IDENTIFYING THE GREAT SYNAGOGUE OF VILNA IN VILNIUS, LITHUANIA

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ABSTRACT

Since 1957 the remains of the Great Synagogue of Vilna in Vilnius, Lithuania have been hidden under an elementary school. An international team of scientists used ground penetrating radar (GPR) to identify the buried remains of the synagogue and then excavated the most promising locations. GPR is a non-invasive survey technology which sends electromagnetic waves into the subsurface and records the reflected waves. A pulseXNOX 1000 GPR unit with 225 kHz antennae was utilized to collect grid data. The presentation will focus on two grids, Grid 7 (24.5 x 4 m) and Grid 8 (25.5 x 5 m), in which transects with a step size of 0.25 m were collected 0.25 m apart. Following data analysis, Grid 7 has a linear feature which is interpreted as a pipe above the Synagogue's destruction layer as well as several proposed architectural features in the eastern corner. Grid 8 has a variety of anomalies located throughout the grid. The research results will aid in directing future archaeological work at the former site of the Great Synagogue of Vilna.

INTRODUCTION

During the Second World War, the Nazi Army burned and looted the Great Synagogue complex but did not destroy the buildings. The buildings were in disrepair until 2015 when the Soviet Union tore down the Synagogue (Figure 1) and the Shulhof to make space for the widening of a boulevard which is situated behind the buildings on the main boulevard to the west and northeast of the site. The Soviet construction collapsed the buildings which made up the Synagogue and Shulhof and leveled the ground out. This technique inadvertently saved all the structure below ground level. On the site of the former Synagogue, an elementary school (Figure 2) was built which still exists today. The soil is a mixture of the original sandy loam, some black dirt (Figure 3 a&b) which was brought in before the construction of the school and all the rubble from the Synagogue. The soil composition is important because the contents of the soil at the site make any GPR survey a bit more challenging due to the complex nature of the layers. Using new GPR analysis software, the Synagogue and the Shulhof can be identified with greater accuracy.

RESULTS

Grid 7

The first area of interest in Grid 7 (Area A) is located in the corner at the S point which is the start of the collection of lines and continues southwest for about one meter and northwest for about a meter. The top of the feature appears to be about 0.5 meters below the surface (Figure 7). This area is the closest point in the grid to the northern excavation site of the summer 2015. This site could be related to the walls and modern electrical trench which were uncovered in that area. Two right angles are potentially visible in this area but they are not as clear as visible as others identified in Grids 2 & 7. However, this feature in Area A appears to extend much below the meter mark in the subsurface. This could mean that this feature could be too modern for a part of the Synagogue complex. The second area in Grid 7 (Area B) is located from coordinates 0.5 m to 1.5 m with the width of the grid and from 4 m to 7 m along the length of the grid (Figure 7). This large area, which is about 25.5 square meters, has no definable feature but has many small areas high reflection based on the PlanView image. The areas which have the most visibility are at a depth of between 0.7 m and 1.2 m.

Grid 8

Of the two areas of interest present in Grid 8, the first (Area C) is located in the southwest corner of the grid and is between 0.5 meters and 1.0 meters below the surface. This area is of interest because it at 1 meter over and 30 meters up there appears to be a right angle which intersects two areas of high reflectivity shown in the PlanView and continues off the grid in both ways respectively (Figure 8). The other area of interest (Area C) is a section which is between 11 m and 15 m and is 1.0 to 1.2 m below the earth's surface (Figure 9). There are no definable features in this area but Area D remains a distinct unit which is visibly different from the surroundings in the rest of Grid 8.

CONCLUSION

As a whole, less features appear to be relevant to the archeological work at the Synagogue site are present than in Grid 7.4 which were collected in the summer of 2015. One potential reason for this could be that Grids 7 and 8 are located more toward the periphery of the site and would most likely include buildings which were part of the Shulhof complex. In the corner of Grid 7 has the most interesting area of the two. This grid and this could be connected to one of the excavation sites from the summer of 2015. Grid 8 lies outside of the modern day school yard and remained very little in the way of potential excavation sites. Following the completed analysis of these two areas, it is more than likely that the following project will continue to focus on Grids 1-6 before moving onto Grid 7.

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