

**ACTA MVSEI APVLENSIS  
APULUM LIV**  
series *ARCHAEOLOGICA ET ANTHROPOLOGICA*

***ARS ARCHAEOLOGICAE***  
***Studii dedicate lui Nikolaus Boroffka la aniversarea a 60  
de ani***  
***Studies dedicated to Nikolaus Boroffka on his 60<sup>th</sup>  
birthday***

Volum îngrijit de/Edited by:

Horia Ciugudean,  
Gabriel Tiberiu Rustoiu  
Radu Ota



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Adresa de corespondenţă:

**MUZEUL NAȚIONAL AL UNIRII**

510010 ALBA IULIA

Str. Mihai Viteazul, 12-14

Tel. 0258/813300

Correspondence address:

**MUZEUL NAȚIONAL AL UNIRII**

RO – 510010 ALBA IULIA

Mihai Viteazul St., 12-14

Tel. (+40) (258) 813300

[revista.apulum@yahoo.com](mailto:revista.apulum@yahoo.com)

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Traducerea și verificarea textelor în limba engleză: ADINA GOȘA, BRÎNDUŞA  
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2017





**Nikolaus Boroffka**

# THE ROLE OF SALT IN THE BEGINNING OF THE NEOLITHISATION PROCESS IN THE SOUTHERN PART OF CENTRAL EUROPE AND THE BALKANS<sup>1</sup>

Gheorghe LAZAROVICI  
Universitatea „Lucian Blaga” Sibiu  
Cornelia-Magda LAZAROVICI  
Institutul de Arheologie Iași

**Cuvinte-cheie:** Procesul de neolitizare, date radiocarbon, analize statistice, interpretări

**Keywords:** Neolithisation process, radiocarbon data, statistic analysis, interpretations

**Why a process?** Neolithisation does not occur uniformly throughout the space we are dealing with. From our analytical data we find migration processes, diffusion and local developments<sup>2</sup>. Generally it's small human groups<sup>3</sup>, publications aiming so-called „levels” or „phases”, working model that introduces many errors in relation with cultural and chronological aspects. We have established the existence of about three or four stages of migration<sup>4</sup> occurring in the Danube area during stages Starčevo-Criș IIIB (Starčevo-Criș = SC, followed by phase represent our periodisatios)<sup>5</sup>.

## *Überregionalen Komplexen.*

On several occasions, in synthesis studies Henrieta Todorova refers to neolithisation in the *Balkans and Carpatho-Danubian area* (shortly *BCR*)<sup>6</sup>. We have also to retain an important idea, regarding „*Überregionalen Komplexen*”<sup>7</sup>.

<sup>1</sup> This study was the result of a documentation visit made by the authors in 2012 in Bulgaria. This visit was possible due to the kindness of regretted Acad. Henrieta Todorova and Dr. Stefan Alexandrov that have organize our visit in Bulgaria, connections, expressing once more a very warm hospitality. So, bibliographic data used in this study reflect our knowledge of that moment.

<sup>2</sup> Our study has a synthesis character. Bulgaria's recent documentation (October 2012) allowed us to learn new materials, research, researchers and a new bibliography. But the time was too short, so we have only selectively upload our database and database for information with the information obtained during our recent visit here. Because of these reasons this study has not an analitical character (as usual we do). We have upload the database using information only from the sites we are interested in this study. We hope that in the future we can return on this interesting subject with new analyzes and data.

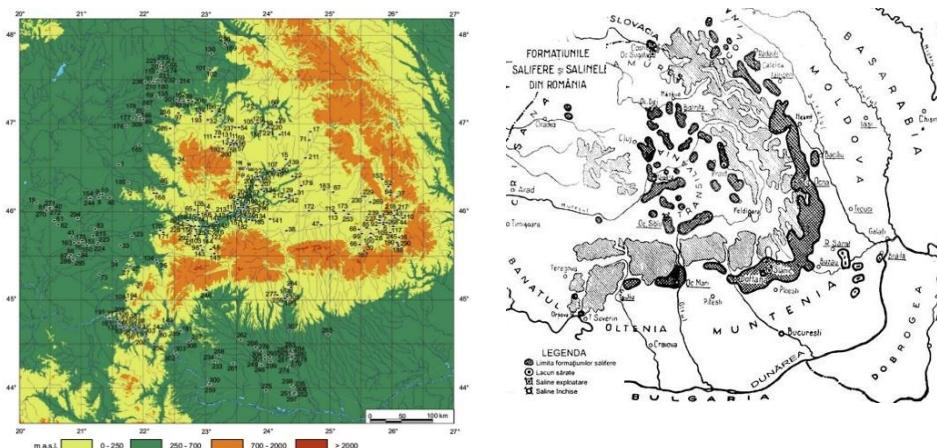
<sup>3</sup> This can be observed in each site where extensive researches on large scales have been done, especially on large surfaces.

<sup>4</sup> Lazarovici 1993; 1998; 2006; Lazarovici, Maxim 1995, p. 42 sqq, 199-204; Lazarovici C.-M., Lazarovici Gh. 2006, p. 61 sqq., Lazarovici Gh., Lazarovici C.-M. 2011a, p. 23 in connection with salt sources; Nikolov 1987; 1990 etc.; and in connection with idols, Becker 2007; 2010.

<sup>5</sup> Lazarovici, Maxim 1995; Lazarovici *et alii* 2006.

<sup>6</sup> Todorova 1986; 1988; 2003 and bibl.; 2007; 2011 etc.; Todorova, Vajsov 1993; Bojadjev *et alii*

This opinion permits us to analyze *processes*, *fashion* and *dynamism*, beyond groups and cultures. For the processual analyze<sup>8</sup> and dynamism are needed studies and analytical processing based on databases, where to be analyzed dynamism, technology, shapes and decoration. The use of analogy as a comparison is not correct because there are convergence phenomena that can not be distinguished by the archaeologist.



**Fig. 1. a**, Map with Starčevo-Criş sites in Carpatho-Danubian area (after Luca *et alii* 2011); **b**, salt sources (after Gramatopol).

It is necessary to compare similar systems (not analogies on painting, shapes or ornaments), which includes databases and databases for *information*<sup>9</sup>. Only in the last part of the twentieth century were some exceptions, even in the first half of the mentioned century quantitative models have been employed in large excavations<sup>10</sup> using the number or proportion, what is right, incorrectly unless is not specified the size of the analyzed lot<sup>11</sup>. Recently for the Early Neolithic in the

1993.

<sup>7</sup> Todorova 2011 and bibl.

<sup>8</sup> For theory: Tugby 1965; 1971; and applications see Lazarovici, Nica 1991; Lazarovici 1998 about processual analyze etc.

<sup>9</sup> For more than a century, archaeologists have used the analogy comparing and publishing qualitative attributes: shape, decoration, color, ornament, painting, color of the painting etc. From these qualitative attributes it is not clear the dynamism. Or just dynamism underpins the development and local difference, attributes that define cultural groups.

<sup>10</sup> We present some situations from the area we have analyzed, although they are more numerous in the Balkans-South Central Europe: László 1924 resumed by Lazarovici Gh., Lazarovici C.-M. 2010, fig. 17-18; Lazarovici, Pădureanu 1981, p. 59sqq; Letica 1968, 11-12; Srejović 1971, p. 8, 14-15; 1973, p. 259-261; Nica 1991, p. 104; 1984; Garašanin 1979, p. 134; Perić, Nikolić 2004; etc.

<sup>11</sup> For example 2% from 50 has the same proportion with 2% from 500; but loss, non-harvesting or non-publication of fragments considered common/typical make that value proportion will change in the case of small numbers. From here result correctly the criticism regarding statistics in percentage/proportion. Therefore even in the case of our analyzes we are using non statistic methods,

Balkans are more numerous analytical studies, analyzes and statistical data<sup>12</sup>, way that has to be followed in the future too.

Analyzes on large areas (BCR), how did on several occasions N. Vlassa, M. Nica<sup>13</sup>, even us<sup>14</sup>, or some other colleagues<sup>15</sup> - is the aim of this study. We have often thought that there is a large Carpathian-Balkan complex Protosesklo – Presesklo – Karanovo – Impresso - Starčevo-Criș/Körös. The birth of groups (cultures for some) is the result of the dynamism that leads to local developments.

Resumption of our previous opinion was necessary due to new discoveries, some made very recent by Sabin Adrian Luca (three sites at Miercurea Sibiului; Salt sources and salt baths), under valorization by him and his team<sup>16</sup>, or by ours collaborators who reviewed old discoveries that bring new and important ordering, relative and absolute chronology, stratigraphic observations as well as other data regarding the Early Neolithic in central Balkan zone<sup>17</sup>. On the other hand, new research published in Bulgaria provides important new material and stratigraphic observations.

### Opinions regarding the stages of the process.

In none of the very Early Neolithic sites there was no a Mesolithic which give rise to an early Neolithic settlement. For the area of Iron Gates (Clisura Dunării = Romanian, Đerdap = Serbian) were made statements regarding the local origin of the Neolithic<sup>18</sup>. But these statements are not sustained by undeniable stratigraphic and chronological data. We have made several analytical studies with statistic data verified by radiocarbon results regarding the „neolithisation” in the Iron Gates<sup>19</sup>.

Many scientists underlined the south origin of the Neolithic in the Carpatho-Danubian area. Some researchers link these processes to Balkan - Anatolian phenomena<sup>20</sup>, others believe that it would be local developments; one of the centers should be in the Iron Gates area<sup>21</sup>.

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such as fuzzy sets (Dumitrescu, Lazarovici 1990) in which small numbers are taken into account by the algorithm, we prefer this instead of principal component analysis, associated with seriation.

<sup>12</sup> \*\*\* The Neolithic in the Morava... 2004; Cohađiev *et alii* 2007; Angeleski 2012; Şeulean 2012; we mention just some, their number being quite large.

<sup>13</sup> Vlassa 1972; 1972a.

<sup>14</sup> Lazarovici 1995; 1996; 1998; 2000; 2001; 2005; 2006; Lazarovici, Brukner 2012; Lazarovici Gh., Lazarovici C.-M. 2003; 2006; Lazarovici C.-M., Lazarovici Gh. 2006.

<sup>15</sup> A simple analitical analyze about the Early Neolithic in Lazarovici, Brukner 2012; Lazarovici Gh., Lazarovici C.-M. 2011; Luca, Suciu 2005; analitical data Angeleski 2012; Şeulean 2012.

<sup>16</sup> Luca 2006; 2012; Luca *et alii* 2004; 2005; 2006; 2011; Luca, Suciu 2004; 2005 etc.

<sup>17</sup> Angeleski 2012; Boroneanț 2010.

<sup>18</sup> Bánffy 2007.

<sup>19</sup> Lazarovici 2006 and bibl.

<sup>20</sup> Garašanin 1968; 1980; 1998; etc.; Srejović 1967; 1969; 1971.

<sup>21</sup> Srejović 1967; 1969; Tringham 1992 and bibl.; Pavúk 1991; 2007.

## **Relation Monochrome – White painting.**

Based on stratigraphic observations often "manufactured" by various theories of the time, archeologists from Carpathian – Danubian (**shortly CD**) area defined the existence of a previously monochrome horizon followed by a white painting horizon.

Often we analyzed and refuted some opinions that were not based on analytical data but only on statements or insufficient stratigraphic observations and misinterpretations<sup>22</sup>. The essence of our analysis we define below consist in **three phenomena** named by us as **cultural aspects**, each with a different meaning: **1 - migration, 2a - diffusion on large spaces, 2b - swarming (local diffusion), 3 – involution** (they will be not analyze being with dozens in each geographical area).

### **I-st migration. Aspect 1.**

Migrations from south to north due to climate change are related with the fact that in the north, after the cold period it is a more favorable climate. We noticed two Monochrome stages. The first migration *Monochrome I* is only in the south and radiocarbon data fix a period between 6250 – 6100 BC (**fig. 2a**). We believe that *Monochrome II* stage is manifested in the Carpathian - Danubian region (CD), for which there are radiocarbon data too (**fig. 2b**), (and we have to add another data from Foeni), but these are not associated with a very sure stratigraphy.

North of the Danube, in our area, there is a monochrome pottery that has not painting, hypothetical named by us SC IA, because we did not have undisturbed closed complexes. This monochrome might be the result of a south migration, from that Monochrome II in Greece or Fühkeramik.

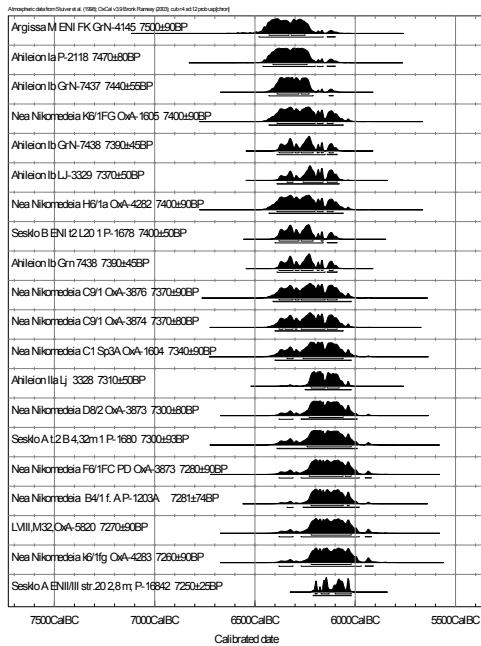
In the central, northern and Carpatho-Danubian regions we have defined it through **I-st migration**, wearing the **aspects 1 and 2**, as well as **2a**. Economy of these small communities is generally pastoral; flint tools have not very well defined features, with a microlithic aspect, but not representing a *microlithic industry*. The main occupations are related to grazing, are preferred areas rich in salt sources (Copăcele, Cristian I fig. 3, Miercurea Sibiului, Ocna Sibiului, and Gura Baciului).

### **Stage SC IA**

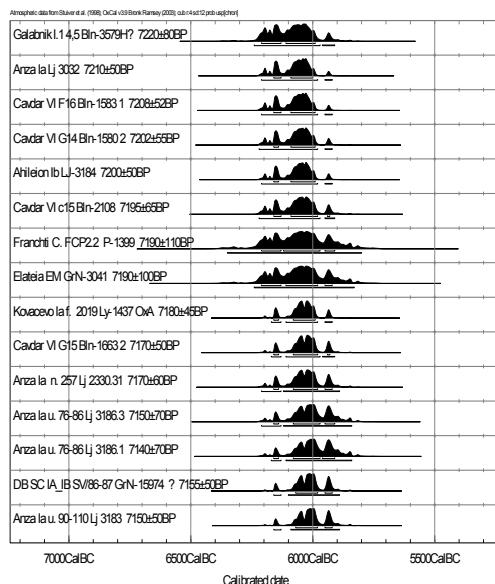
Apart the pot discovered by N. Vlassa and A. Palkó, subsequently in different campaigns we have investigated bottom of the pit house located in the edge of A. Palkó's excavations at Gura Baciului; here a complex with the disturbed upper part was discovered (B2A).

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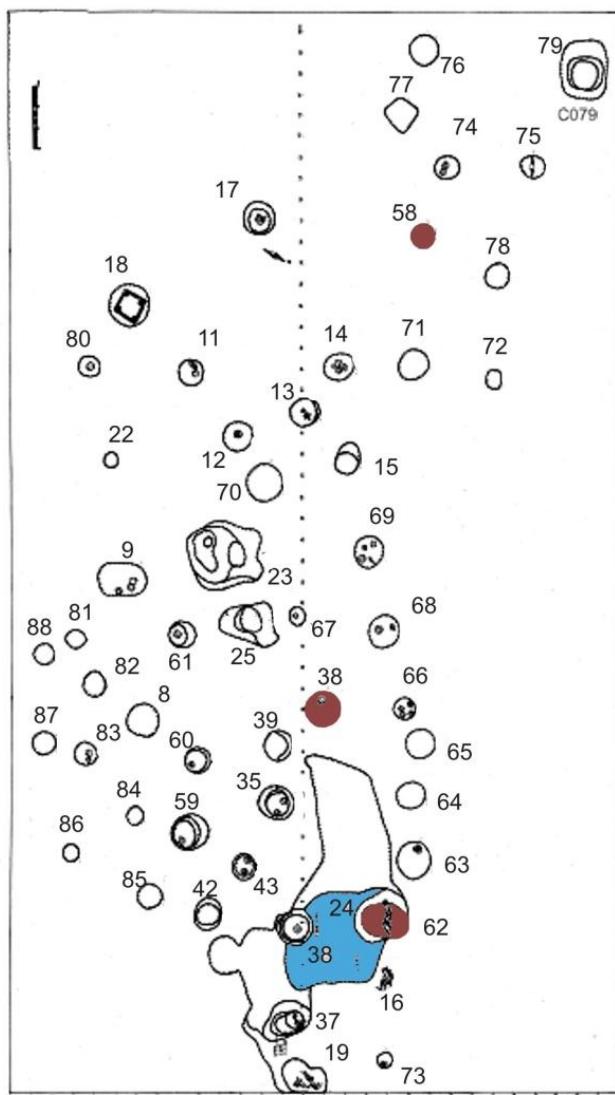
<sup>22</sup> Lazarovici 2005 see also bibl.; Pavúk 2007.



**Fig. 2a.** FNT-NTB Monochrome I (6.500 - 6.250 BC) and II (6250 – 6100 BC).

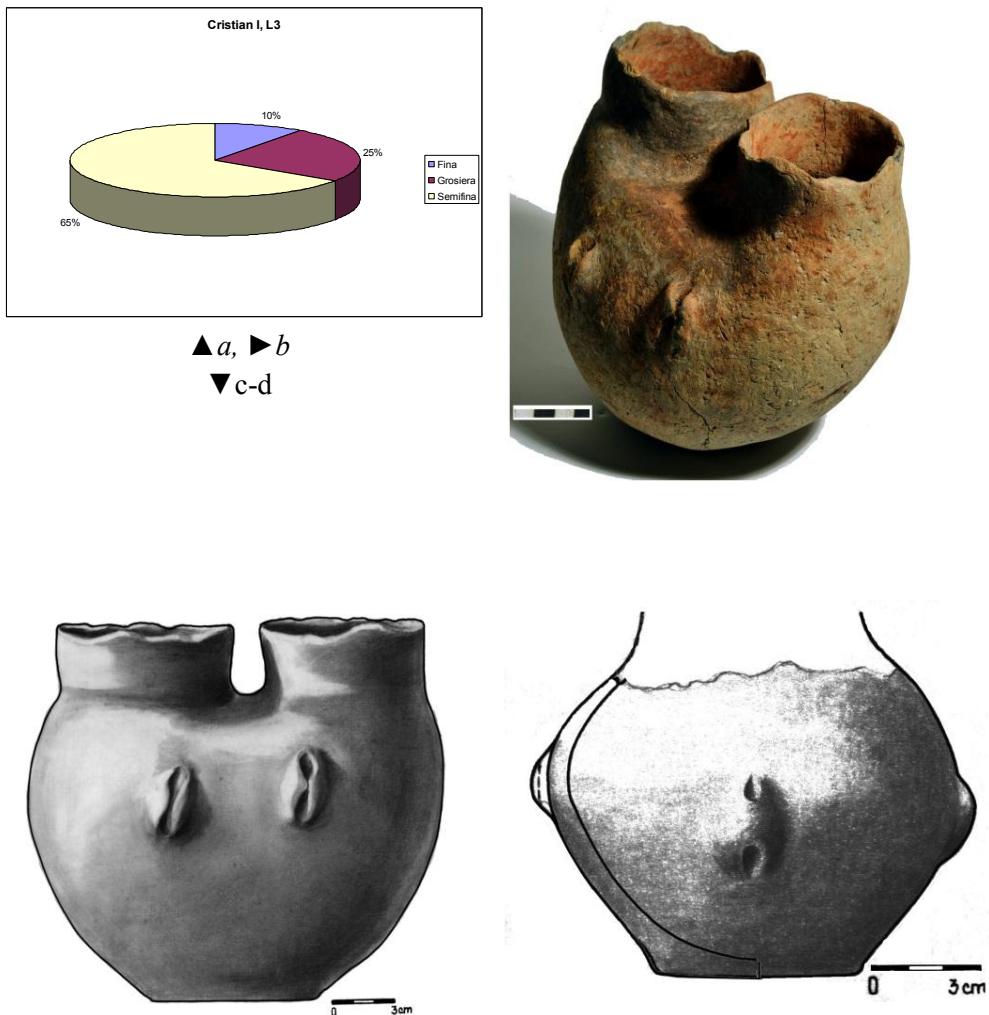


**Fig. 2b.** The  $^{14}\text{C}$  data for the Monochrome II horizon = SC IA-IB (6.200 - 5.900 BC).



**Fig. 3.** Cristian, location 1 (L1), after Ţeulean 2012.

In its lower part (marked as B2-bz, level 7a) we find red monochrome materials (red and dark red), as well as yellowish (**fig. 5c**), no other decoration, with similar globular shaped vessel as the one discovered by N. Vlassa and A. Palkó (**fig. 5a**), as well as ours (**fig. 5b**). Similar shapes are present at Cristian (**fig. 4d**).



**Fig. 4.** a) Cristian L1, 5398 fragments: fine -535, coarse - 1324, semi-fine -3539. b-d) Cristian L1, complex C058, pot shapes.

**Cristian** (Sibiu district, in salt region). At Cristian (Sibiu district, between Miercurea Sibiului and Ocna Sibiului) have been recently discovered three early Neolithic sites. The earliest site is *Cristian L3*<sup>23</sup> (complexes C058, C062, C038), with ritual deposition as at Ohodene, maybe a little bit earlier. As phenomena this belongs to what V. Nikolov define as *Pit sanctuaries*<sup>24</sup>.

<sup>23</sup> Ţeulean 2012, pl. 19, 25, 75-77.

<sup>24</sup> Nikolov 2011 and bibl.

Large amount of materials (**fig. 4a**: over 5300 sherds), under study and restoration shows the existence of several period of ritual filing whose habits begin in the earliest period of housing in the area. In the mentioned area there are sites of Starčevo-Criş culture, related with several phases. Complexes related with the **I-st migration** are marked with brown and those from the **II-nd migration** with blue in **fig. 3**.



**Fig. 5.** Gura Baciuului SC IA (monochrome): a-b) from N. Vlassa excavations; c) pit house B2A - Bz (excavations Gh. Lazarovici –Z. Maxim).

We note that entire vessels deposited in tombs or in the cult zone had perforated vertical handles, good for the real or imaginary (if we take into account a ritual deposition) transport of liquids or brine. The purpose of such ritual pits or cultic areas are related by some colleagues with the sanctuaries in pits<sup>25</sup>. Similar situations, contemporary or later have been noticed at Ohodene<sup>26</sup> and at Mihailovć – Kula Pit 2<sup>27</sup>.

In this case is to be noted similarities between the ritual depositions in Mađgiare - Skoplje sanctuary and asymmetric pots with vertically perforated handles. We believe that this sort of pots have been used for transport of the liquids and brine<sup>28</sup>, Cristian site being in the area of very rich salt sources; but in this case

<sup>25</sup> Nikolov 2011, see also the old bibl.

<sup>26</sup> Ganecovski 2008, fig. 1, 3.

<sup>27</sup> Sladić 1984, p. 201-202, fig. 198-199.

<sup>28</sup> Lazarovici Gh., Lazarovici C.-M. 2011.

we speak about offerings to underground deities. We have to underline that from this moment, stage SC IA ***is no longer hypothetical***, now there are sufficient material and arguments. Characteristic are the globular shapes, fired in a monochrome technique, without pinches.

Fine pottery of a very good quality, has been well fired and is predominantly monochrome; the mixture contains fine sand without organic materials and the color is red or brown (some pots have been fired at 900°C)<sup>29</sup>.

Taking into account the mentioned pottery it belongs to migration or ***aspect 1***.

At Gura Baciului (in a region with salt resources, such as Apahida, Cojocna), over pit house B2A have been other complexes with materials a little bit later<sup>30</sup>, but also related with monochrome horizons and white painting, white dots painted on a monochrome paste or on a red engobe. As we mention before, analyzes made on pottery show that was a strong firing process, at 900°C<sup>31</sup>.

At Dobanović in Serbia appear a monochrome pottery, but with a plastic decoration, ascribed by St. Dimitrijević to his Monochrome stage. This pottery might belong to stage SC IA, respectively to Monochrome II horizon.

The missing of the decoration with pinches leads us to consider it earlier and to ascribe it to stage SC IA. Here it is not white painting ceramic.

Pit house B2A (profile 7a layer) was disturbed and only few pottery was discovered in sure stratigraphic conditions<sup>32</sup>, therefore keeping some reservations, we have ascribed materials from its bottom to SC IA, as a hypothetical phase.

Pottery is not painted, is only monochrome (**fig. 5c**). Discoveries from *Krajnici* include old shapes, globular ones, for which we have presented analogies with pit house B1 at Gura Baciului. Krajnici shapes present analogies with the ones of early Monochrome stage at Franchti levels I-II<sup>33</sup>. But at Krajnici decoration consists also in pinches, incisions (**fig. 22**), attributes of a SC IB/IC stage<sup>34</sup>.

At Gura Baciului, in the upper part of the pit house from our excavation (near the area excavated by Vlassa – Palkó), from complex B2A or B2b appears many sherds painted with white dots on a red background. Some of these sherds discovered in our excavation were glued to the previously discovered by N. Vlassa, they belonging to the same complex.

This pit house was covered by another complex also with monochrome pottery, but a little bit later; we have marked this area, undisturbed as B2B (or

<sup>29</sup> Ghergari *et alii* 1995.

<sup>30</sup> Lazarovici, Maxim 1995, fig. 8.

<sup>31</sup> Ghergari *et alii* 1995.

<sup>32</sup> 118 fragments with stratigraphic observations from the upper part of pit house B28.

<sup>33</sup> Vitteli 1999, pl. 3.a-d.

<sup>34</sup> Lazarovici, Maxim 1995, fig. 8: impressions, often described (impressions, impressions with shell, stick head, bone head etc.) not illustrated. In codes they represent variant of the types FM (FM1), CJ (CJ1, CJ2), BH1, SE (CJ2). For codes Lazarovici, Maxim 1995, catalogues and dictionaries.

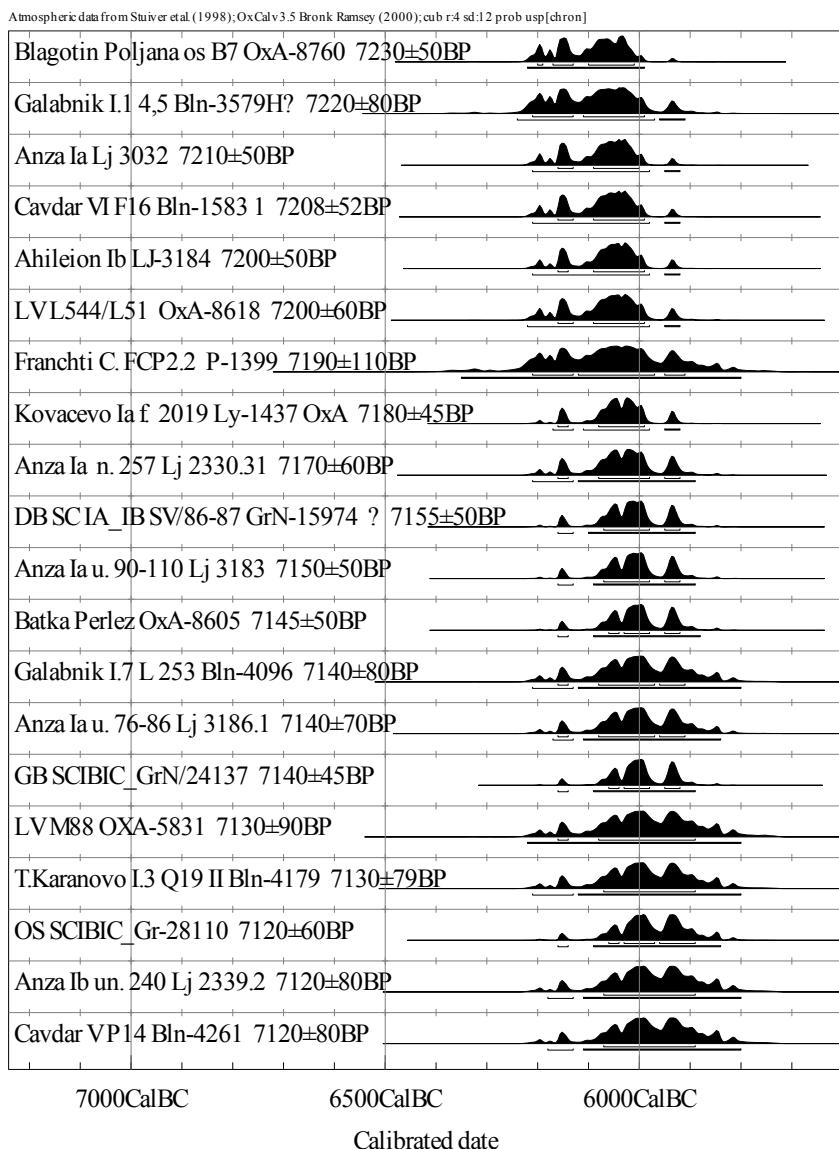
G2B, profile 7b level)<sup>35</sup>. Ceramic quality is different. In the same area in horizontal stratigraphy have been identified other complexes.



**Fig. 6.** Gura Baciului, SC IA/IB, pit house B2A.

As a characteristic of this period, beside the dominant monochrome aspect (**fig. 11**, Miercurea Sibiului, B10; **Donja Branjevina fig. 14**), is the white painted dots applied on a monochrome background; these dots are simple or organized in different motifs (bands, triangles).

<sup>35</sup> Lazarovici, Maxim 1995, fig. 8 plan and profile.



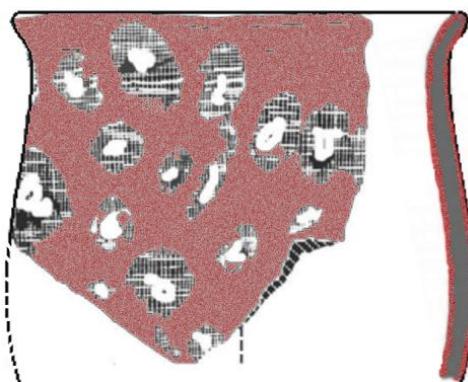
**Fig. 7.** Radiocarbon data related with I-st and II-nd migrations.

Is also present a very good quality slip, but which is not dominant. The paste mixture is frequently with chaff. Such dots appear at Ajman (**fig. 8** associated with rectilinear motifs)<sup>36</sup>, Nevestino (**fig. 9**)<sup>37</sup>, Cristian I (**fig. 10**), Miercurea

<sup>36</sup> Staljo 1986, fig. 27a-c.

Sibiului B10 (**fig. 11**)<sup>38</sup>, and Donja Branjevina II (**fig. 14**)<sup>39</sup>. Such materials are also present in other sites of **aspect 2**, but we will not make their analysis here.

Radiocarbon data from Gura Baciului, Ocna Sibiului, Miercurea Sibiului<sup>40</sup> and the ones from Kovačev I shows that starting of stage SC IB is around 6000 BC (**fig. 7**).



**Fig. 8.** Aman, pot.



**Fig. 9.** Cristian, complex C023, SC IB (after Şeulean 2012, photo n. 7.)



**Fig. 10.** Nevestino, white on a background red engobe.



**Fig. 11.** Miercurea Sibiului B10 (after Şeulean 2012, photo n. 7).



**Fig. 12.** Szarvas Ob. 23.

At Gura Baciului in 1965 three obsidian blades have been discovered (**fig. 14**), which are related with Melos origin, based on Prof. E. Stoicovici determination (Geological department, Cluj University)<sup>41</sup>.

<sup>37</sup> Čohadiev 2001, *passim*.

<sup>38</sup> Luca, Suciu 2005, p. 148-149, Tab.7-8; 2011; Luca *et alii* 2011.

<sup>39</sup> Karmanski 1975, pl. VI/1. 6-7 etc.; Dimitrijević 1974, pl. II/5, 13.

<sup>40</sup> Biagi *et alii* 1995b; Luca, Suciu 2007.

<sup>41</sup> Determinations made by E. Stoicovici: Vlassa 1965; 1966, 1976, p. 76, fig. 3.4-5; Lazarovici, Maxim 1995, fig. 16.9, 8; to these refers inventory P55592; 55986, 55982; to all these we have to add other over 40 obsidian artefacts.



**Fig. 13.** Miercurea Sibiului, pit house B10, SC IB, after Șulean 2012.



**Fig. 14.** Gura Baciului, Melos obsidian, Vlassa excavations.

Quite recently new analyzes made at IFN Bucharest on obsidian artifacts shows that on the northern part of the Danube, during Mesolithic period was used Carpathian obsidian, during Early Neolithic at the time of the first migrations the Melos one, and at the end of Early Neolithic again the Carpathian obsidian<sup>42</sup>. At Târgu Mureş - *Cetate*, have been discovered early materials, but they are not sustained by stratigraphic observations<sup>43</sup>. After the published material (**fig. 15**), taking into account ceramic technology we can ascribe it to SC IB until SC IIIA stage.

By geographic and cultural point of view living here is related with discoveries from Miercurea and Ocna Sibiului (salt region and salt baths). Unfortunately the sherds have been too strong washed and the red engobe disappeared.

For Foeni - *Sălaş*<sup>44</sup> it is a very early radiocarbon date for which no correspondence in ceramics; but there are also materials (**fig. 16**) and another radiocarbon data that correspond to the end of stage SC IB. These materials are in connection with the Donja Branjevina discoveries, as well as with the processes in the western part of the central Balkans.

Both Foeni and Târgu Mureş belong to **aspect 2** of the stage SC IB. There are dozens of secondary or seasonal sites, local diffusions of **aspect 1**, with few pottery, not enough attributes to be classified, very hard to ascribe chronologically or by cultural point of view. These communities coming in several ways: 1) through western central Balkan area from Greece by Axion – Macedonia - Morava (Rudnik, Divostin and others), by Danube (Donja Branjevina) then by Tisza

<sup>42</sup> Biagi *et alii* 1995; Kilikoglou *et alii* 1996; Constantinescu *et alii* 2002; Sălăgean *et alii* 1988; not the analyzes but the comparison system raises problems, see: Dumitrescu, Lazarovici 1990.

<sup>43</sup> Berecki, Hágó 2012, fig. 6-7.

<sup>44</sup> Drașovean 2007.

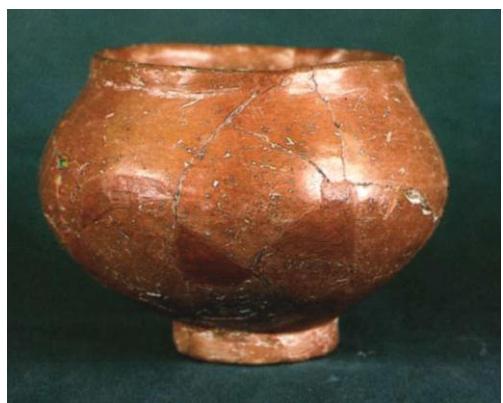
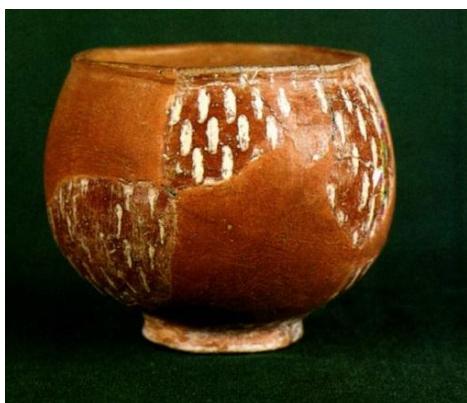
(Szeged), and Mureş Valley to Gura Baciului (zones with salt); 2) a second way is also from Greece following Strimon/Struma (in Kystendil area: Vaksevo, Nevestino and others).



**Fig. 15.** Târgu Mureş – Cetate (after Berecki, Hágó 2012).



**Fig. 16.** Foeni - Sălaş (after Draşovean 2007).

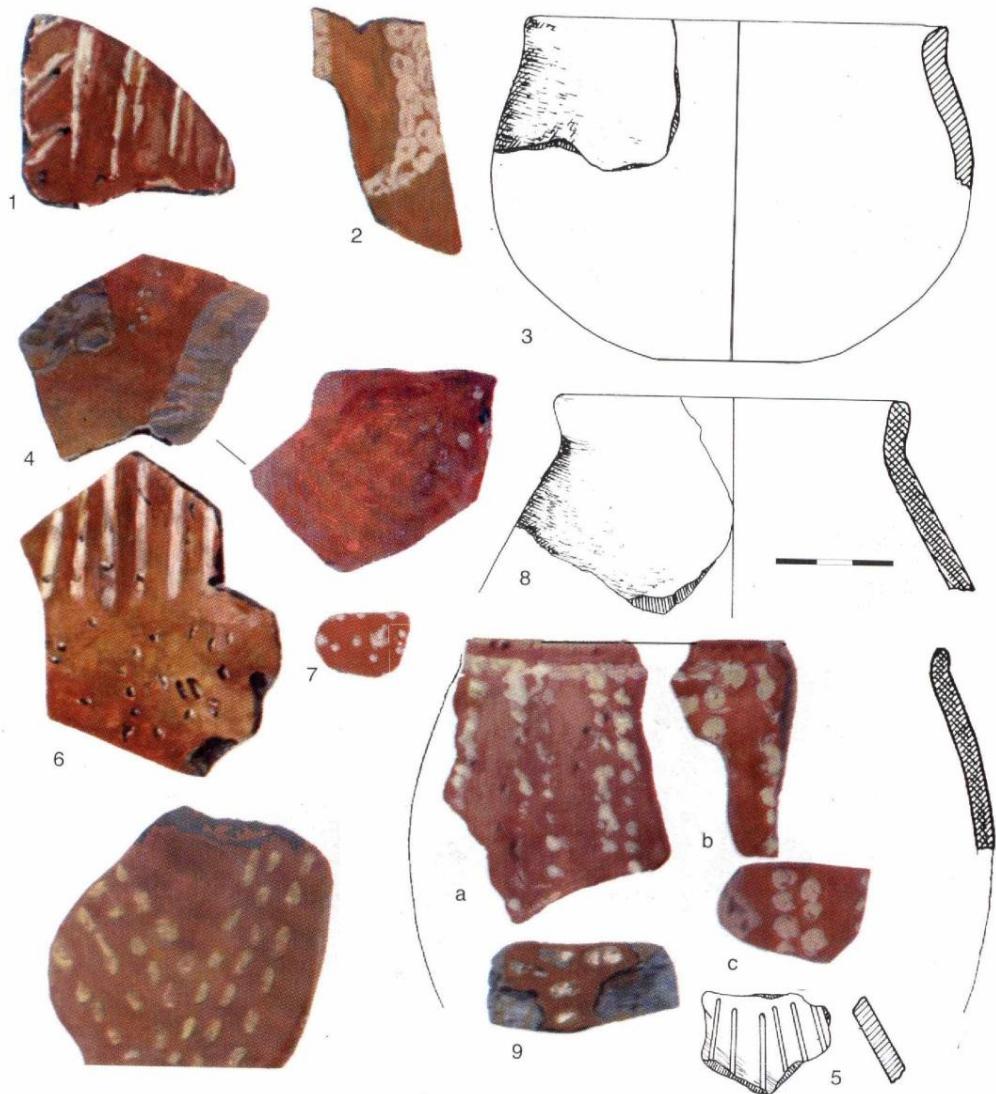


**Fig. 17.** Donja Branjevina pots, after Karmanski 1979.

## 2<sup>nd</sup> migration

Summarizing what is happening in stage SC IA, IB and the specified aspects (migrations, swarms and other) we can observe that at SC IC level two phenomena are ascertained, the new south migration and zonal diffusion. Being small communities involved in a pastoral economy we know only the main sites (**aspect I**). From those zones occur diffusion or "swarming"<sup>45</sup>.

<sup>45</sup> Around Gura Baciului site during SC I there are about 10 settlements; north of Târgu Mureş site there are about 3-4 settlements; etc.; see Lazarovici C-M., Lazarovici Gh. 2006, p. 80.



**Fig. 18.** Gura Baciului, pit house B1, SC IB.

We analyzed with qualitative attributes (shape, painting, technique and decoration) the materials from Gura Baciului belonging to the first complexes.



**Fig. 19.** First Neothermal Neolithic (FNT) 2 – SC IB.

Mentioned attributes are generally used for analogies. We can observe that complexes are not correlated, hence our past reserves. There are some differences especially related with ceramic technology, painting, the variability of decor, sometimes identically on the entire Balkan-Carpathian-Danubian area (BCD). The most obvious are things in the Kyustendil area and in the eastern central Balkan zone. What is happening there is meet in the center of Transylvania at Miercurea Sibiului B9 (**fig. 24/a**), Ocna Sibiului, Gura Baciu, partially at Cristian, or at Vaksevo, Nevestino, Dzhulyunitsa (we have in mind collections that we just studied recently) and other.

|                          | GB B2A bz | GB B2A | GB B2b bz |
|--------------------------|-----------|--------|-----------|
| Y; NP                    | 2         |        |           |
| M; NP                    | 2         |        |           |
| H; BE; NP                | 14        |        |           |
| 9; AC; NP                | 3         |        |           |
| D; EB; NP                | 6         |        |           |
| F; AB; NP                | 6         |        |           |
| R; NM; NP                |           | 3      |           |
| AI; BB, BC, BD,<br>CC; P |           | 4      |           |
| DE; P                    |           | 4      |           |
| F; AS; NP                |           | 1      |           |
| F; FA; NP                |           | 1      |           |
| L; H; NP                 |           | 2      |           |
| W; LK; NP                |           | 1      |           |
| W; LA; NP                |           | 1      |           |
| W; LL; NP                |           | 1      |           |
| TA; H; P                 |           |        | 1         |
| TC; P                    |           |        | 2         |
| B; IC; NP                |           |        | 2         |

**Fig. 20.**

From the materials we have studied at Vaksevo I-II, or Krajnici we have noticed that some finds are contemporary with SC IB; but these materials have been not published on complexes, therefore is difficult to study it analytically. It is necessary to present some fragments from level I at Krajnici<sup>46</sup>. Coarse pottery is decorated with in relief girdle (**fig. 21** simple, double, zigzag), alveoli, pressing with finger nail, irregular incisions, impressions (**fig. 22**). Such elements actually define the usual ceramic horizon SC IC being kept until the end of this culture. So, these sorts of decorations are wrongly regarded as belonging to the earliest stage.

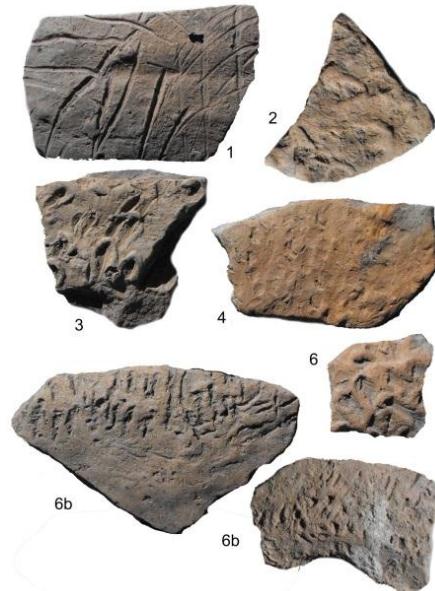
Unlike stages SC IA-IB (with the mentioned aspects) where predominant are globular shapes and a limited number of white painted motifs, starting with the **II-nd migration** these motifs become richer, more varied, being associated with many attributes. Frequency and their dynamism depend on subjective factors, such as research (extend of investigated areas) and capitalization (reconstruction of shapes, extensive publications, monographs etc.).

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<sup>46</sup> Čohadiev *et alii* 2007.



**Fig. 21.** Krajnici I, after Lazarovici.



**Fig. 22.** Krajnici I, after Lazarovici.

Before making a detailed analysis of the attributes we consider necessary to present new elements that make distinction between two of the issues: the first is the continuance of old items (aspect 2) and the emergence of southern elements (aspect 1), plus retardation and developments in which local factor or fashion leave their mark.

If we compare the findings of Kyustendil, shapes or channeled ornaments from the early phases, Gălăbnik, Elešnica etc.<sup>47</sup> (**fig. 24d, 25a-b, 32**), even some from Albania (**fig. 27**)<sup>48</sup>, with the ones from Transylvania (Miercurea Sibiului, Ocna Sibiului, Gura Baciului **fig. 24-26**<sup>49</sup>) or those on the Danube, at Cârcea<sup>50</sup> (**fig. 29**), Măgura - Buduiasca<sup>51</sup> (**fig. 31**), even if shapes are painted or decorated with grooves we often see that they are identical. For these are dozens of other examples.

<sup>47</sup> Tao 2000, 2/36, 40, 42, 43, 44, 46; 47, 50; Pavúk, Bakamska 2000, fig. 1/1, 4-5; 2/1-6.8.

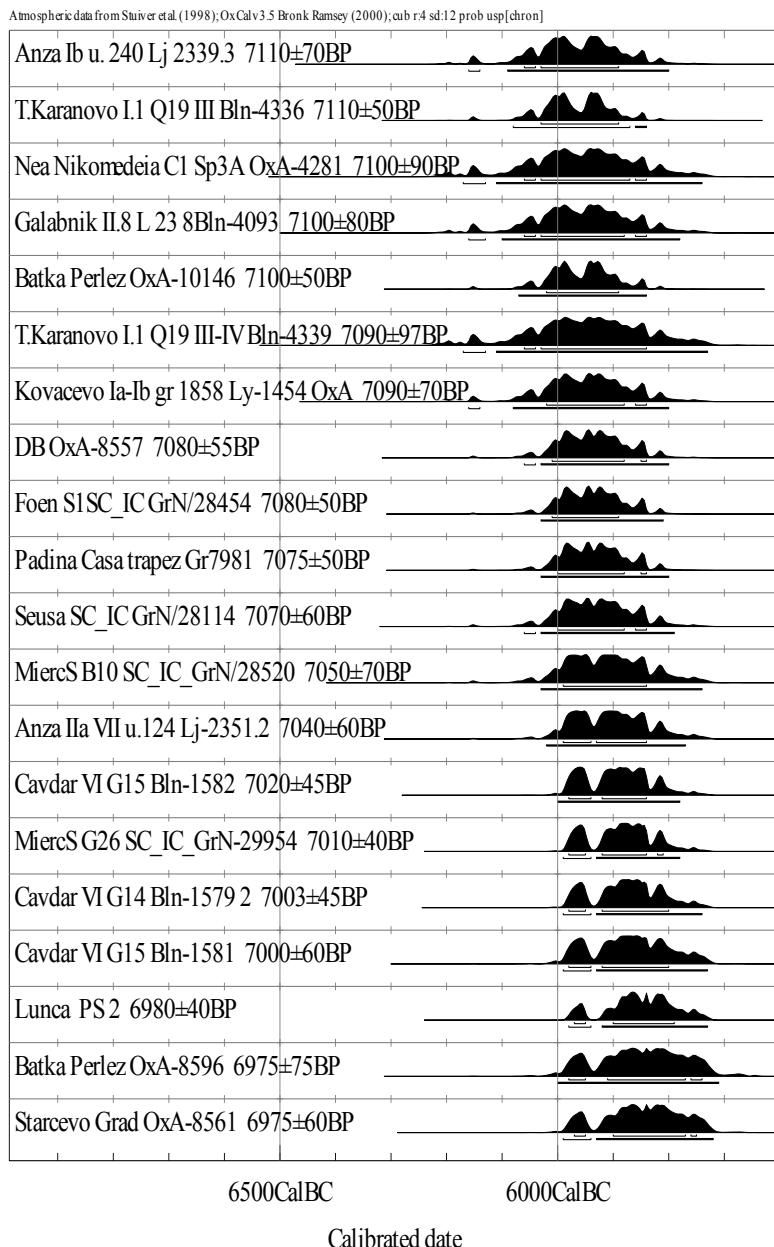
<sup>48</sup> Kamnik: Korkuti 2007, fig. 5, p. 113-117.

<sup>49</sup> Paul 1995, pl. II/6; Păunescu 1976, fig. 16/2; Lazarovici 1969, VB1; Luca, Suciu 2005, p. 144, Tab. 1-2; Lazarovici, Maxim 1995, PC, VIII/8; etc.

<sup>50</sup> Nica 1981; 1991.

<sup>51</sup> Andreeșcu *et alii* 2004; Mirea 2005; sub voce on: [www.cimec.ro](http://www.cimec.ro), Măgura.

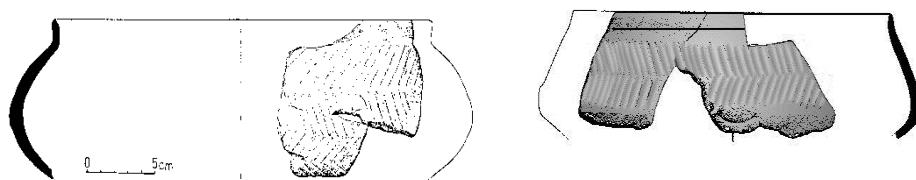
This clearly demonstrates that this is what Henrieta Todorova defines as *Überregionalen Komplexen*. In the entire central Balkan area we find the same evolution, in the same order, with the same characteristics.



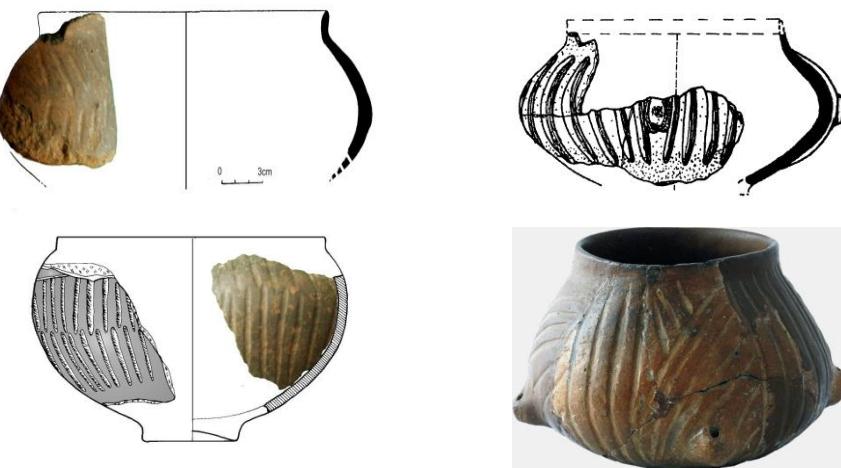
**Fig. 23.** Radiocarbon data related with the I-st and II-nd migration.



**Fig. 24.** a) Miercurea Sibiului; b) Ocna Sibiului, pit house B9; b) Ţeuşa; d) Krajnici II.



**Fig. 25. a-b) Gălăbnik.**

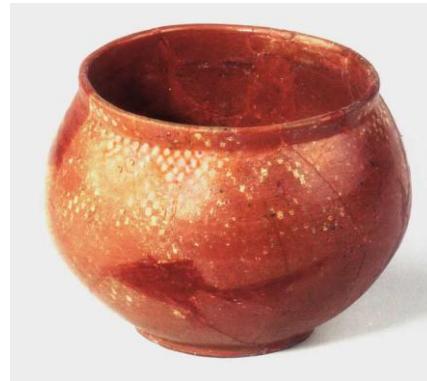


**Fig. 26. c-d) Gura Baciului pit house B20, SC IIA; e) Ocna Sibiului; f) Ţeuşa.**

Similar situations occur in Serbia and Macedonia that we have analyzed several times<sup>52</sup>. In the Danube area, at Pojejena, Padina, Schela Cladovei, Ajman appear several bread ovens used as portable ovens, griddles<sup>53</sup>.



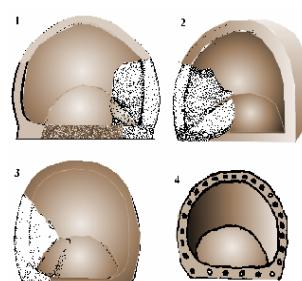
**Fig. 27.** Kamnik, Albania, after Korkuti.



**Fig. 28.** Ocna Sibiului, after Paul 1995.



**Fig. 29.** Cârcea, photos Gh. Lazarovici.



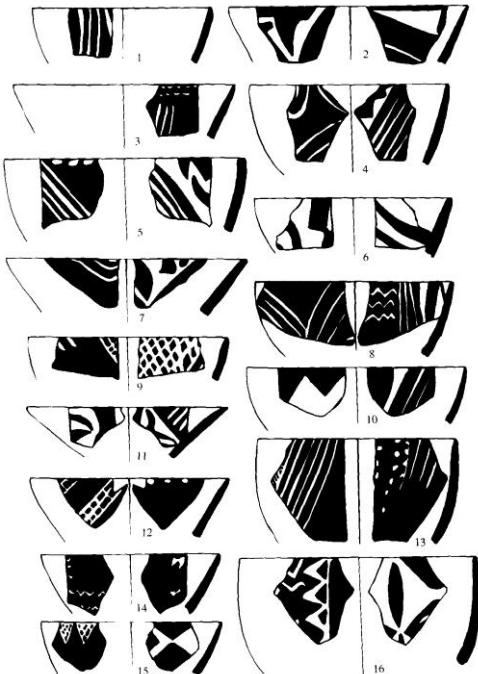
**Fig. 30.** a) Ajman; b) Pojejena; c) Schela Cladovei.

<sup>52</sup> Lazarovici 1995; 1996; 1998; 2000; 2006 etc.

<sup>53</sup> Davidescu 1966; Lazarovici 1979a, pl. IB; Luca 1995; Lazarovici C.-M., Lazarovici Gh. 2006, p. 108, fig. II.58; Lazarovici Gh., Lazarovici C.-M. 2009/2010, p. 108; 2010.



**Fig. 31.** Măgura, after Mirea 2004.



**Fig. 32.** Vaksevo after Čohadiev 2001.

Other old opinion refers to the relation Monochrome Anzabegovo. We will give some examples of orientations made based on analogies. M. Garašanin defines an Amzabegovo Ia as an early monochrome<sup>54</sup> opinion taken up by other authors. But in 1999 M. Garašanin returned to the problem synchronizing Amzabegovo Ia with Presesklo<sup>55</sup> (there were too many radiocarbon data contradicting his opinion). In the same time S. Dimitrijević define a monochrome too<sup>56</sup>. S. Karmanski in the desire to find a "clean" monochrome manually separated the white painting (define as Donja Branjevina II) by the monochrome ceramic and those with pinches<sup>57</sup> (initially define as Prekőrös or early Kőrös; at one point in Banat was defined a "border" between Kőrös and Starčevo)<sup>58</sup>; he found the same stratigraphy in several pits at Donja Branjevina, which is not possible. Of course

<sup>54</sup> Davidescu 1966; Lazarovici 1979a, pl. IB; Luca 1995; Lazarovici C.-M., Lazarovici Gh. 2006, p. 108, fig. II.58; Lazarovici Gh., Lazarovici C.-M. 2009/2010, p. 108; 2010.

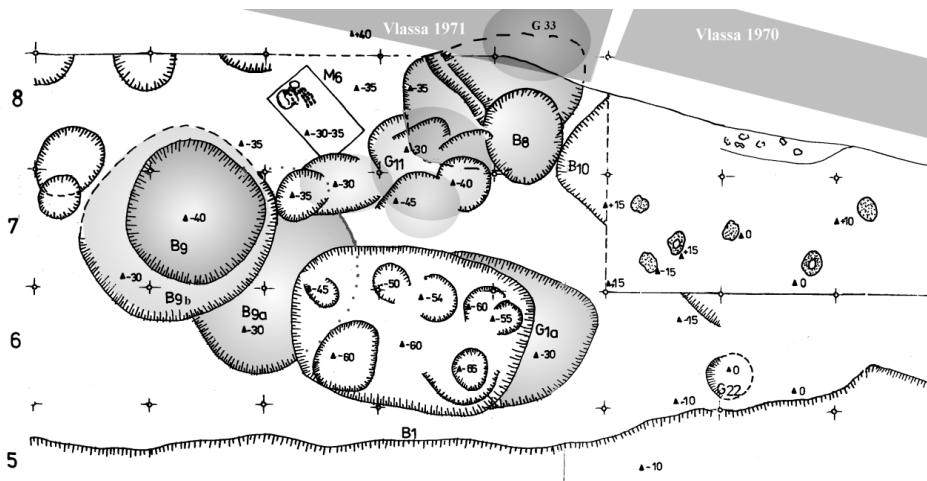
<sup>55</sup> Garašanin 1979, p. 90-92; 1998, p. 7, 32.

<sup>56</sup> Garašanin, Radovanović 1999/2001.

<sup>57</sup> Karmanski 1968, pl. VI-XI, XII/1 etc.; critical oppinions: Lazarovici 1977a, p. 32, 33-34, 1979a, p. 17, 41-42, n. 213, 217, 223, 224.

<sup>58</sup> Karmanski 1968; Brukner 1965; 1979 and bibl.; 2000; etc.; critical oppinions Lazarovici 1980 see also note 57 here.

here there are also early materials (as is suggesting by radiocarbon data<sup>59</sup>. In the Danubian area there are other early radiocarbon data<sup>60</sup> but they are not associated with materials that would correspond these stages.



**Fig. 33.** Gura Baciului, complexes related with SC IC, after Lazarovici, Maxim 1995.

We believe that related with this new migration it is to notice a stratigraphic situation in Thessaly, at Otzaki Magula, where after the first horizon with Protosesklo painting is following a horizon with pinching and impresso decor, define as „*barbotin*” by Vl. Milojčić. In the same place was a black pottery, decorated as „*barbotin*” (pinches, in relief belt), followed by Presesklo. In Macedonia, at Anzabegovo I, in Kyustendil area, appear in almost all sites a black pottery (pinching, belts and grooves). In the mentioned sites it is also a sort of decoration on the pot lips, defined in our catalogues as AP<sup>61</sup>. This element is rarely in SC IB/IC, being characteristic for SC IC-IIA. In the same time this element is associated with other elements (decor, shapes) all together being defining by the presence, absence, dynamism cultural and chronological stages. At Gura Baciului complexes of stage SC IC are grouped (**fig. 33**). They define a continuity of habitation in the area and survival of old items.

<sup>59</sup> Tasić 2003; 2005; 2006 and older bibl.; 2009.

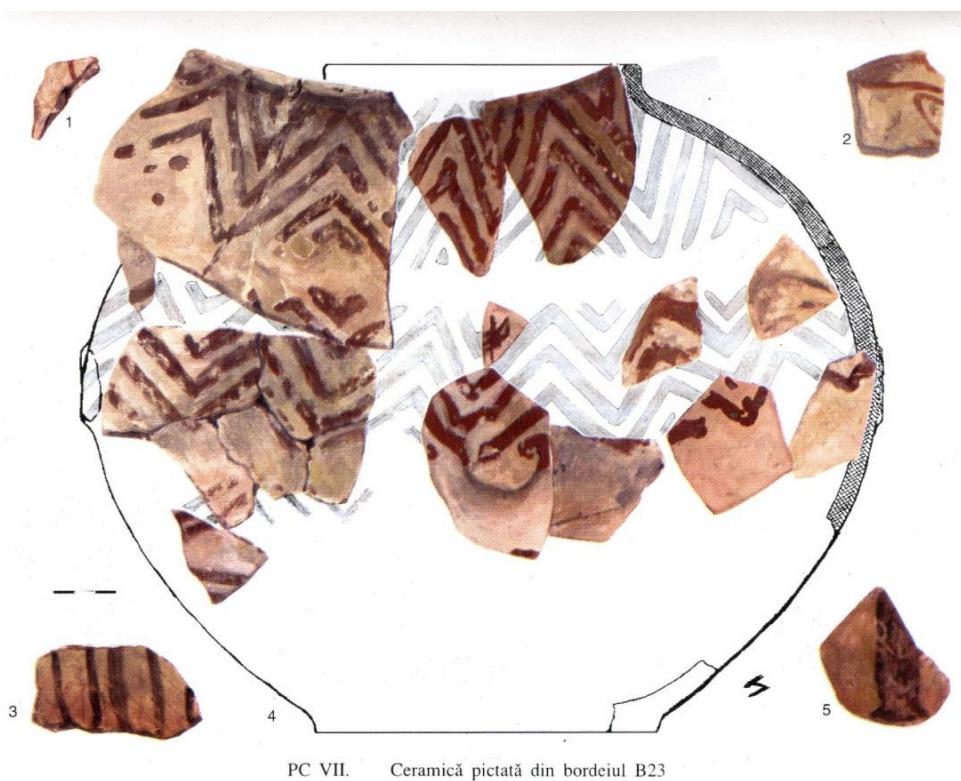
<sup>60</sup> Biagi, Spataro 2004; 2004a; Biagi *et alii* 2005; Spataro 2007, p. 155, table.

<sup>61</sup> In our database we have 156 situations related with SC IC-IIIB. We have several times analyzed these: Lazarovici 1973 = 1974, fig. 2/1, 23/2,16; those from Gornea we ascribe earlier to SC III, today they belong to stage SC IIB; 1977, XXVI/16; 2006; 2006; Lazarovici, Maxim 1995, PC, IX/1-3; Berciu 1959; 4/5; Nica 1971, 5/13; Srejović 1973, p. 259; L42, 16, n. 103; Karmanski 1979, fig. XXIX/4, 6; Luca 1995, fig. 4/9; 5/7, 9/10; Stanković 1986; Tao 2000, fig. 3/28; Ciută 2002, pl. XCIV/10; XLII/1, 3; XLV/5, 7, 10; XLV/5, 7, 10; XXXIV/1-3; XL/1-2; D158, 100; Čohadjev 2001, fig. 46/4; Tasić 2003, p. 80; Perić, Nikolić 2004, pl. III/7-8, XIV/7, 10; Vuković 2004, pl. XXV/1; Elenski 2010, fig. 5b; for Beljakovec Plocite: Elenski, separatum (not year), fig. 54.3.

Regional developments - which are based on some theories (local origin or a particular local dynamism of the attributes<sup>62</sup>) - often leads some researchers to explain some evolutionary process without taking into account the general processes, the Balkan one<sup>63</sup>. We can not analyze all these opinions here and now, we do only some references.

Due to exceeded chronological systems (we refer to the term Protostarčevo I-III) or nonexistent (Körös for example) for the new archaeological discoveries have been invented new terms, which are welcome if cover stratigraphic and chronological the realities.

But without statistical analysis, classification and seriations (after the paste, shape and ornaments of the pottery) the four aspects can be confused in vague, undefined terms, such as monochrome, white painting etc.



**Fig. 34.** Gura Baciului, SC IIA, pit house B23, after Gh. Lazarovici, Maxim 1995.

<sup>62</sup> Jovanović 1972.

<sup>63</sup> See Pavúk 1991 etc.

We have extracted from our database some attributes, especially the ones published by our colleagues that we have seriated. We have eliminated the ones which are weak correlated using only those we consider important. We have analyzed pots with a white slip, on which was painted with red; this technology is later, and was observed in one complex B23 at Gura Baciului, ascribed to SC IIA<sup>64</sup>, at Cârcea-Hanuri in G2<sup>65</sup>, Grădinile - Izlaz<sup>66</sup>.

In Bulgaria this element is present at Lagitenjuvo<sup>67</sup>. In our opinion, appearance of the white background or large white painted surfaces, geometric or rectilinear starts from SC IIA. Other times we have connect it with Sesklo I phase when at Gura Baciului also appear a pot shape, foreign to the local environment<sup>68</sup>. As a conclusion we have not direct links between Protosesklo „A” from Argissa<sup>69</sup> and Gura Baciului (**Fig. 34 and 35**; motive P OE)<sup>70</sup>. Other ceramic shapes of N. Vlassa from Gura Baciului level I (**Fig. 35.7-11**) complete the repertoire of early motives, but being without stratigraphic observations we ascribed it to the stage SC IA-IB. Only on one fragment appear painted motive DE at Gura Baciului in B2A (**Fig. 35, 1.13**), as well as at Donja Branjevina II. In our database this motive was used 25 times (see the annex for motive DE), but here we can not analyze and comment all ornaments.

Our short visit in Bulgaria permit us to discuss with the colleagues here about the new discoveries. From the studies and books we have received from our colleagues<sup>71</sup>, we have uploaded in the database especially the materials important for the connections with Carpatho-Danubian area and the central Balkan one.

We have noticed that in the literature have been published only the fragments considered as „characteristic”, or common especially for the unpainted pottery. Therefore the data we present here are only qualitative. Quantitative data are present for the sites where all material has been published on complexes and including all descriptions. So, again we underline that our data are qualitative. But with this sort of data operate archaeologists when make comparations, analogies, relative chronologies. As we mention before in the literature there are some "statements" considered as "safe" (upper, different aspects of the so called issues „monochrome aspect”); but for this study we have uploaded database only with decorative motifs (painted and unpainted).

<sup>64</sup> Lazarovici, Maxim 1995, cover 1 and PCVII4 associated with other paintings.

<sup>65</sup> Nica 1976, 122.1.

<sup>66</sup> Nica 1981, p. 33, fig. 4/5.

<sup>67</sup> Gaul 1948, pl. X/20.

<sup>68</sup> Lazarovici 2006, p. 126, fig. 16a.

<sup>69</sup> Miločić 1959, fig. 6.8.

<sup>70</sup> Vlassa 1976, fig. 11/1, 16/1.

<sup>71</sup> We especially would like to thank to Acad. Henrieta Todorova, Dr. Stefan Alexandrov and Dr. Ivan Vajsov that offer us a very rich new bibliography, as well as to other Bulgarian colleagues.

|     |  | Argissa M.. | GBI | DBII | GBB2A | Ocna Sibiului | DBIII |
|-----|--|-------------|-----|------|-------|---------------|-------|
| 1.  | P; 52  | 1           |     |      |       |               |       |
| 2.  | P;JG<br>        | 2           |     |      |       |               |       |
| 3.  | P<br>           | 2           | 1   |      |       |               |       |
| 4.  | P;a;KI<br>      |             | 1   |      |       |               |       |
| 5.  | P;a;DJ   |             | 3   |      |       |               |       |
| 6.  | P;a;BG<br>      |             | 2   |      |       |               |       |
| 7.  | NP;a;KI  |             | 2   |      |       |               |       |
| 8.  | P;a;BE<br>      |             | 8   |      |       |               |       |
| 9.  | P;a;M<br>M<br> |             |     | 1    |       |               |       |
| 10. | P;a;DE<br>    |             | 6   | 3    | 4     |               |       |
| 11. | NP<br> EB     |             |     |      | 6     |               |       |
| 12. | NP;NM<br> NM  |             |     |      | 3     |               |       |
| 13. | NP;BE<br>     |             |     |      | 14    |               |       |
| 14. | NP;IC<br>     |             |     |      | 2     |               |       |
| 15. | P;a;Al<br>    |             |     |      | 1     |               |       |
| 16. | P;a;BC   |             |     |      | 1     |               |       |

|     |            |  |   |  |   |  |
|-----|------------|--|---|--|---|--|
|     |            |  |   |  |   |  |
| 17. | P;a;CC<br> |  |   |  | 1 |  |
| 18. | P;a;EI<br> |  | 3 |  | 1 |  |

**Fig. 35a.**

In some cases the pots shapes have been reconstructed, in other cases this situation was not possible due to the fragmentary state of the material. Analyzing data from table 35 with different complexes we see that the earliest are related with stage SC IA-IB (some later suggested by motives IC, KI (**Fig. 35.4**).

|            | Argissa-Gremno | GBI | DBII | GBB2A | Ocna Sibiului | DBIII | 19. |
|------------|----------------|-----|------|-------|---------------|-------|-----|
| P;a;WH<br> |                |     |      |       | 1             |       |     |
| P;a;FK<br> |                |     |      |       | 2             | 1     | 3   |
| P;a;PO<br> |                |     |      |       |               | 1     |     |
| NP;AJ<br>  |                |     |      |       |               |       | 4   |
| NP; HK     |                |     |      |       |               |       | 3   |
| P;a;GP<br> |                |     |      |       |               |       | 6   |

**Fig. 35b.**

The weak correlation we can observe suggest local developments, another cultural group or unsafe framing. For Danubian area and east of Central Balkans we have a chronological and cultural series that we are using as a model (**Fig. 35a**). The very general notions, such as Gura Baciului I, Ocna Sibiului I, permit errors: where discoveries are presented on levels, there are some early motifs (green SC IB), as well as later ones (stage SC IC) (orange).

|        |   | DBG1 II | Lepenski<br>Vir3 a2 | DBG1 I |
|--------|---|---------|---------------------|--------|
| P;a;TH | 8 | 1       |                     |        |

Fig. 35c.

Decorative motif PK (position 4, Fig. 35a) is later, and PI (position 18, Fig. 35a, orange color) is earlier. Such errors occur when are used vague notions such as Gura Baciului I or Ocna Sibiului I and not specified the complexes where such motifs are used. In such „levels” or „horizons” enter materials from several complexes and therefore appear errors, as we have noticed upper for the wrong use of „horizon” or „phase” Gura Baciului – Cârcea.

We critically comment offering analytical arguments for terms like *Prekőrős*<sup>72</sup>, *Precris*<sup>73</sup>, *Protostarčevo*<sup>74</sup>, *Gura Baciului – Cârcea Horizon* etc.<sup>75</sup>. Ruth Tringham and J. Pavúk make Lepenski Vir cradle of civilization for the monochrome groups and those with white painting from the Danubian-Balkans regions.

|    |  | Ocna<br>Sibiului | DBG1 II | Lepenski<br>Vir3 a2 | DBG1 I | DBG6 I | DBG6 II | DBG2 I | DBG7 II | DBG3 I | DBG7 I | GBB1b | GBB8 |
|----|--|------------------|---------|---------------------|--------|--------|---------|--------|---------|--------|--------|-------|------|
| 1. | NP<br><br>AL    |                  | 8       |                     | 4      |        |         |        |         |        |        |       |      |
| 2. | NP;BL<br><br>BL |                  | 12      |                     | 6      | 3      |         |        |         |        |        |       |      |
| 3. | NP<br><br>DR    | 1                |         |                     |        |        |         |        |         |        | 1      |       |      |

<sup>72</sup> Brukner 1978, p. 78, n. 14; 1980, p. 48-50; critical oppinions Lazarovici 2004.

<sup>73</sup> Precris term at: Paul 1989, p. 5sqq; 1995, pl. VII/1-2.4.6; Ciută 2000; 2002 s.v.; 2005, p. 184, fig. 17A; 2009 etc.: our analithical oppinions Lazarovici 2005: Lazarovici, Brukner 2012 ms.

<sup>74</sup> Protostarčevo term at: Garašanin 1979, p. 119; Brukner 1979; Stanković, Runić 1990; Čohadjev 2001; Bogdanović 1981, 1994, 1998; Tasić 2003, p. 80; Perić, Nikolić 2004; Srejović 1969; 1971, p. 129; 1973, p. 261; Pavúk 1991, p. 235, 237.

<sup>75</sup> Nica 1991, p. 104; Garašanin 1979; Jovanović 1984, p. 166; Pavúk 1991, p. 232, 236; Dumitrescu *et alii* 1983; Ciută 2002; 2005; Paul 1970; 1995.

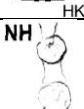
|     |   |  |   |   |   |   |   |   |   |   |   |  |
|-----|---|--|---|---|---|---|---|---|---|---|---|--|
| 4.  |  FA<br>NP      |  |   | 1 |   |   |   |   |   |   |   |  |
| 5.  |  P;a;MH        |  |   | 1 |   |   |   |   |   |   |   |  |
| 6.  |  NP;a;CC1      |  |   |   | 1 |   |   |   |   |   |   |  |
| 7.  |  NP;DF<br>DF   |  |   |   | 2 |   |   |   |   |   |   |  |
| 8.  |  NP;JA         |  |   |   | 1 |   |   |   |   |   |   |  |
| 9.  |  NP;BJ         |  | 3 |   |   |   | 3 |   |   |   | 1 |  |
| 10. |  NP;BD<br>BD   |  |   |   |   | 1 |   |   |   |   |   |  |
| 11. |  P;a;SK        |  |   |   |   | 2 |   |   |   |   |   |  |
| 12. |  NP;BK         |  |   | 8 |   |   | 2 | 2 |   |   |   |  |
| 13. |  NP;FK        |  |   |   | 4 |   |   |   |   | 2 |   |  |
| 14. | NP;BN   |  |   | 4 |   |   | 2 |   | 3 |   |   |  |
| 15. | NP;BM<br> BM |  | 1 | 4 |   |   |   |   | 7 |   |   |  |
| 16. |  FF          |  |   |   |   | 1 |   | 1 |   |   |   |  |
| 17. |  NP;EM       |  |   |   |   |   |   |   |   | 2 | 1 |  |
| 18. | NP;OO   |  |   |   |   |   |   |   |   | 2 |   |  |
| 19. | NP;FU   |  |   |   |   |   |   |   |   | 2 |   |  |
| 20. | NP;a;MO   |  |   |   |   |   |   |   |   |   | 1 |  |
| 21. |  NP;DJ       |  |   |   |   |   |   |   |   | 1 | 2 |  |

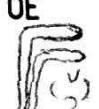
Fig. 35d.

We have introduced in the database the new archaeological materials, especially the decorative motifs that we have recently studied through our visit in Bulgaria, grace to Bulgarian colleague's kindness. There are many data and information, but for this study we can not finish the upload of our database. We have to mention that some Bulgarian colleagues have used new codes for decorative motifs, as the ones for western Bulgaria made by Št. Čohadiev<sup>76</sup>, very well realized and that we intent to use in our next codes. For sure at Vaksevo I there are even earlier complexes, as *Vaksevo Ia* (Fig. 36, green mark), but they have been published together with Vaksevo I.

|   |   | Vaksevo I-II<br>Vaksevo Ia | Hotnica<br>Voda pada | Pestera<br>Emen - V. | Hotnica<br>Pésčerata | Beljakovec<br>- Plachite | Kara Bujuk<br>Dupnita | Djuljunica-<br>Smardesch | Strelek -<br>Erem bunar | Koprivec | Elešnica | Gălăbnik |
|---|---|----------------------------|----------------------|----------------------|----------------------|--------------------------|-----------------------|--------------------------|-------------------------|----------|----------|----------|
| OG1   | 1 |                            |                      |                      |                      |                          |                       |                          |                         |          |          |          |
|  |   |                            |                      |                      |                      |                          |                       |                          |                         |          |          |          |
| AB  | 2 |                            |                      | 1                    | 3                    | 1                        |                       |                          |                         |          |          |          |
|  |   |                            | 1                    | 1                    | 1                    | 10                       |                       |                          |                         |          |          |          |
| cc  |   | 1                          | 1                    |                      |                      |                          |                       | 1                        |                         |          |          |          |
| AC  |   |                            |                      |                      | 2                    | 2                        |                       |                          |                         |          |          |          |
| cc1   | 1 |                            |                      |                      |                      | 4                        |                       |                          |                         |          |          |          |
| AP-TN   |   |                            |                      |                      |                      | 2                        |                       |                          |                         |          |          |          |
| HK  |   |                            |                      |                      |                      |                          |                       |                          |                         |          |          |          |
| QK  |   |                            |                      |                      |                      | 2                        |                       |                          |                         |          |          |          |
| AY  |   |                            |                      |                      |                      | 2                        |                       |                          |                         |          |          |          |
| HF<br>+CC1  |   |                            |                      |                      |                      | 2                        |                       |                          |                         |          |          |          |
| QK  |   |                            |                      |                      |                      | 6                        |                       |                          |                         |          |          |          |

<sup>76</sup> Pavúk 1991, p. 232; Pavúk, Čohadiev 1984.

|  |  |  |  |   |    |   |   |   |   |   |  |
|--|--|--|--|---|----|---|---|---|---|---|--|
| QF<br>    |  |  |  |   | 2  |   |   |   |   |   |  |
| <br>HK    |  |  |  | 1 | 15 |   | 2 | 1 |   |   |  |
| NH<br>    |  |  |  |   | 1  | 1 |   |   |   |   |  |
| AK<br>    |  |  |  |   | 3  |   | 1 |   |   |   |  |
| AT<br>    |  |  |  |   | 2  |   | 1 |   |   |   |  |
| PO<br>    |  |  |  |   | 1  |   | 1 |   |   |   |  |
| HL<br>    |  |  |  |   |    |   | 2 |   |   |   |  |
| CG<br>    |  |  |  |   |    | 1 |   | 1 |   |   |  |
| A1<br>    |  |  |  |   | 2  |   | 1 | 1 |   |   |  |
| NE-HO<br> |  |  |  |   |    |   | 1 |   | 1 |   |  |
| AP   |  |  |  |   | 3  |   | 1 | 2 |   | 1 |  |
| MA<br>   |  |  |  |   | 1  |   |   |   |   | 1 |  |
| OD<br>  |  |  |  |   |    |   |   |   | 1 | 1 |  |
| OB<br>  |  |  |  |   |    |   |   |   |   | 2 |  |
| OC<br>  |  |  |  |   |    |   |   |   |   | 3 |  |
|  |  |  |  |   |    |   |   |   | 1 | 1 |  |

|   |  |  |  |  |  |  |  |  |   |   |
|---|--|--|--|--|--|--|--|--|---|---|
|  |  |  |  |  |  |  |  |  | 6 | 1 |
|  |  |  |  |  |  |  |  |  |   | 1 |

**Fig. 36.** Seriated unpainted ornaments. In the series we let just correlations with a high frequency, table having initially 152 lines and 12 columns.

Comparing the result of the analytical study (**Fig. 36a**), with all the necessary reserves (even other colleagues when make analogies with 2-3 attributes have any reserves) with what we have studied directly on materials of some sites<sup>77</sup>, given the differences in the ceramics fabric (pronounced mineral mixture in SC IC in Kyustendil area) we have observed at Krajnici I some differences comparing to Krajnici II. From this series (**Fig. 37**) we can observe three clusters (marked with different colors). The earliest one, mark with green (**Fig. 36**) is contemporary with some materials from Hotnica Plateau<sup>78</sup>, a middle stage (mark with orange) and a late one (mark with blue), from SC IC.

From the series (**Fig. 36a-c**) results that Donja Branjevina level II appears earlier in the series than Donja Branjevina III. S. Karmanski „stratigraphy“ we have criticized several times<sup>79</sup> comparing it with materials from different sites for which there are stratigraphy and radiocarbon data, such as Gura Baciului, Cuina Turcului, Ocna Sibiului and others. This series start with early materials at Vaksevo and end with the ones at Gălăbnik I. We can observe that discoveries from so called Hotnica Plateau (**Fig. 37** gray marks) are older (red letters) and at Beljakovec – Plachite there are two or three stages<sup>80</sup>.

As we have mentioned before there are new analytical studies or codes for databases, as the ones used for Bulgarian discoveries made by L. Perničeva and her team<sup>81</sup>, by Št. Čohadiev<sup>82</sup>, or other colleagues, especially for the ones at Dzhulyunitsa<sup>83</sup>, Macedonian colleagues that published archaeological materials on complexes for Amzabegovo (or Anzabegovo)<sup>84</sup>. To complete database is an enduring work, and now we do not have time to do this, therefore we have used

<sup>77</sup> We are referring to ceramic technology, that need a comparison made on archeological materials, not on publications.

<sup>78</sup> Todorova 2003; Stanev 2008; Elenski 2008; 2010 etc.

<sup>79</sup> See our previous studies: Lazarovici 1992, p. 27-28, 31, 41-53, tables 2-17, 16, 18, fig. 16-17.

<sup>80</sup> Todorova 2003, 2011 etc.

<sup>81</sup> Perničeva 1978; 1990; 2011; Lichardus-Itten 1993; Pavuk 1991, p. 234.

<sup>82</sup> Čohadiev 1983; 1998; 2001; Čohadiev *et alii* 2007 etc.

<sup>83</sup> Elenski 2000a; 2002; 2002a; 2004; 2008; 2008a; 2008b; Elenski, Leštakov 2006.

<sup>84</sup> Garašanin *et alii* 2009; Tasić 2003; 2006; Zdrankovski 2006; \*\*\* Anzabegovo 2009.

here our database and the information resulting from completions brought by the PhD students from Sibiu<sup>85</sup>.

|     |  | Orlovec A2a | Kara Bujuk - Durnica | Orlovec A1b | Vaksevo I-II<br>(Vaksevi I) | Kovacevo |
|-----|--|-------------|----------------------|-------------|-----------------------------|----------|
| CK  |  |             |                      |             |                             |          |
| DA  |  | 1           |                      |             |                             |          |
| DS  |  | 1           |                      |             |                             |          |
| IE  |  | 1           |                      |             |                             |          |
| BM  |  |             | 1                    |             |                             |          |
| BO  |  |             | 1                    |             |                             |          |
| DD  |  | 1           |                      |             | 1                           |          |
| II  |  | 1           |                      |             |                             | 2        |
| IP  |  |             | 1                    |             | 1                           |          |
| AN  |  | 1           |                      |             | 2                           |          |
| EM  |  |             |                      | 1           | 1                           |          |
| IS  |  |             |                      |             | 20                          |          |
| CT  |  |             |                      |             | 10                          |          |
| AE  |  |             |                      |             | 13                          |          |
| AH1 |  |             |                      |             | 9                           |          |

<sup>85</sup> Perničeva 1978; 1990; 2011; Lichardus-Itten 1993; Pavúk 1991, p. 234.

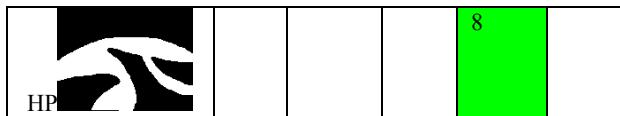


Fig. 37.

For the Balkans and Danubian region there are three main ways of the neolithisation processes: one is in the main central Balkan area (Struma/Strimon); the second in the West of Balkans, Vardar-Axios; the third is related with Marica Valley; these areas do not enter into our analysis.

For the Carpatho-Danubian region an important role was played by the central Balkans way, cluster I (**Fig. 37**, green mark) is related with stage SC IB.

In the second cluster with painted pottery we can notice that at Vaksevo there are two or three stages, marked by us **Vaksevo I** and **Vaksevo IIa**, maybe a **Vaksevo IIb** (mark to draw attention, while Št. Čohadiev published together Vaksevo I-II (SC IB-IC). Between these stages are inserted Kovačeve discoveries<sup>86</sup>.

For the Early Neolithic in the Carpatho-Danubian area incorrectly was entered the term of cultural group, horizon or phase **Gura Baciului – Cârcea**<sup>87</sup>, taken over without control. As we have demonstrated many times it contains several migration processes (**I-st and II-nd migration**), and based on our knowledge, specifications and definitions at Gura Baciului there are three stages (after Gh. Lazarovici SC IA, IB, IC), and at Cârcea - Hanuri this horizon has three or four stages, Cârcea Ia, Ib, IIa, IIb<sup>88</sup>.

|    | Vaksevo I-II<br>(Vaksevo II) | Kovačeve | Knjazevce | Karanovo | Djuliunica - Smardesch | Lagitenjuvo | Capitan Dimitrijevo | Gradesnica | Kremikovci |
|----|------------------------------|----------|-----------|----------|------------------------|-------------|---------------------|------------|------------|
| IF | 5                            |          |           |          |                        |             |                     |            |            |
| IT | 5                            |          |           |          |                        |             |                     |            |            |

<sup>86</sup> There are new analytical studies about Kovačeve stratigraphy: Perničeva 1978; 1990; 2011; Perničeva *et alii* 1990; Grebska - Kulova 2001; 2011.

<sup>87</sup> Garašanin 1979, p. 83-84, 90-92, 132-133.

<sup>88</sup> Nica 1976; 1977; 1980; 1981; Vlassa 1980, p. 696 ascribes Cârcea I to the stages Gura Baciului I/II; we ascribe discoveries from Cârcea I – II in SC IB – IIB, and some of the materials in SC IIIA: Lazarovici 1977a; 1978; 1979b; 1984; 1987-1988; 1995; 1996; 1998; 2000; 2005; 2006 etc.

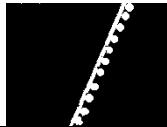
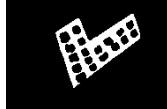
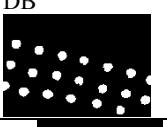
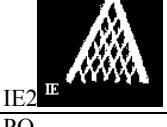
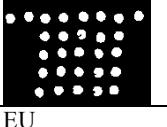
|     |   |   |   |  |  |  |  |  |  |  |  |  |
|-----|---|---|---|--|--|--|--|--|--|--|--|--|
| MP  |  | 4 |   |  |  |  |  |  |  |  |  |  |
| NQ  |   | 4 |   |  |  |  |  |  |  |  |  |  |
| NR  |   | 7 |   |  |  |  |  |  |  |  |  |  |
| OR1 |  | 4 |   |  |  |  |  |  |  |  |  |  |
| PN  |   | 7 |   |  |  |  |  |  |  |  |  |  |
| QS  |   | 4 |   |  |  |  |  |  |  |  |  |  |
| SA  |   | 4 |   |  |  |  |  |  |  |  |  |  |
| AG  |  | 4 | 1 |  |  |  |  |  |  |  |  |  |
| RH  |  | 3 | 3 |  |  |  |  |  |  |  |  |  |
| 24  |   |   | 1 |  |  |  |  |  |  |  |  |  |
| 42  |   |   | 1 |  |  |  |  |  |  |  |  |  |
| 43  |   |   | 1 |  |  |  |  |  |  |  |  |  |
| 44  |   |   | 1 |  |  |  |  |  |  |  |  |  |

Fig. 38a.

|    |   |           |           |          |                        |             |                     |           |            |
|----|---|-----------|-----------|----------|------------------------|-------------|---------------------|-----------|------------|
|    | Vaksevo I-II<br>(Vaksevo IIb)   | Kovačević | Knjazevac | Karanovo | Djuljunica - Smardesch | Lagitenjuvo | Capitan Dimitrijevo | Gradšnica | Kremikovci |
| KN |  | 3         |           |          |                        |             |                     |           |            |
| NF |  | 5         |           |          |                        |             |                     |           |            |
| NV |   | 1         |           |          |                        |             |                     |           |            |

|   |    |   |   |   |   |   |  |  |
|---|----|---|---|---|---|---|--|--|
|            |    |   |   |   |   |   |  |  |
| SD<br>     |    | 1 |   |   |   |   |  |  |
| YY  |    | 1 |   |   |   |   |  |  |
| Z1  |    | 5 |   |   |   |   |  |  |
| CS<br>     | 11 | 9 |   |   |   | 1 |  |  |
| DB<br>     | 2  |   | 2 |   |   |   |  |  |
| IE2 IE<br> | 11 |   |   |   | 1 |   |  |  |
| PO<br>    | 3  | 2 |   |   | 1 |   |  |  |
| DE<br>   | 3  |   | 2 |   | 1 |   |  |  |
| EU<br>   | 2  |   |   | 1 |   |   |  |  |
| OJ<br>   | 2  |   |   | 1 |   |   |  |  |
| DF<br>   | 1  |   |   |   | 1 |   |  |  |

|           |   |  |  |   |   |   |   |   |   |
|-----------|---|--|--|---|---|---|---|---|---|
| JC        |   |  |  | 1 |   |   |   |   |   |
| GV        |   |  |  |   | 2 |   |   |   |   |
| HF<br>IE2 |   |  |  |   | 2 |   |   |   |   |
| GO        | 2 |  |  |   |   | 5 |   |   |   |
| HO        |   |  |  |   |   | 2 |   |   |   |
| TH        |   |  |  | 1 |   | 3 | 2 | 1 |   |
| IH        |   |  |  |   |   | 1 |   |   | 1 |

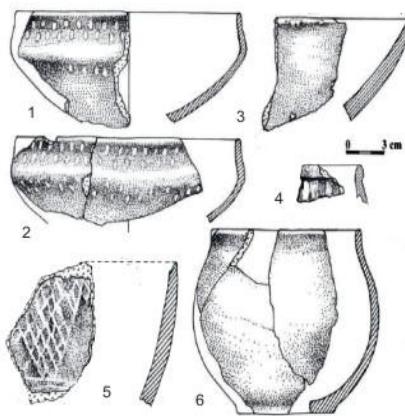
Fig. 38b.

From the upper table we can observe that in the southern areas white dots are kept for a long time (or are complexes from different stages?), being associated with other elements that appear later in our zone. This supposes existence during SC IC/IIA phase of a new southern impulse, probably a diffusion of the SC IC stage (*aspect 2a*).

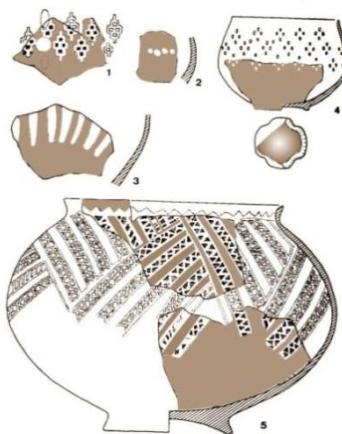
At Gura Baciului we suppose it based on the appearance of the white engobe (**fig. 34**) on which is painted in red. This is pit house B23 (SC IIA<sup>89</sup>). The white background, associated with white curvilinear spaces (painted or hachured)

<sup>89</sup> Lazarovici, Maxim 1995, PC, VII; and the cover.

is frequently met at Cârcea, Grădinile, Măgura, Kovačevo B, Vaksevo, but in other sites too.



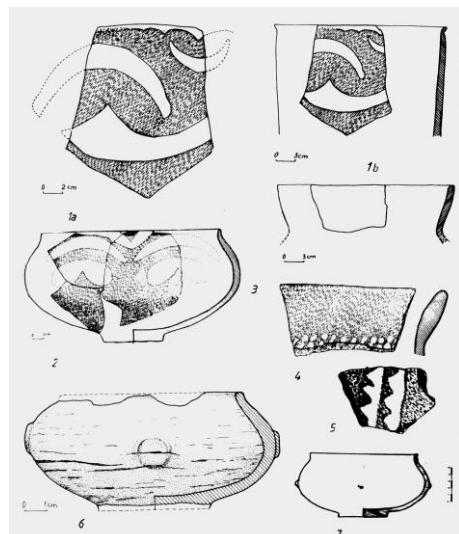
**Fig. 39.** Miercurea Sibiului – Petriș, SC IC, pit house B19 and pit G28 (after Luca *et alii* 2008).



**Fig. 40.** Cârcea SC IIA (after Nica).



**Fig. 41.** Măgura, SC IIA, after Mirea 2004.



**Fig. 42.** Grădinile, SC IIA, after Nica.

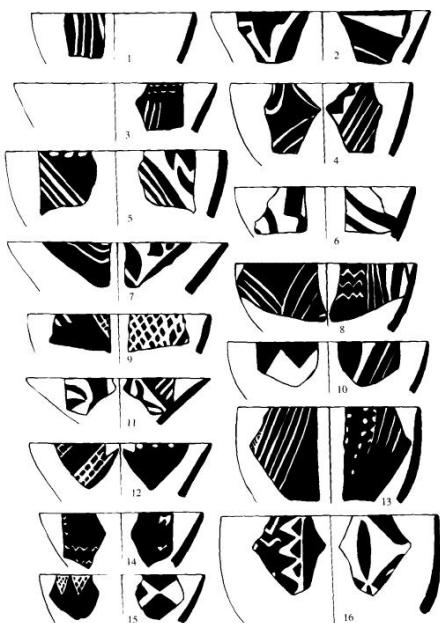
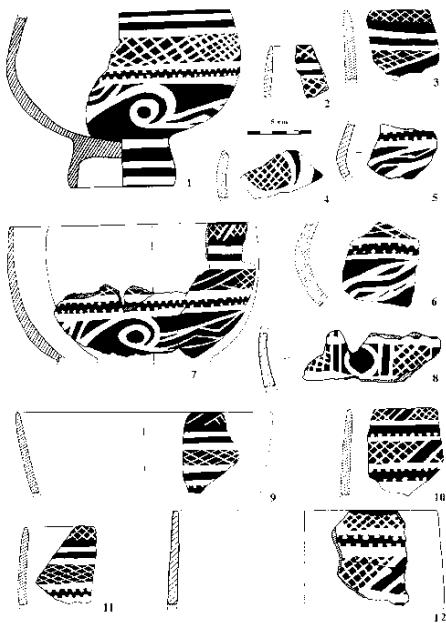


Fig. 43. Painted ceramic from Vaksevo - white paint on red background.

**Fig. 43.** SC IC-IIA, Vaksevo, after Čohađiev 2001.Abb. J. Kovačovo Keramik der Stilgruppe A.  
1,3,4,6,7, white paint on red background; 2,5,8,9,10,11,12, white paint on brown; M: 1:2**Fig. 44.** Kovačovo (Stilgruppe A), SC IIA, after Perničeva.

For the moment an analytical study on these elements is not possible, being necessary new catalogues with the motives, shapes and analyzes on complexes.

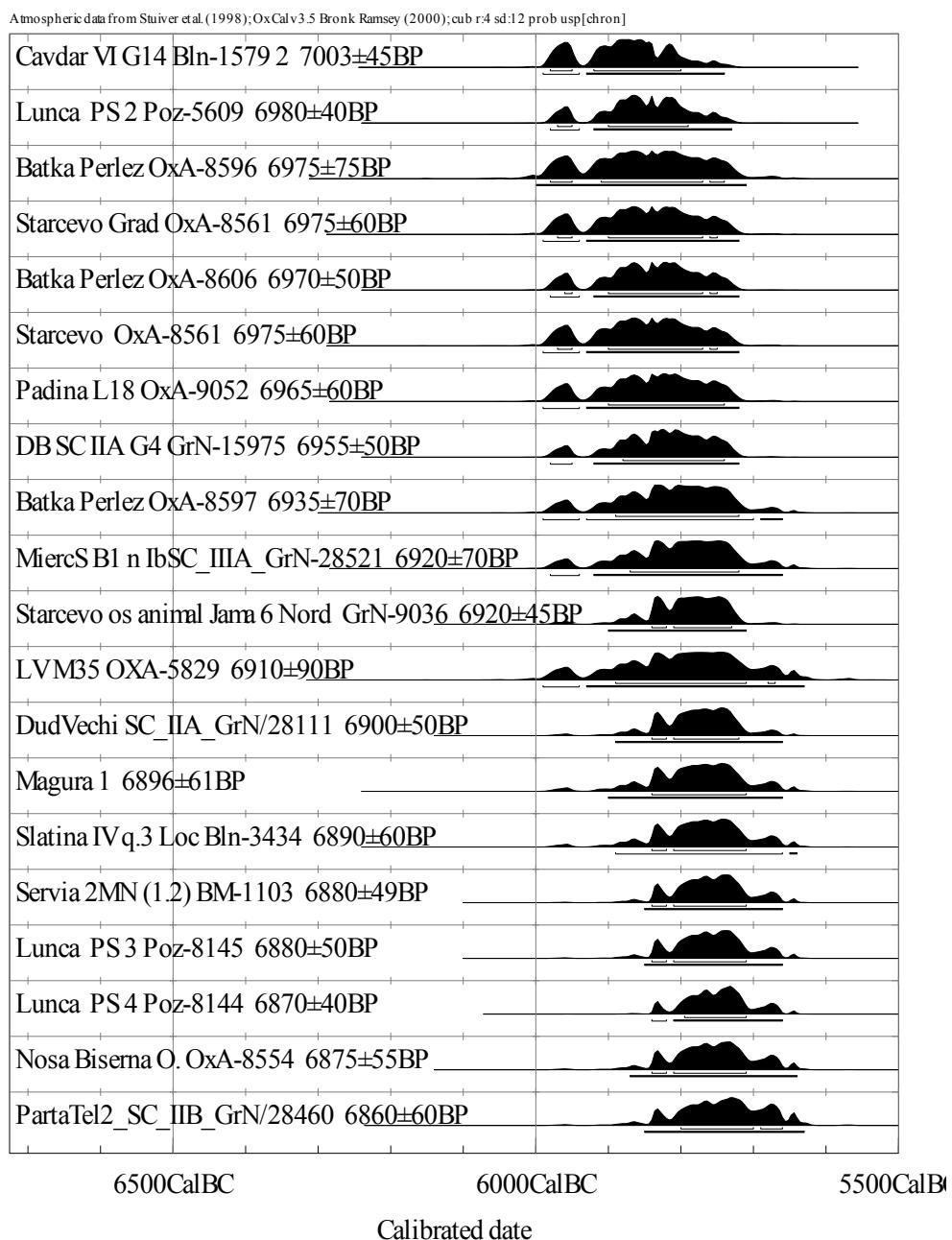
Radiocarbon data for stage SC II not always correspond with archaeological materials. Must be kept some reservations and controlled with other situations. For example for Lunca - *Poiana Slatinii* site radiocarbon data have not correspondence in archaeological materials<sup>90</sup>, and at Măgura - *Buduiasca* published materials belong to earlier horizons.

Discoveries at Kovačovo bind to the ones of Marica Valley, but also by the local dynamism that defines cultural groups, dynamism to be taken into account.

### Conclusions.

All Neolithic sites of Transylvania are located in the areas of salt sources or salt regions. Salt was necessary for preservation of milk and meat products, as well as for the human and animal (sheep, cattle) alimentation. We believe that one of the south migration reasons to Oltenia and Transylvania and later to Moldavia is connected with salt necessity.

<sup>90</sup> Anomalies from the early data are caused by oscillations, therefore must be taken into account reservations.



**Fig. 45.** SC phase II, radiocarbon data.

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