SITE FORMATION PROCESSES IN THE LOWER TOWN II OF DUR-KATLIMMU. THE CASE OF THE RED HOUSE

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Abstract

The complete ground plan of the so-called Red House has been excavated at Tall Sheikh Hamad/Dur-Katlimmu on the Khabur River in North-Eastern Syria. The Red House covers an area of approximately 5400 square meters (c. 6500 square yards) and is composed of three wings with 90 rooms. Cuneiform tablets date the period in which the Red House was in use to the reign of the Neo-Babylonian king Nebuchadnezzar II after the fall of the Neo-Assyrian Empire. The main phase of occupation was ended abruptly by a fire and by violent destruction. What happened afterwards? The paper presents a new method to classify, quantify and visualise deposits. With the help of the so-called 'cuboids-method' site formation processes can be classified, quantified and visualised.

Geographical and Historical Setting

The excavation site Tell Sheikh Hamad is located in Northern Mesopotamia on the eastern bank of the Khaburriver. Today this is north-eastern Syria, quite close to the Iraqi border. The distance to the Assyrian city Ashur at the Tigris-river is about 200 km (Fig. 1). Tell Sheikh Hamad is identified with the Assyrian provincial centre Dur-Katlimmu, based on cuneiform texts. The modern ruins are subdivided into four areas by topography: first, the Citadel, second, the Lower Town I, third, the Lower Town II, which is surrounded by a city wall, and fourth, the suburbs to the north and west. The area, which was covered by the city, reached 110 hectares. Since 1978 a German mission directed by H. Kühne, Freie Universität Berlin, had been conducting annual excavations. The work is financed by Deutsche Forschungsgemeinschaft.

The history of occupation begins in the 4th millennium BC during the Late Uruk period (Kühne 2008: 543-551). During the 3rd millennium BC only the tell was inhabited. In the early 2nd millennium the Lower Town I was founded. Thus, the Late Bronze Age Middle Assyrian town Dur-Katlimmu consisted of the citadel and the Lower Town I. In the early 1st millennium BC the large rectangular Lower Town II was added. It was inhabited during the Neo-Assyrian and Neo-Babylonian period.

The settlement activity was limited to the citadel and Lower Town I before it was brought to an end during the Late Roman / Early Byzantine Period.

During the 9th century BC, the Neo-Assyrian Empire strengthened its position and expanded to the west. In the middle of the 7th century BC, under the kings Esarhaddon (680-669 BC) and Ashurbanipal (668-631/27? BC), it reached its greatest extension from Iran in the east to Egypt in the west. Only a few years after the death of Ashurbanipal, a coalition of Babylonians and Medes conquered the Assyrian capital Nineveh in 612 BC and the Neo-Assyrian Empire was erased from historical maps. This date marks one of the most striking political changes in Mesopotamian history. The excavations in the Lower Town II of Tell Sheikh Hamad brought to light a stratigraphical sequence which begins at the time of the Neo-Assyrian Empire (starting in the 9th to the 7th century BC) when the Neo-Assyrian residences were in use (Pucci 2008: 49-63). It also covers the time after the fall of the empire when the Red House was in use during the first half of the 6th century BC in the Neo-Babylonian period (Kühne 2008: 543-551; Kreppner 2008a, 2008b).

The area opened in the Operation 'Centre of Lower Town II' amounts to about 12.000 square meters. The complete ground plan of the Red House has been unearthed. The name derives from the red coloured walls. The building covered an area of 5400 square meters and was composed by 5 courtyards and 90 rooms. Several functional units could be distinguished: seven reception suites, five bath-rooms, five staircases and several storage rooms. 200 text-units were discovered in several rooms inside and outside the Red House. K. Radner (2002) has published the texts. Four cuneiform texts which refer to the reign of the Babylonian king Nebuchadnezar II confirm that the house was certainly in use after the fall of the Neo-Assyrian Empire (Kühne 1993). Kreppner (2006) has analysed and published the pottery, which was found *en masse* on the floors of the Red House. The vessels were broken into pieces by violent destruction. In this paper I would like to focus not on the vessels, texts, and architecture, but on the excavated soil around the finds. The character of the deposited soil gives valuable information about the processes which led to its accumulation. In archaeology there is often a considerable mismatch between the amount of excavated soil and the published information about it. Usually, architecture and finds are picked out and published with detailed descriptions, drawings, pictures, and plans. In many cases the soil, which carries so much valuable information, has not been considered properly. In consequence, site formation processes are difficult to analyse correctly and reconstruct accurately.

Excavation Method and Stratigraphical Interpretation

The first trenches were chosen to fit to the grid squares called 'Areale'. One 'Areal' has the size of 20 to 20 meters and is divided into four squares of 10 to 10 meter size called 'Quadranten'. The excavation system (Kühne 2005: 1-23) is based on

the idea that the earth embedding the finds and architecture is crucial for adequate classification. It is the earth which incorporates the finds and the architecture. Cultural and non-cultural processes lead to the accumulation of deposits (Schiffer 1987: 3-4). The specific texture and colour of each deposit gives important information about the processes which caused its accumulation. In order to distinguish single formation processes in Tell Sheikh Hamad, each deposit was removed according to its extent, following the irregular shapes within the trenches. By doing so, the site was excavated 'Quadrant' by 'Quadrant' and 'Areal' by 'Areal'. The baulks were removed by the same method: deposit by deposit, following the irregular interfaces.

In the end, the complete ground plan of the Red House was excavated (Fig. 2). Human built installations like walls, floors, pits, hearths, containers etc totalled 2429 and 4947 stratigraphical units were soil deposits. In sum, the analysis of the Red House stratigraphy is based on 7376 stratigraphical units.[1]

All the deposits were mapped in three dimensions based on the maximum extensions containing six measurements (north–south, east–west, lowest and highest points). The results are so-called cuboids. The cuboids are three dimensional abstractions of the real volumes of the deposits. However, since the maximum coordinates are the criteria for calculation for *all* deposits, the cuboids-volumes can be compared and proportions can be calculated. Each of the cuboids represents one deposit or 'Fundstelle' in its three-dimensional position with its maximum coordinates.

The stratigraphical analysis showed that for every single room in the Red House distinct sequences of deposits were found. Although sequences were distinct for every room connections could be established between dissimilar sequences through the doors linking the rooms. Several formation processes formed the archaeological record, which can be demonstrated by comparing the evidence from three rooms (FW, QX, CW) of the Red House. The end of the main occupation phase of room FW ended by violence as can be seen by the smashed pottery on the floor. Numerous vessels could be reconstructed from the sherds scattered in the room. FW was not burnt as no traces of fire or ashes were discovered (Kreppner 2006: 36, 21, abb. 23). After the end of the main occupation the surrounding walls decayed and lumps of mud-bricks accumulated above the smashed pottery. The room filled up to the modern surface with the same material.

Room CW was used as the main hall of the Red House. This must have been the reason for the heavy demolition of this room. The occupation of room CW ended abruptly by a fire and by violent destruction as can be seen by the destruction debris fallen on the floor. The floor and the walls bear scorch marks. Charred ceiling beams fell on the floor (Kreppner 2006: 18-22 with abb. 17 and 18, 34). Reddish earth accumulated during a phase of disuse on top of the destruction debris. In the ruins of the former Red House a new floor was installed for later use. Round rubbish pits were dug when CW was used as an unroofed area. The walls decayed. Subsequently a part

1 Since work on the stratigraphy of the Red House is still in progress, the numbers do not represent the final totals.

of the wall broke out and collapsed. The joints widened when the wall tilted over. The former room filled up with reddish eroded mud brick earth material. The ruins of the Red House were then buried under the surface and were not visible anymore.

In contrast, three squatter occupation floors existed in room QX after the destruction of the main occupation period. The section in QX shows the sequence (Kreppner 2006: 41-42 with abb. 31 and 31). The lowermost floor of the main occupation period was covered by smashed vessels. The end of usage appears to have been prompted by violence. Later, three squatter occupation floors were installed one upon the other on higher levels in the ruins of the former Red House. These floors were in use one after the other after the destruction of the Red House. A chronological fixed point is given by three ostraca bearing aramaic inscriptions. They were found on the uppermost floor. W. Röllig (2003: 395-402) dates them to the turn from the 6th to the 5th century BC. Thus, this floor was in use after the fall of the Neo-Babylonian Empire during the Achaemenid period.

Classification, Quantification and Visualisation of Deposits

The deposits of all rooms have been classified according to the texture and the colour of the soil as well as the stratigraphical position. The classes of deposits were assigned to types of formation processes and have been analysed with regard to specific phases within the sequences. The cuboids enable us to calculate the volumes of deposits in the operation Red House (Tab. 1, Fig. 3).

The percentages of the excavated deposits can be categorised in the following way: 3% of all excavated deposits were older than the Red House (Fig. 4). The reason for this small amount can be seen in the fact that only a few small trenches were dug under the floors of the Red House. The units on Fig. 5-7 can be assigned to the main occupation period of the Red House. Three groups can be discerned. First, 0.57% soil deposited during the construction phase of the building (Fig. 5); such deposits include rubble, fillings of foundation pits etc. Since most of these materials lay under the floors, only very few deposits of this group were excavated. Second, 1.33% of deposits were accumulated during the main occupation (Fig. 6). Examples of such deposits are soils, which were accumulated in hearth or ovens or deposited rubbish. Both kinds of material result from use, but there is also rubble which was deposited during the main occupation when a new floor was installed. The third group, 6.82% of deposits, accumulated due to the violent destruction (Fig. 7). This earth covers the small finds and pottery on the floors which once have been part of the inventory of the main occupation period of the Red House. Taken together, these three groups represent 8.72% of the total excavated soil. During the time of the squatter occupation 6.62% of deposits were accumulated (Fig. 8). 30.52% of all deposits filled up the rooms during disuse after the squatter occupation by erosion processes (Fig. 9), 5.89% represent the fillings of Roman-Parthian grave-pits (Fig. 10) and 44.92% are deposits

covering the Red House ruins (Fig. 11). These numbers show how high the portion of deposits is which can be ascribed to the squatter occupation of the building. Further systematic study of the squatter occupation of the Red House will illuminate human activity during the Achaemenid period in Northern Mesopotamia.

Results

Although the principal activity of an excavation is to remove soil, in the majority of cases the reports focus on architecture and finds. The excavated soil is not considered adequately. Thus, depositional processes cannot be reconstructed properly. The cuboids-method enables to classify, quantify and visualise deposited soil in three-dimensions through time (fourth dimension). The analysis of the deposits permits to reconstruct formation processes which generated the archaeological record. Such processes include building activity, use, the end of use (i.e. destruction), disuse and reuse.[2] The reconstruction of the site formation makes it possible to retrace the life history of the Red House through several phases during time.[3]

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2 *Cf.* 'Synthetic Stratigraphy' (Warburton 2003: 107-109) and 'Ablagerungsursachen' (Pfälzner 2001: 39-42).

3 *Cf.* discussions on time in archaeology (Lucas 2005, Holdaway and Wandsnider 2008).

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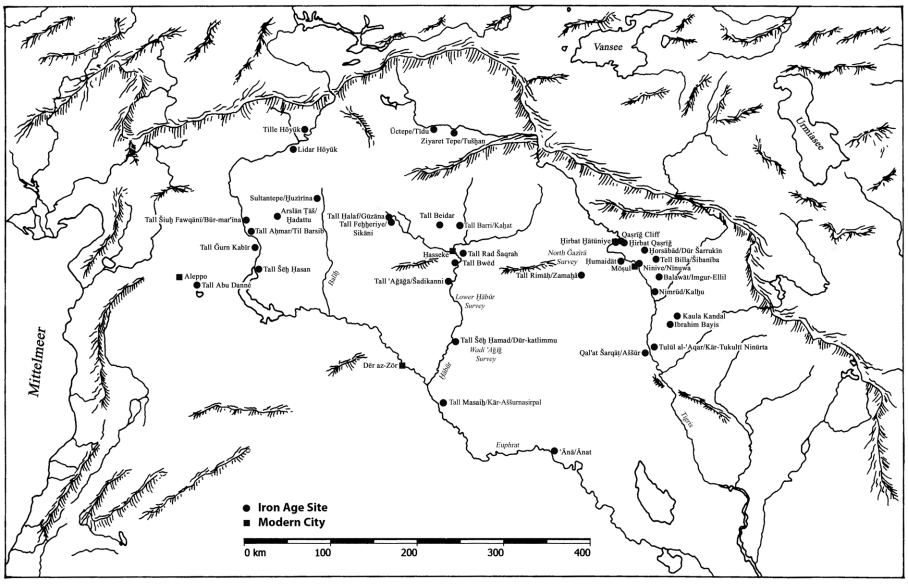

Fig. 1: Iron Age sites of Northern Mesopotamia with the location of Tell Sheikh Hamad/Dur-Katlimmu.

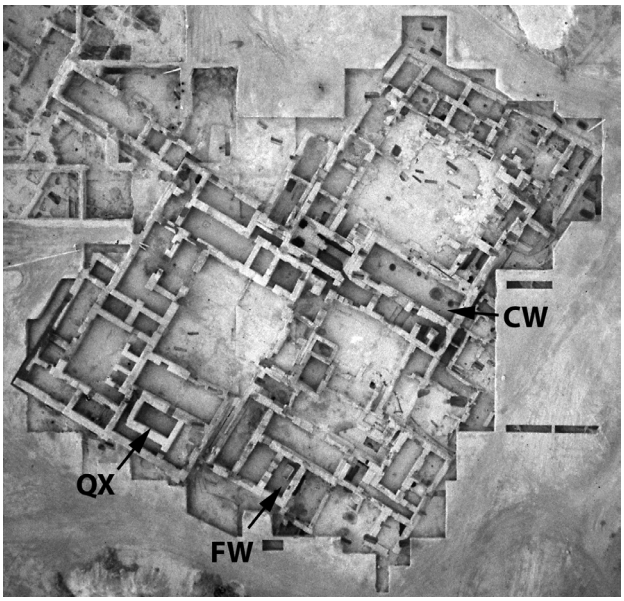

Fig. 2: Aerial view of the Red House.

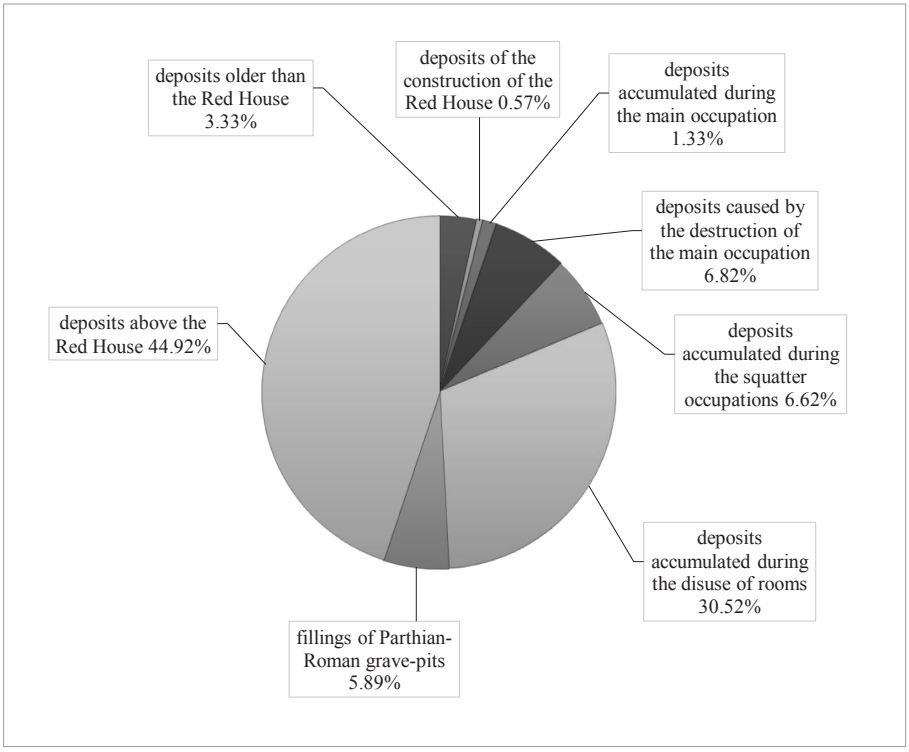

Fig. 3: Proportion of deposits accumulated in the operation Red House.

	deposits older than the Red House	deposits of the construction of the Red House	deposits accumulated during the main occupation	deposits caused by the destruction of the main occupation	deposits accumulated during the squatter occupations	deposits accumulated during the disuse of rooms	fillings of Parthian-Roman grave-pits	deposits above the Red House	**total**
max. volume in m^3	860.72	148.30	345.06	1765.14	1713.70	7896.56	1524.75	11623.14	**25877.37**
proportion	3.33%	0.57%	1.33%	6.82%	6.62%	30.52%	5.89%	44.92%	**100.00%**

Table 1: Quantity and proportion of deposits accumulated in the operation Red House

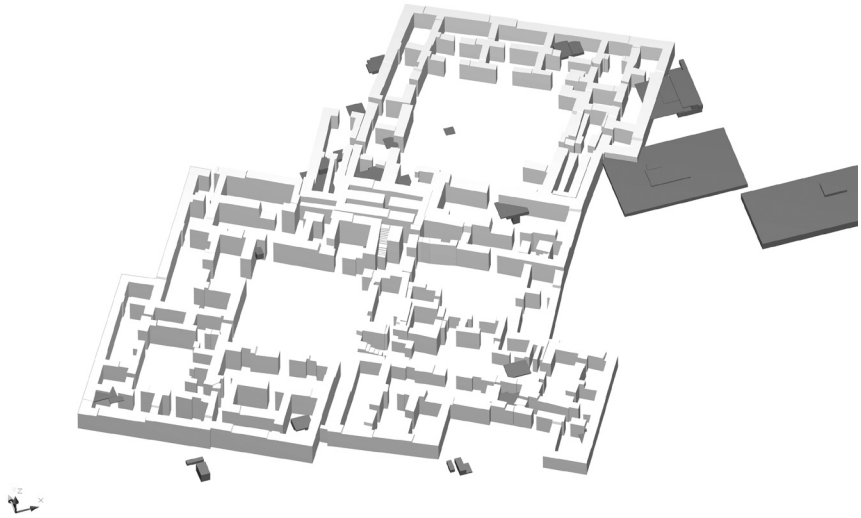

Fig. 4: Deposits older than the Red House.

Fig. 5: Deposits accumulated during construction of the Red House.

Fig. 6: Deposits accumulated during the Main Occupation.

Fig. 7: Deposits of the violent destruction of the Main Occupation.

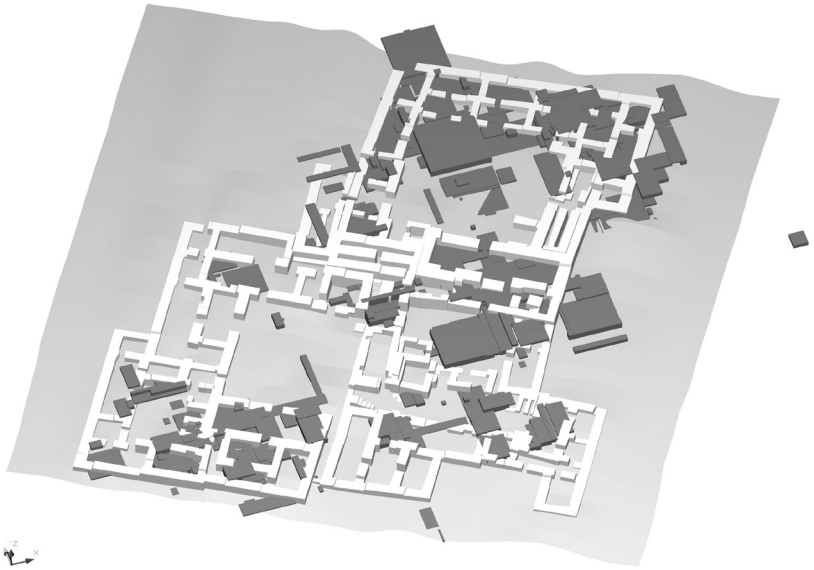

Fig. 8: Deposits accumulated during the Squatter Occupations.

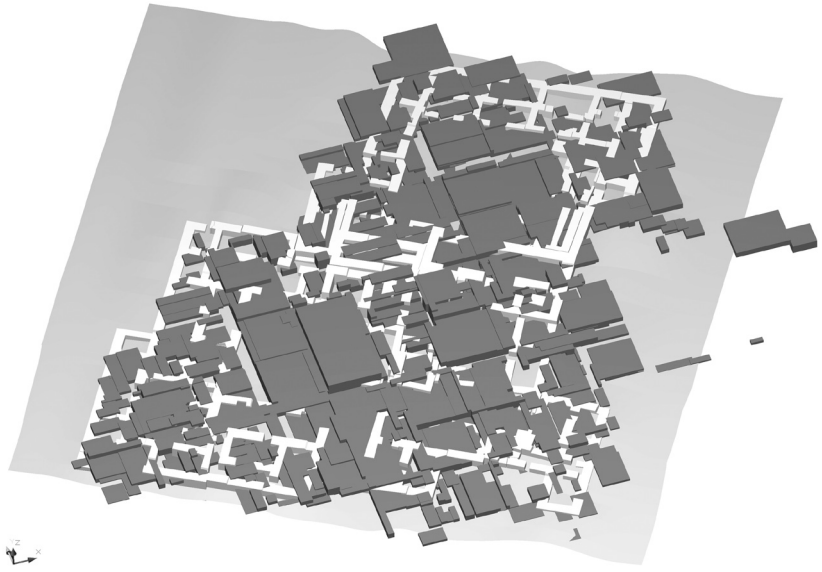

Fig. 9: Deposits accumulated during the disuse of rooms by erosion.

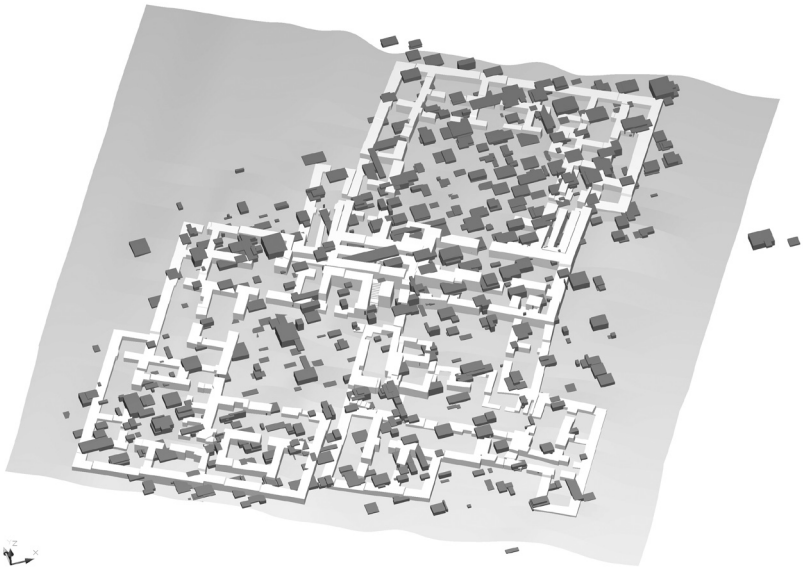

Fig. 10: Fillings of Parthian-Roman grave-pits.

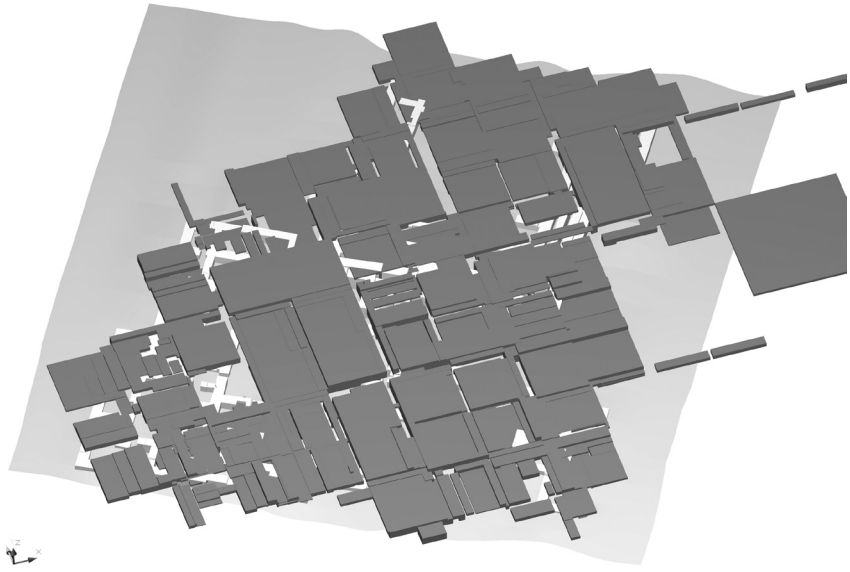

Fig. 11: Deposits covering the ruins of the Red House.