, D. Chiş, S. Morariu, Prospectări magnetice în aşezarea neolitică de la Parţa, în *ActaMN*, 33/1, p. 549-564.

Morintz 1962 Sebastian Morintz, Tipuri de aşezări şi sisteme de fortificaţie şi de împrejmuire în cultura Gumelniţa, în *Studii şi Cercetări de Istorie Veche XIII(2)*, 273-284, 1962

Pavúk 2008 Juraj Pavúk, Vladimír Karlovsky, Astronomische Orientierung der spätneolithischen Kreisanlagen in Mitteleuropa, p.465-502, în *Germania* 86, 2008

Pavukova 1995 Viera Nemejcová Pavükova, Svodin, Zwei Kreisgrabenlangen der Lengyel-Kultur, Bratislava 1995

Petrasch 1990 Jorg Petrasch, Mittelneolitische Kreisgrabenlangen in Mitteleuropa, Mainz am Rhein, 1990

Petrasch 1990a Jörg Petrasch, Überlegungen zur Funktion neolithischer Erdwerke anhand mittelneolithischer Grabenanlagen aus Südbayern, în *Jahresschrift für Mitteldeutsche Vorgeschichte*, Berlin 1990

Petrescu Dâmboviţa 2004 Mircea Petrescu Dâmboviţa, Mădălin Cornel Văleanu, Cucuteni Cetăţuie, Monografie arheologică, Piatra Neamţ, 2004

Podborsky 1999 Podborsky Vladimir, Primeval socio ritual architecture in Moravia, Brno, 1999

Price 2007 T. Douglas Price et alţii, Isotopic evidence for mobility and group organization among neolithic farmers at Talheim, Germany, 5000 bc, în *European Journal of*

Archaeology Vol. 9(2–3): 259–284, 2007

Rackzy 2007 Raczky Pal, Anders Alexandra, Late Neolithic spacial differentiation at Polgar Csozshalom, eastern Hungary, in Living Well Together? Settlement and Materiality in the Neolithic, Oxbow Books 2008

Renfrew 1996 Renfrew C, Bahn P. 1996 Archaeology. Theories, Methods and Practice, Ed. Thames and Hudson, Ltd London, 1996

Schier 2004 Wolfram Schier, Florin Draşovean, Vorbericht über die rumänisch-deutschen Prospektionen und Ausgrabungen in der befestigten Tellsiedlung von Uivar, jud. Timiș, Rumänien (1998-2002) in Praehistorische Zeitschrift 79 Band, 2004.

Schier 2014 Schier Wolfram, Der spätneolithisch-kupferzeitliche Tell von Uivar (Rumänien). Prospektionen und Grabungen 1998–2009, Vom Nil bis an die Elbe. Forschungen Aus Fünf Jahrzehnten am Institut Für Prähistorische Archäologieder Freien Universität Berlin, Editura Verlag Marie Leidorf, 2014, p. 17-36

Trnka 1990 Trnka Gerhardt, Zum Forschungsstand der mittelneolithischen Kreisgrabenanlagen in Österreich, in Jahresschrift für Mitteldeutsche Vrgeschichte, Berlin 1990

Vencl 1984 Sl. Vencl, War and warfare in Archaeology, in Journal of Anthropological Archaeology 3, p.116-132, 1984

Windl 2001 Helmuth J. Windl, Erdwerke der Linearbandkeramic in Asparn an der Zaya/Schletz, Niederosterreich, in Preistoria Alpina, 37 (2001), Trento, 2002

Zotti 2005a Georg Zotti, Kalenderbauten?–Zurastronomischen Ausrichtung der Kreisgrabenanlagen in Niederösterreich, in, Kreisgraben eine runde Sache, 2005