fragments. The back side is smoothed with traces of plastering. Three pieces. Average measurements = 7 by 8.5 cm, average thickness = 20 mm (Fig. 4.5).

Fragment 12. Sections of a dark green leaf motif in a white field accompanied by a brown twig. The back-side is smoothed with imprint. Average measurements = 4.1 by 4 cm, average thickness = 12 mm (Fig. 4.3).

Fragment 13. Detail of a dark brown tree branch (or trunk?) in a white field. Double-layered with smoothed back-side. Average measurements = 3.5 by 4.3 cm, average thickness = 15 mm (Fig. 4.4).

Notes

1 The excavator, Dénes Gabler, made this find available to us after the analysis of that site had been finished.

2 The kind help of Dénes Gabler must be acknowledged here. He gave permission to publish information on page 41 in his excavation diary.

3 For the most recent results of laboratory analyses see the study by Márta Járó.

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CHEMICAL ANALYSIS OF SOME NEW WALL-PAINTING FRAGMENTS FROM ÁCS–VASPUSZTA

Six pieces of the wall painting fragments were investigated by scientific methods. The aim of the investigations was to reveal the similarities of these fragments to those analyzed before (JÁRÓ 1991, 106–113). The analysis methods used were the same as in the previous case, but now, only the different plaster layers under the paint layer were investigated and the tool marks, if any, were observed.

For each fragment, thickness and composition[1] of the levelling plaster (white preparing layer just under the paint layer), number, colour, thickness of the plaster layer under the levelling plaster, and the surface

Table 1. Summary of the investigation results

Cat. No.*	Levelling plaster				Type	Layer under the levelling plaster	Tool marks
	Compos.			Thickness (mm)			
	Calcite	Dolomite	Quartz				
1 upper	++++	+++	++	ca. 2	C	yellowish, coarse granular layer, earlier painting under it thickness: ca. 7 mm	
lower	++++	+	++	ca. 2	A	greyish, fine granular layer, the backside is plane thickness: ca. 5 mm	marks from a pointed, triangular? tool (swellings)
2	++++	+++	+++	ca. 2	B	yellowish, coarse granular layer with bigger pebbles and particles of slaked lime (or lime), the backside is plane thickness: ca. 15 mm	mark from a pointed, triangular? tool (swelling)
5 upper	++++	+++	+	ca. 3-4	C	yellowish, coarse granular layer with bigger pebbles and particles of slaked lime (or lime), earlier painting under it thickness: ca. 7-8 mm	
lower	++++	+	+++	ca. 5	B ?	greyish, fine granular layer, the backside is plane thickness: ca. 7 mm	marks from a pointed, triangular? tool (swellings)
8 upper	++++	+++	+?	ca. 2-4	C	yellowish, coarse granular layer with bigger pebbles and particles of slaked lime (or lime), earlier painting under it thickness: ca. 10 mm	
lower	++++	+	+	ca. 1-2	A	greyish, fine granular layer, the backside is plane thickness: ca. 5 mm	marks from a pointed, triangular? tool (swellings)
10 upper	++++	+++	+	ca. 1-3	C	yellowish, coarse granular layer, earlier painting under it thickness: ca. 10-15 mm	
middle	++++	-	++	ca. 1-3	A	greyish, fine granular layer, earlier painting under it thickness: ca. 5 mm	
lower	++++	+	++	ca. 1	A	yellowish, coarse granular layer - only on the corner of the backside of the middle layer thickness: can not be measured	
11 upper**						yellowish, coarse granular layer, earlier levelling plaster on half of the backside thickness: ca. 10-13 mm	
lower	++++	-	+	ca. 2-3	A	nothing remained of the plaster	

* Numbering according to the numberrs in the Catalogue

** Not analyzed

and backside of the samples were studied. Investigation data are summarized in Table l.

Levelling plasters

To characterize the levelling plasters, their mineral composition was taken into consideration, as in the previous case. We used again the following classification:

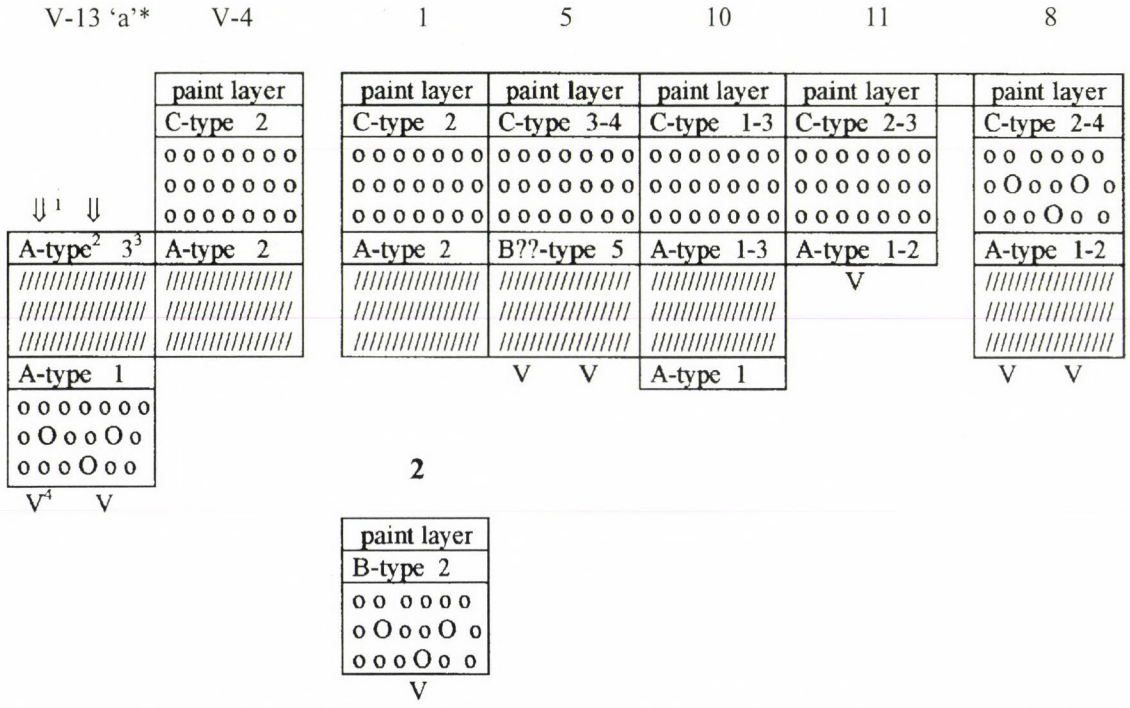
A-type: levelling plaster containing a considerable amount of calcite and a small amount of α-quartz or, in some cases, a small amount of dolomite as well. With this composition, we can suppose that the slaked lime was mixed with limestone or marmor dust and with some sand.

B-type: levelling plaster containing a large amount of calcite, a big amount of α-quartz and a smaller amount of dolomite. The slaked lime was mixed with a larger amount of sand and probably with limestone dust containing dolomite or dolomite dust.

C-type: levelling plaster containing a large amount of dolomite, a considerable amount of calcite and a small amount of α-quartz. In this case, dolomite dust replaces the limestone or marmor dust or is used together with them in the white mixture.

Other plaster layers

We tried to describe the plaster layer (the intonaco was composed of two layers in every case) under the levelling plaster by a visual evaluation of the colour and particle size, and by measuring the thickness of the layer.



* Numbers beginning with V mark fragments investigated earlier - coming also from the No. 1 house of the vicus
[1] tool marks on the surface (niches)
[2] type of the levelling plaster (see above the classification)
[3] thickness of the levelling plaster in mm
[4] mark of a triangular tool on the backside -swellings on the surface

yellowish, coarse granular layer

greyish, fine granular layer

yellowish, coarse granular layer with bigger pebbles and particles of slaked lime (or lime)

Fig 1. An attempt to range the fragments on the base of the investigation data

Tool marks

The shape of the point of the tool used for the preparation of the wall for the plaster can help the comparison of the fragments. Niches on the surface hint to the re-decoration of the wall, while triangular swellings on the backside can mark a previous paint layer – or the preparation of the wall itself for plastering.

Fragment No. 2 has a B-type levelling plaster. The bigger amount of dolomite in the mixture hint to the use of dolomite flour – so the piece can probably be ranged to the previous pieces. However, the slightly different composition of the levelling plaster marks a different part (a new aisle?) of the building. Not investigated fragments Nos. 3 and 4 are similar to No. 2, they come certainly from the same wall or room.

The correctness of this attempt of ranging into groups of the fragments could be certifie more investigation data, by the comparison of more fragments and first of all by a looking through of all the fragments excavated in collaboration with the archaeologists.

Discussion of the results

Levelling plasters

All of the three levelling plaster types could have been identified on the investigated fragments.

In case of fragments representing more than one period of decoration, the upper, the 'youngest' levelling plaster was of C-type, where crushed limestone or marmor and/or dolomite flour were added to the slaked lime and sand, for preparing the white plaster. All but one of the underlying, earlier painting or paintings were made on A-type levelling plaster which does not contain dolomite, or only a small amount. In one case (No. 5), a mixture of a bigger amount of sand, slaked lime and crushed limestone or marmor was used. The painting of the fragment representing only one period (No. 2), was made on a C-type levelling plaster.

Tool marks

On the backside of all of the investigated fragments swellings were observed. This means that the wall or the already existing painting was prepared for the re-decoration with a pointed, triangular tool. The niches caused by the point of the tool were filled with the new plaster material.

Some remarks concerning the relative chronology of the investigated fragments

According to the investigation data, we tried to range the newly examined fragments to the ancient ones, point of view relative chronology (fig. 1).

We compared two of the earlier investigated fragments with the new ones. These two fragments (V-13'a' and V-4 on the figure) represent 3 or 4 periods of wall finishing or decoration (see JÁRÓ 1991, 106–113). Fragments Nos. 1, 5, 10 and 11 seem to be similar to V-4 point of view stratigraphy and composition of the levelling plaster. Traces of an A-type levelling plaster can be found on the backside of fragment No. 10, which support the hypotheses that the upper painting of these fragments represent the 3rd (or 4th) decoration (or finishing) period of a building. Other, not investigated fragments, for example No. 13 also belong to this group.

The painting on fragment No. 8 was made also on a C-type levelling plaster – possibly at the latest period of decoration. The earlier levelling plaster and plaster on the backside of the fragment are similar to those of the previous group – an A-type levelling plaster on a relatively thin, greyish plaster layer. It can be supposed, that the wall from which it comes was redecorated a little bit earlier or later than in case of fragments 1, 5, etc. Or it belonged to an other part of the same building. Not investigated fragment No. 9 has a similar plaster and levelling plaster, but earlier layers are missing.

Notes

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