

LATEST NEWS FROM VIENNA'S MEDIEVAL JEWISH QUARTER

ABSTRACT

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This talk shows the possibilities which arise through the combination of scientific research results and computer technology. Recent buildings archaeology in the late medieval Jewish quarter of Vienna has produced results from around a dozen properties. Because of this work we can now reach general conclusions about late medieval property structure, the size of buildings and the accompanying infrastructure. A new picture of the medieval Jewish quarter has emerged, which includes important architectural detail.

With the house Judenplatz 8, the structure of a property from the second half of the thirteenth century will be examined. The 3D reconstruction of the building led to new discoveries about its construction. The application of computer technology threw up many new questions, but also helped to solve problems about the house. Starting with the reconstruction of this individual house, surrounding properties are filled with the shapes of the buildings that once stood there. By placing the house in its urban context in this way, a fresh picture emerges of the late medieval Jewish district. A method of demonstrating in the visualisation of the buildings the qualitative differences in the states of research of the individual buildings will also be demonstrated. The system is a modular one, allowing the integration of new results.

In the mid-nineties a new wave of research began in the area of Vienna's medieval Jewish quarter. It began with the excavation of the synagogue and the establishment of a museum in the neighbouring house Judenplatz No. 8. The museum necessitated a structural survey of the house and the results of this research fed into a 3D reconstruction of the building. Through computer technology, the building was resurrected as it appeared in the second half of the thirteenth century.

In the following years one of the authors was able to survey archaeologically a range of houses in the former Jewish quarter. This research has made it possible to reconstruct large parts of Vienna's Jewish quarter. Forgotten streets, several house plans and significant architectural details have come to light.

The most painstakingly analysed building in the Jewish district is the house Judenplatz No. 8. Between 1996 and 2000 this house was archaeologically analysed and documented from the cellar to the attic. The building's relative chronology was documented and analysed in a Harris matrix. Dendrochronological testing and written sources contributed to the absolute dating of the house's history.

Our research has shown: Property boundaries were laid down in this

part of town during the twelfth century. The house in this case stretched originally to Wipplingerstraße, where the front was situated. The rear part of the plot, our part of the property, was originally a garden or yard area, in which several pits could be found, probably dug to dispose of refuse.

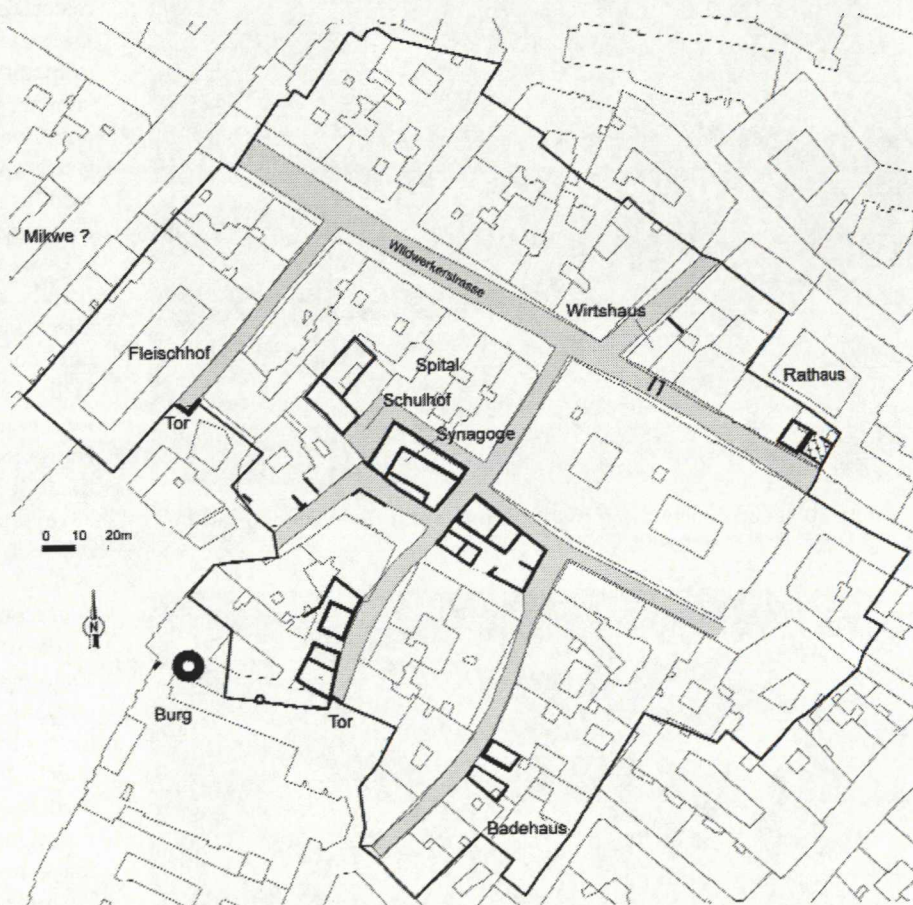


Figure 1 The Medieval Quarter - Status of the Research (Map based on MZK MA14-ADV)

In the mid-thirteenth century the synagogue was built on the western half of today's square. At the same time our plot was reorganised. This reorganisation was sparked off by the construction of the synagogue, which became the new centre of the district. Two very large stone buildings were now built opposite the synagogue, the southern wing of our house was approximately the same size and height as the 'men's school' or the central room of the synagogue complex.

The documented wall sections, shown in dark grey in the rendering, allow the reconstruction of two wings, arranged in a right angle to each other. The lowest and highest points of the walls are taken from the deepest and highest surveyed parts of the buildings.

The southern building is externally 8 to 8.4 metres wide and approximately 18 metres long. The building reaches a height of 10.3 metres above the late medieval floor level.

The floor level is taken from a ledge in the eastern wall which marks the top of the foundations.

The level of the ground floor ceiling is taken from a horizontal ledge in the west wall on which the boards of the first upper storey floor rested. This ledge allows us to place the height of the ground floor at around 3 metres. In the south wall of today's first upper storey a 50 centimetre high horizontal scar, filled with brick was, discovered. This is the last trace of the first upper storey ceiling, left as the beams were ripped out, and fixes the first upper storey height at around 4 metres. 2.4 metres remain for a further storey.

The beams of the attic lay directly on the walls, the height of the roof's ridge line is unknown. The roof which we have reconstructed is based on roofs of the same period from Regensburg (above all the so-called 'Degginger House', Wahlenstraße No. 17).

Nothing can be said about the internal room structure of the house because of later alterations. No medieval windows were documented for the same reason. In the reconstruction, the similarly dated windows from Parisergasse No. 1, another Jewish house nearby, were used in the ground floor. Those in the first upper storey are

larger, but based on the ground floor windows. The positioning of the windows is purely fictional.

The well-preserved western ground floor area had a door in the northern wall, but definitely no windows. The door's threshold is 50 centimetres higher than the ground floor of the southern wing, but no traces of stone steps remain. We suggest a semicircular wooden staircase at this point, an idea which is based on a staircase from the western room of the synagogue in its' third phase. That staircase however was a hollow quarter circle with stone steps filled with earth and covered by mortar .

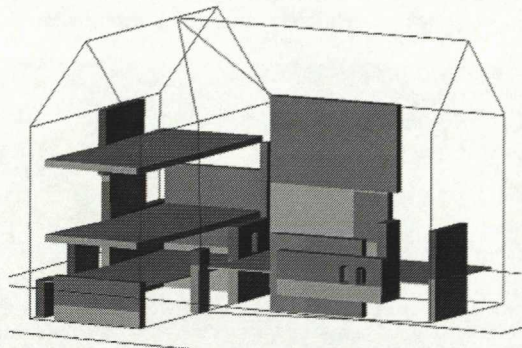


Figure 2 Original and Assumed Layer of the medieval period

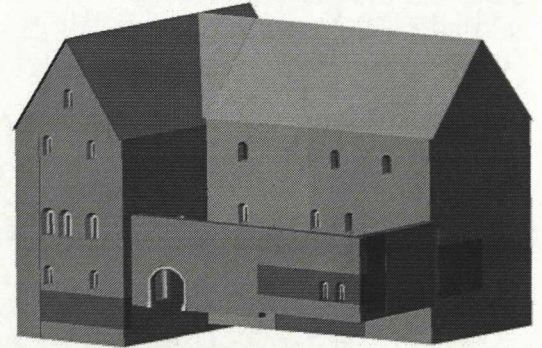


Figure 3 House No 8 reconstructed in its medieval phase

The western wing of the house was 16.5 metres long, approximately 10 metres wide and at least 9.5 metres high. Because of later alterations, neither the internal room structure nor the division of the storeys are known in this wing. However a small earth section in the courtyard of today's house revealed an internal mortar floor 50 centimetres higher than the ground floor of the southern wing. Proof that this level represents the height of the late medieval floor came from several layers of rendering on the north wall, which ended at the same height.

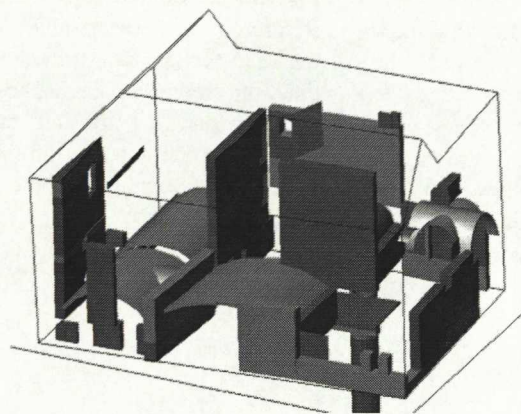


Figure 4 Original and Assumed Layer of the renaissance period

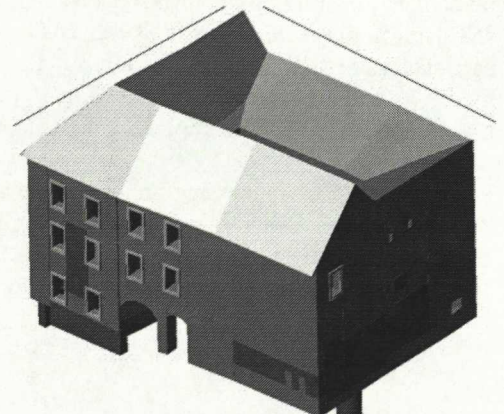


Figure 5 House No 8 reconstructed in its renaissance phase

In about 1528, a date revealed by written records, the late medieval house was converted to a considerable renaissance four-winged building around a small central courtyard.

Virtual Reality

THE MEDIEVAL QUARTER

Based on the results of the Harris-Matrix we tried to fill in the missing links in the cubature of the building using CAD.

Today the visitor to Judenplatz sees the house in its baroque appearance. We therefore decided to reconstruct not only the medieval phase of the house but also its renaissance appearance. The intense investigation of two years provided us with enough data for a reconstruction of the house in these different phases. We wanted to show not only a detailed rendered animation of Judenplatz No.8, but also the building within its urban context of the medieval quarter. Because so many buildings in the area of Judenplatz - the synagogue and the houses of the eastern part of the square - no longer exist today-- it is difficult to understand what the medieval quarter might have looked like. Our aim is to create an image in the visitor's head using only scientific data.

METHOD

Out of the over 4000 numbers of the house's matrix we extracted first only these applying to the buildings structure. Simplifying its layout every original structure was defined by:

- The height of its bottom edge
- The height of its upper edge
- Its width
- The position in the planimetry

Several interfaces such as the level of the floors were first marked in the building's coordinate system, but actually created later in the reconstruction phase. The input of the original layer gave us a first sight of the building's layout in the medieval and renaissance periods. This step allowed us to make corrections to the complex's general appearance.

Perhaps the most interesting step was the addition of the Assumed Layer. Because most parts of the Original Layer didn't start at the buildings ground floor but were somehow "flying" between the ground floor and the 2nd floor, we nee-

ded to unite every single structure to the buildings zero level. The assumed Layer gave us the chance to draw the heights and thickness of the vaulting by using the bases of the vaults and the position of the floor above. The different floors and the positions of some windows and doors were added. Most of the Interfaces were integrated into the structure at this stage of the work.

The last Layer, the Reconstruction, closed the cubature of the building, a roof was added and the layout and position of windows and entrances defined. Unfortunately, we found no original opening in the medieval phase on which we could build in terms of size and layout. References were found at Parisergasse No.1, as mentioned above, and in Regensburg / Bavaria, a comparable medieval town.

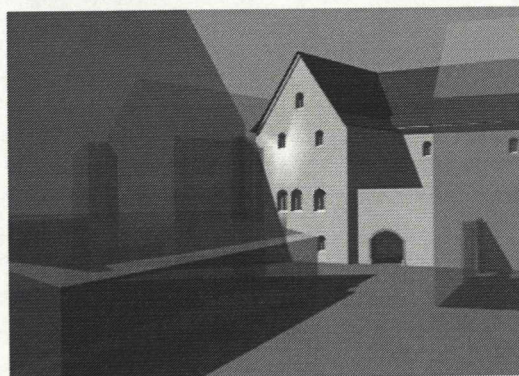


Figure 6 House No.8 and the synagogue

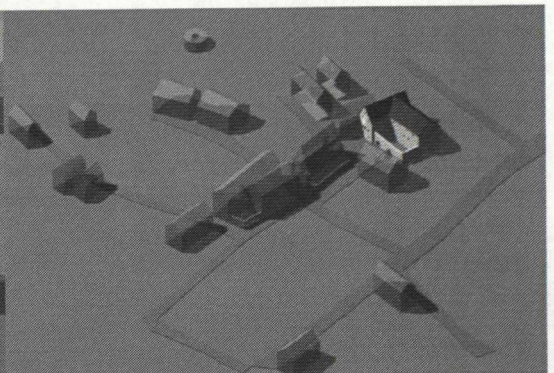


Figure 7 The medieval quarter rendered in transparency

As well as the reconstruction of the single building Judenplatz No. 8, we have begun a 3D map of the whole Jewish Quarter. In several investigations over the years, we collected planimetric data on the position and size of medieval house remains. Unfortunately the remains are very incomplete. They don't allow us to reconstruct every single building of the quarter in detail. For this situation we created a kind of stereotype of the Viennese medieval house. The stereotype is adopted to the size and layout of the property. Rendered with transparency we aim to keep the difference between secure data, for example house No. 8, and assumed data, the stereotype house, absolutely clear. In addition to the building data we are able to reconstruct the streets of the quarter, which act as a unifying element in the incomplete form of representation of the medieval quarter.

This 3D Map serves as a base for further investigations into medieval Vienna.

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