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If the Vinča script once really existed who could have written or read it?

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ABSTRACT - The paper considers about the possible meaning and social function of signs and symbols from Vinča, and used in Danube Neolithic society. Many scholars have tried to answer two main questions about the nature of the signs: first, does they form a system, and (if so), could such a system be interpreted as an original prehistoric script?

A new approach to the problem, focused on an archaeological reconstruction of the basic function of ceramic objects bearing the signs, offers strong evidence that the signs were used in the context of ordinary domestic life, much more than in ritual and/or ceremonial contexts. An important set of data suggests that practically every single Vinča household had inscribed objects and that many of the signs and sign groups are uniform, just as in organized writing. Consequently, such a complex notation system could have been a form of written communication throughout Vinča society.

IZVLEČEK – Članek preučuje možen pomen ter socialno funkcijo znakov in simbolov iz Vinče in njihovo uporabo v neolitskih skupnostih na območju Donave. Veliko raziskovalcev se je trudilo odgovoriti na dve poglavitni vprašanji o pomenu teh znakov: ali tvorijo sistem in (če ga) ali lahko takšen sistem interpretiramo kot prazgodovinsko pisavo?

Nov pristop k problemu, osnovan na arheološki rekonstrukciji osnovne funkcije keramičnih predmetov z znaki, ponuja močan dokaz, da so znake veliko pogosteje uporabljali v kontekstu običajnega, posvetnega življenja, kot pa v ritualnih in obrednih kontekstih. Pomemben niz podatkov omogoča domnevo, da so skoraj v vsakem gospodinjstvu nastopali predmeti z znaki ter da je veliko znakov in skupin znakov poenotenih, kot pri organizirani pisavi. Posledično je tak kompleksen sistem označevanja, lahko oblika pisane komunikacije v celotni skupnosti, ki je sestavljala kulturo Vinča.

KEY WORDS - Late Neolithic; Early Chalcolithic; Vinča culture; signs; symbols; writing; contextual analysis

In May 2004 an important symposium was held in Novi Sad, Serbia¹ that offered a unique opportunity to discuss problems concerning the signs and symbols found at Vinča. Many scholars in archaeology, palaeolinguistics, ethnography, and socio-cultural anthropology have tried to answer crucial questions about the nature, context, origin, and social role of the Vinča signs.

Several generations of scholars have explored the Vinča culture. Many different sites have been disco-

vered (around one thousand if we count all the published and unpublished sites in Serbia, Montenegro, Bosnia, Hungary, Romania, FYR Macedonia, and Bulgaria). Moreover, an enormous collection of artefacts has been gathered. During the 1850s and 60s Serbian archaeologists, Vasić himself (1931; 1936), then Milojčić (1950), Garašanin (1951 et pass.), Jovanović (1961), Srejović (1990) and others, fairly established a general framework of knowledge about the distinctive aspects of Vinča culture – environmental, socio-economic and cultural. Moreover, col-

¹ Thanks to Serbian Academy of Sciences and Arts, Branch in Novi Sad and Institute of Archaeomythology, USA, International symposium on the Neolithic symbol system of SE Europe gathered more than 20 scientists from Europe and the USA in May 25-29, 2004.

leagues from elsewhere made important contributions to the creation of more specific databases about the culture. For instance, they conducted extensive studies of its intensive agricultural subsistence economy, processes of strengthening power and expanding territory, as well as methods for obtaining important goods and raw materials, such as salt, flint, or obsidian. A significant contribution made by Jovanović (1971 et pass.) in the 70s and 80s shed new light on the Vinča economy - the discovery of a copper mine at Rudna Glava suggests that the Vinča people, previously described as (only) farmers, were actually also "involved" in metal-working. The most recent archaeological discoveries at the Pločnik and Belovode sites (Šljivar and Kuzmanović-Cvetković 1998; Šljivar and Jacanović 2001) confirmed the idea that (as least) the second period of Vinča culture should be regarded as practically Early Chalcolithic (Fig. 1).

The Vinča culture has been studied in archaeology for more than a century. Archaeologists have witnessed a silent "war" for almost thirty years: endless debates between supporters of the "full literacy" of the culture and categorical opponents of such an idea. In fact, neither opponents nor supporters have provided convincing scientific arguments for their general opinion. This might cause a serious problem for a serious reader.

What should be stressed above all when addressing the question of the Vinča signs? The distribution of

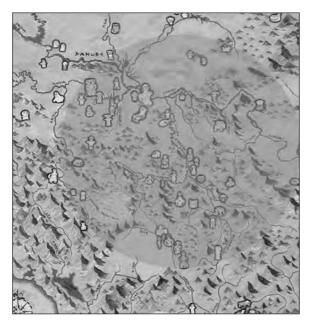


Fig. 2. Distribution map of the Vinča sites with objects that bear signs (the highest concentration is emphasised with a grey circle)



Fig. 1. Two copper axe-type tools from the Pločnik site, SE Serbia (National Museum in Belgrade, No. 16557 and 1821).

the finds (Fig. 2) is, generally speaking, regular. Perhaps it is important to emphasize that the highest concentration is in large Serbian river valleys (such as the Danube, Sava, Morava). But, contrary to prevailing views of experts who have studied the topic, the northern area (e.g. the Danube Valley itself) is not the heartland of the signs, but the whole area covered by Vinča culture.

Around the end of 19th century Torma excavated the site of Turdaş the in Romanian northern plain (then called Hunyad). In her research diaries she noted and drew over 200 of signs and symbols discovered on the bases of ceramic bowls. While the majority of signs were linear, the collection also included stylised representations of animals, and even humans. Roska published the collection for the first time, more than five decades later (*Roska 1941*).

Vasić made the most significant breakthrough, and improved our knowledge of Vinča culture. As the first trained Serbian archaeologist, he initiated systematic excavations Belo brdo ('White Hill') site in 1906. In one of his first reports (*Vassits 1910*), Vasić paid particular attention to "incised signs and marks", emphasising that these signs and symbols were not a part of a system of vessel ornamentation, i.e., they emerged independently of ornamentation. His assumption was that these symbols referred to the pottery workshops or to the owners of the vessels, and were specific to certain clans or families.

Several important discoveries from the northeastern region (for example, in Romania) reopened old discussions about the basic concepts of Vinča society – its ideological structure, cults and/or religion. In 1961, during excavations at the site of Tartaria, Vlassa discovered three plaque-like objects of badly fired clay, at the bottom of a bizarre spot (a grave? a sacrificial pit?). Two of these objects had a perforation (similar to those on amulets), while the third was simply a flat plaque. The fact that each of these objects had extraordinary signs and symbols incised in fresh clay made them important and internationally famous as the "Tartaria tablets". Clear representations of animals (goats?), humans, objects (a tripod?), organized in metopically separated zones, were combined with linear symbols in a manner which was already known to us as the Vinča-type style.

This discovery raised a storm among European archaeologists and palaeolinguists. Distinguished authors, such as Falkenstein (1965), S. Hood (1967), Makkay (1968) and others, started to write comprehensive studies on the importance and meaning of the Tartaria tablets. Apparently, the most confusing fact was a striking similarity between these objects (and their symbols) and the signs on cylindrical seals from a preceding, early phase of development of cuneiform, the so-called Uruk IV/Djemdet-Nasr phase. However, it was very difficult to explain a possible connection between the two, not only due to the huge geographical distance, but also due to a serious chronological mismatch. Djemdet-Nasr was dated to around 2800 BC, while Tartaria, e.g. its findings, must have been more than a thousand years older (bearing in mind that it belonged to an early phase of Vinča culture).

Interest in the phenomenon of incised signs and symbols on the prehistoric pottery from the Danube region and the Balkans increased upon the publishing of specific finds from Bulgarian sites: the so-called Gradešnica dish, Karanovo seal, etc. All these discoveries have created a controversy, and it has become inevitable to consider the possibility that the signs may represent a unique written communication system that was once typical of the Neo/Eneolithic in souteastern Europe. It should be remembered, however, that such a phenomenon existed in other parts of the world. A number of incised signs were found at the bottom of ceramic vessels from various cultures, such as the Greek Neolithic (especially the Thessalian Dimini phase), the Badari culture in Egypt, seals from the Mohenjo Daro in India, and the Yangshao culture in China, among others.

All these discoveries suggest that it may be possible to regard these finds as anthropological phenomena, typical of something I call the first information revolution in history, developing from the intensive life of permanent Neolithic communities. In my opinion, Vinča Culture went furthest in the process of developing this kind of communication.

The work of Garašanin (cf. 1951) had a crucial role in the process of defining the Vinča-type findings and sites as integral parts of a uniform archaeological culture. He established an internal chronology, recognizing two basic phases (Turdaş, and later, Pločnik). Through proficient and profound analyses of material and spiritual culture, Garašanin managed to explain the logic of development, its basic characteristics, and the richness of this extraordinary Neolithic culture of SE Europe. However, in this, as well as in his later work (Garašanin 1973; 1979), he claimed that the signs were merely property marks. Although he strongly denied Vasić's idea (and provided strong arguments to support his own conclusions) about the absolute age, as well as the Vinča cultural milieu in the Pre-Classical Greek world, he did not make an effort to reconsider the concept of Vinča signs as the owner's marks and/or manufacturer's "trademarks".

In the 20th century, during the 50s and 60s, nearly one hundred additional Vinča-type sites, mainly settlements, were been discovered and explored in Serbia, Montenegro, Bosnia, and Romania. Incised signs on the pottery were mentioned occasionally. However, in every single case the signs were assumed to be "owner's marks". It is rather likely that Garašanin's great authority influenced others' opinions, so his interpretation of signs has been taken for granted, and the phenomenon itself has been regarded as ephemeral, not relevant enough to deserve a thoughtful exploration.

Thorough and responsible researchers also might deserve certain criticism: evidently, only a few of them have undertaken a systematic and holistic exploration of the phenomenon. The latter remark particularly applies to Serbian archaeologists and linguists, who have had a full access to the major part of the heritage – the objects with signs. Garašanin (1951; 1973) and Srejović (1994) maintain that the signs were "owner's marks" or "potter's marks".

On the other hand, many non-scholars (and/or controversial, questionable scholars) have been trying to promote one doubtful idea throughout these years. Yet in 1940, Georgievskij interpreted the entire corpus of the Vinča signs as a genuine representative of full prehistoric literacy, invented by the Vinča people. Nowadays, we can also find "readings" of the Vinča "texts" fully translated by the "interpreters" of the Vinča language and script. Their "readings" have usually been rather convincing to the public, since they mention, almost as a rule, the glory

of some unnamed goddess (if the signs are on a statuette of a female figure – Fig. 3). Similarly, these authors manage to persuade laypersons, as they have the "courage" to "describe" fantastic events, for example, the "historical" and even "political" end of the Vinča civilization in the expulsion of the Vinča population from their homeland (*cf. Chudinov 2003; Pešić 1995*). According to these interpretations, the content of those "texts" undoubtedly connects Neolithic Vinča communities with Etrurians. Furthermore, Pešić, for example (op.cit.) without any criticism, has "discovered" the origins of the Vinča "literacy" – presumably, in the writing skills of the Lepenski Vir culture (?!) There is no need to waste paper on arguing with such ideas.

Probably the most important study of the Vinča signs was conducted by the American archaeologist Winn (dissertation thesis, Winn 1981). Through profound analyses of a series collected from around 50 Serbian Vinča-type sites, he took the most significant step forward in methodological approaches to the problem. Instead of dealing with single and/or "convenient" examples (as most authors have done), and comparing them with already known cases in order to come to general conclusions, Winn first categorized them, and, further, suggested a model of sign classification, based on features (categories), which he had determined as relevant. It appeared that the latter was the only correct and productive way to approach and possibly solve the problem.

Probably the most significant outcome of Winn's work was that he provided convincing evidence that the Vinča signs constituted a system, rather than a collection of arbitrary, random symbols. What was apparently missing in his comprehensive study was a clear analysis of the archaeological context in which the signs were found. Although this type of

study could be extremely difficult to carry out in practice (especially due to problems related to systematisation), it has the potential of providing a clear archaeological answer to a crucial question: did the Vinča signs constitute a script in the full meaning of the term?

Of course, it is necessary to emphasis the work of Gimbutas, and the circle around the Institute of Archaeomythology. I would particulary like to stress Haarmann's papers and books (*cf. in this volume*), and, now-

adays, Merlini's excellent and ambitious attempt to promote the possible crucial importance of the main dilemma (script or not?) on his website "Prehistoric Knowledge".

Eight years ago, I started to study the problem of the Vinča signs in order to solve my own dilemma about their possible significance in the context of Neolithic Vinča society. At first glance, it was obvious that the signs did not fit into the ornamentation pattern that once existed. While there were some examples (especially on figurines and altars) that the symbols were incorporated into the ornamental pattern, many of the signs appeared on pots and bowls with no additional ornamentation. Assuming, just tentatively, that the signs on votive figurines were integral parts of symbolic formulae, single signs or groups of signs on the bottoms of domestic pots more often than not implied a quite different interpretation. However, other signs attracted my attention - those on loom weights and spindle whorls. Having in mind that both kinds of artefact could be connected with basic economic activity, I started to consider two main questions. The first was - could the Vinča signs and symbols be a substantial system representing messages? Another question, even more difficult, was the following: was the entire corpus of the Vinča signs coherent enough to be regarded as a system of written communication in its original context?

In order to provide the answers to these two questions, I had to create an innovative analytical system. The first task was to develop a strategy to "rediscover" material, because it was virtually hidden. Needless to say, most of the artefacts had not been carefully studied, since they were considered unimportant or trivial. I studied 17 different museum collections throughout Serbia, and the collections from



Fig. 3. Non-experts' interpretation of the "Vinča Script": two translations of a Vinča type-site figurine "texts": Pešić (1995), and Chudinov (2003).

over 40 different Vinča sites collecting data on than 1000 fired clay objects with over 1500 signs and symbols.

Data gathered at sites can be divided into three groups:

- general data about the site, conditions of the object's discovery (the technical as well as archaeological context), museum documentation data, as well as relative and absolute dating
- analytical data relating to each object (formal and techno-morphological information, as well as dimensions and other features)
- analytical data about each sign (formal characteristics, number of lines, number of signs, intersections, typology, and so on)

Furthermore, I took photographs of each object and the signs. Similarly, I made drawings of the object (in many cases, where possible, this had to be virtually reconstructed), and of the sign itself. In this manner, I established a principal sign database.

It is obvious that there is a wide range of objects that once had signs and symbols on them (Fig. 4). But, a serious question as to their provenance and function within the structure of Vinča society is still unresolved. On the one hand, some scientists, e.g. Gimbutas (1973; 1974 and later) thought they were religious. Her efforts and insights had some merit.

According to my exploration, the most significant signs and their combinations (logograms, ideograms, groups of signs) were primarily on objects that could be religious: votive figurines, amulets, face-like lids, tablets, etc. On the other hand, the most frequent occurring signs/groups of signs were found on ordinary, utilitarian objects: containers for processing and consuming food, loom weights, etc.

Assuming that the second case predominated, the Vinča signs could be interpreted as evolving into a full writing system, since this is already known for the historical development of ancient writing systems (Mesopotamia, Crete, China). Certainly, the latter conclusion could be supported if the signs on the vessels referred to practical information, such as number of breeding stock, volume of jars, meat and hide weight, and so on.

A problem mentioned above has evoked the most intriguing question: is it possible that the entire set of Vinča signs did not constitute a single uniform, mono-sign system?



Fig. 4. Examples of various types of ceramic objects with signs: prosopomorhic (face-like) lid from Vinča-Belo brdo (A), amulet and miniature vessel from Gomolava (B and C), and, loom weight from Potporanj (D).

Is it possible to prove or reject the idea that the Vinča signs were a fully comprehensive system of written communication, even if we do not know its (possible) meaning? There are three main points that I wish to emphasise here:

- Formal grouping and/or classification should help to establish general the framework of the signs' sequence; however, since many authors have only tried to combine and compare graphic representations of the signs with each other, the results were unsatisfactory. More extreme attempts led to supposed analogies with symbols from recognised early writing systems, such the archaic phase in the development of cuneiform. If it even produced problems with chronological correspondence, such authors (cf. Makkay 1969) were ready to change drastically the chronology itself.
- ② Another possible approach is to concentrate on the objects with the signs. It is now quite clear that practically every single category of object of fired clay had been inscribed: pots, lids, loom weights and spindle whorls, as well as figurines, mask-like lids, small altars, peculiar artefacts resembling dolls, and even plaques or tablets. The latter (such as the famous Tartaria Tablets) were especially interesting to many scholars, because they offered evidence for reconsidering the existence of written communication. The main reason is than the exclusive purpose of

making such objects was to carry signs. But if we overturn the point of view, it could be assumed that the Vinča people needed to inscribe various utilitarian and non-utilitarian accessories; if so, why?

3 Perhaps the most promising approach is a comprehensive analysis of the original context of the object (and the signs', too), when possible. In the evaluation of previous attempts to solve the problem of the Vinča signs and symbols, their importance and original significance, I

noticed that none of the authors paid enough attention to this point except in general terms. The signs were found in house interiors, in the context of households, in different kinds of workshop activities (such as weaving, or pottery production), and even in graves. But, all of it – in what proportions? Having been analysed the question, I would like to present some interesting evidence.

Of course, it should be stressed that none of those three starting points for the study of the Vinča signs is exclusive or matchless: a fully comprehensive analysis has to interrelate all of those three levels of data.

Firstly, when we look at the studied corpus, it is obvious that the quality of basic contextual data is quite high (Fig. 5). More than 80 % of all finds were discovered through systematic and/or test excavations. Basic information about the cultural sequence, stratigraphy, and relative date potentially exists.

But, if we consider more closely not only the stratigraphic or technical, but also the structural context

of the signs, the situation is even more informative: almost 95 % of well-defined artefacts were found inside houses or backyards (e.g. the household area), including storage/garbage pits. In my opinion, this is very significant, because it clearly implies that the predominant use of the signs was connected to domestic activities (Fig. 6).

Moreover, another result of the study seems to be most significant. During the basic contextual analysis of 38 different sites, I found 79 different

Discovery Context

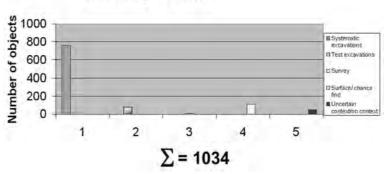


Fig. 5. Way of providing of analysed Vinča ceramic objects with signs (after Starović 2002.85)

houses had been excavated from every sequential phase, and, beyond my expectations, signs were found in all of them (Fig. 7)!

This is probably a very important result, but, what does such evidence tell us? Before we jump to conclusions, I would like to provide only one example. When we try to calculate the minimum number of pots (MNP) in a well-defined context, the results might be surprising. When I did such a calculation (Starović 1993) through an analysis of the Late Vinča set that belonged to only one house in its lifespan, probably one generation only, I reached a total of 3552. I must also emphasise that the technomorphological quality of this pottery collection was high. Further, the size of the house was quite common. If we take a closer look, it can be assumed that such a large number of pottery products could also mean a high degree of intensive economic activity, such as food production resulting in a surplus, so it is possible to consider the idea of a food trade.

Furthermore, scholars who have studied the problem of Late Neolithic socio-cultural transformations

Structural context of discovery

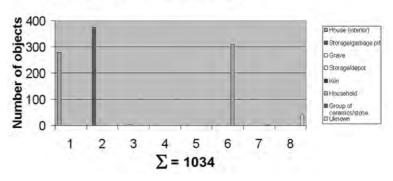


Fig. 6. Types of structure in which objects with signs were found (after Starović ibid.)



Fig. 7. Ideal reconstruction of an ordinary house from a Vinča-type site (after Tasić 2003).

in SE Europe (especially in the Balkans) have admitted that the most sensitive (archaeologically speaking) "filter" for testing and understanding basic ideology of the Vinča culture has probably been absent: representative evidence of funerary practices. Without a doubt, the substantial lack of graves (in comparison to the number of settlements) became the "trademark" in archaeological explanations of Vinča social activities. If we exclude almost sporadic discoveries of single graves within the settlements (like those at Vinča itself, then, possibly Tartaria and some other sites), only two 'proper' cemeteries have been found: Botoš near Zrenjanin, and Gomolava near Ruma. Both were outside the settlements: the cemetery in Živanićeva Dolja (Botoš) was in the vicinity of two settlements, Stari Vinogradi and Aradac, while the necropolis in Gomolava was in a temporarily uninhabited sector of the tell.

Finally, I would turn to the anthropological, and even palaeo-sociological point of the main question (script or not?): perhaps this is surprising, but it becomes irrelevant. In other words, if one wants to elaborate on the further significance of the phenomenon, then the fact that a regular system of written

communication existed is satisfying. While understanding that many obstacles seriously hinder attempts to decipher the signs, we should remember that the Vinča symbols were once messages, notes, information. Then who could have written them, and why? After much consideration, I have concluded that the origin and invention of the signs and symbols were religious and ceremonial. The most common signs, the repetition of formulaic sign groups, votive and religious objects incised before firing

(just as in a kind of initiation) all support this idea.

But archaeological evidence strongly supports something else. In time, starting from the Vinča B2 phase, the signs incised (or rather scratched in) after firing become the most common. It seems that in later phases pots became very convenient media for the transfer of practical information in everyday life. Many numbers, different sign groups, and even ligatures (just as in the modern system of stenography), and regional types of sign design, should mean that the Vinča people had started to write more precise messages, and to understand them. So, who could write and read it? The dynamics of the social and economic transformation of a relatively simple tribal community into a more complex society are also evident. Extra goods such as flint, salt, copper, and, particularly, their increasing number, imply the possibility of commercial trade. Perhaps travelling craftsmen and traders were the authors of the majority of the signs and symbols?

As a final conclusion, I suggest we begin to re-consider common attitudes to the nature and complexity of Vinča society.

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REFERENCES

BRUKNER B. 1974. Pozni neolit. In Brukner B., Jovanović B. and Tasić N. (eds.), *Praistorija Vojvodine:* 56–152.

CHUDINOV V. A. 2003. O knige Anticha i Vinchanskom pisme. www.trinitas.ru/rus/doc/0211/005a/02110011.htm (in Russian).

FALKENSTEIN A. 1965. Zu dem aus Tartaria. *Germania* 43:269–273.

FEWKES V. 1936. Neolithic Sites in the Moravo-Danubian Area Eastern Yugoslavia). *American School of Prehistoric Research Bulletin 12: 5–81*.

GARAŠANIN M. 1951. *Hronologija vinčanske kulture*. Ljubljana: Filozofska fakulteta.

1956. Sahranjivanje u balkansko-anadolskom kompleksu mlađeg neolita. *Glasnik Zemaljskog muzeja u Sarajevu (n.s.) XI: 205–236*.

1979. Vinčanska kultura. In A. Benac (ed.), *Preistorija jugoslavenskih zemalja tom II: 309–333*.

1981. *Praistorija na tlu SR Srbije. Vol. I and II*. Srpska književna zadruga. Beograd.

GEORGIJEVSKIJ M. A. 1940. Pismenije znaki i nadpisi iz Vinči. Sbornik ruskovo arheologičeskovo obščestva v Korolevstvo Jugoslaviji III: 175–188.

GIMBUTAS M. 1973. The Classification of Old Europe – 7000–3500 BC. Actes du VIIIe Congres international des sciences prehistoriques et protohistoriques II: 235–242, Figs. 1–3.

1974. *The Gods and Goddesses of Old Europe:* 7000–3500 BC. Thames and Hudson. London.

HOLSTE F. 1939. Zur chronologischen Stellung der Vinčakeramik. Wiener Prahistorische Zeitschrift 26: 1-21.

HOOD M. S. F. 1967. The Tartaria Tablets. *Antiquity XLI: 99–102*.

GRBIĆ M. 1934. Neolitsko groblje u Botošu kod Velikog Bečkereka. *Starinar VIII-IX:* 40–58.

JOVANOVIĆ B. 1961. Stratigrafska podela vinčanskog naselja. *Starinar (N.S.) XI: 9–20*.

1971. Early Copper Metallurgy of the Central Balkans. In *Actes du VIIIème Congrès International des Sciences Préhistoriques et Protohistoriques:* 131–140. Belgrade: UISPP.

MAKKAY J. 1968. The Tartaria Tablets. *Orientalia* (Roma) 37: 272–289.

1969. The Late Neolithic Tordos group of signs. *Alba Regia X: 9–49*.

MILOJČIĆ V. 1949. South-Eastern Elements in the Prehistoric Civilization of Serbia. *Annual of the British School in Athens XLIV: 266–285*.

1950. Körös-Starčevo-Vinča. In G. Behrens and J. Werner (eds.), *Reinecke Festschrift: 108–118*.

PEŠIĆ R. 1995. *Vinčansko pismo*. Pešič i sinovi/Dugan. Beograd/Milano.

ROSKA M. 1941. Die Sammlung von Zsofia von Torma in der Numismatich-Archaolohischen Abzeilung

des Siebenburgischen Nationalmuseums. Koloszvar (Cluj).

SCHMANDT-BESSERAT D. 1992. Before Writing. 2 vols. Austin.

1999. Tokens: the Cognitive Significance. In M. Budja (ed.), *Documenta Praehistorica XXVI: 72–81*.

SREJOVIĆ D. 1990. *Vinča – centar neolitske kulture u Podunavlju*. Beograd: Centar za arheološka istraživanja Filozofskog fakulteta.

STANIŠIĆ V. 1992. 'Vinča-Schrift' oder 'Vinča-Zeichen'. *Balcanica XXIII: 187–193, Abb. 1–4*.

STAROVIĆ A. 1993. Analiza keramičkih artefakata sa neolitskog naselja u Petnici. *Petničke sveske 29: 34–72.*

2002. Kontekst nalaza vinčanskih znakova u Srbiji. *Glasnik DKZ 44: 81-87*.

TASIĆ N. N. 2003. http://www.online-archaeology.com/HouseReconstruction.htm

TODOROVIĆ J. 1969. Written signs in the Neolithic cultures of Southeastern Europe. *Archaeologia Iugoslavica X:* 77–84, *T. I–XII*.

TORMA Z. 1879. Neolithic settlements in the County Hunyad. *Erglyi museum VI:* 5–7; 130.

VASSITS M. M. 1910. Die Hauptergebnisse der prahistorischen Ausgrabung in Vinča in Jahre 1908. *Praehistorischen Zeitschrift II, Heft 1: 23–39 + Taf. 7–16.*

VASIĆ M. M. 1931. *Preistoriska Vinča. Tom I.* Državna štamparija Kraljevine Jugoslavije. Beograd.

1936. *Preistoriska Vinča. Tom II–IV*. Državna štamparija Kraljevine Jugoslavije. Beograd.

1950. Jonska kolonija Vinča. SAN. Beograd.

VLASSA N. 1963. Chronology of Neolithic in Transilvania, in the Light of the Tartaria Settlement's Stratigraphy. *Dacia (n. s.) VII: 485–494, Figs. 1–10.*

WINN M. M. Sh. 1981. Pre-writing in Southeastern Europe: the sign system of the Vinča Culture ca 4000 BC. Calgary, Alberta.