2012 - Fieldwork report

New research at Segni (Lazio, Italy)

Introduction

In 2012 a new 3-year joint research project was established between the British School at Rome and the Archaeological Museum of Segni (Comune di Segni, Italy), in close collaboration with the Soprintendenza per i Beni Archaeologici del Lazio. The overall aim of the project is to fully evaluate and study the wealth of the archaeological remains in the area in order to understand the development of the settlement and place the known monuments into the wider context of the urban plan. The project proposes to accomplish these aims by means of a combination of integrated geophysical survey, historical documentation, excavations and conservation programme.

Geophysical survey

The first phase of the work began in June 2012 with a series of targeted geophysical surveys to investigate three separate areas within the town. A combination of geophysical techniques (ground penetrating radar (GPR) and magnetometry) and topographic survey (D-GPS and Total Stations) were used to precisely locate features and provide a preliminary interpretation in order to guide the subsequent archaeological investigations.

Area 1: Piazza San Pietro

The area of Piazza San Pietro lies at the highest point of the acropolis, and is dominated by the well-preserved Roman temple of Juno Moneta, constructed in the 5th century BC and subsequently modified, through to its current use as a church (in background, Fig.1). The aim of the survey was to identify any further features associated to the temple and its cistern complex, as well as identify and map areas undisturbed by modern services where excavation could be undertaken.

A GSSI SIR-3000 was used for the GPR survey, configured with a 400 MHz antenna mounted on a cart system with an odometer (Fig. 1). The survey comprised 381 parallel traverses, at a distance of 25cm, for a total of 4083.46 m. The survey concentrated on the square to the south of the podium, as well as along its western edge and northern face, in a restricted space between the podium and the large circular cistern.

The survey revealed that the majority of the area has a very shallow stratigraphy, with the natural bedrock very close to the surface (30-40cm), and is heavily disturbed by modern services. However, it successful indicated a number of areas that could be investigated through excavation.

Fig. 1 – GPR survey at San Pietro
Area 2: Prato Felici

The second area investigated by the project, Prato Felici, is a large open area situated on the upper plateau, which lies between the two important Roman complexes of Santa Lucia and the Temple of Juno Moneta. Therefore this area was targeted with a comprehensive archaeological evaluation as it is vital to unravelling the nature of their relationship. The strategic location of Prato Felici between the two major monumental complexes makes it highly significant archaeologically. A series of walls constructed in opus caementicium are visible, emerging from the ground surface and oriented on two different alignments but are perhaps associated with one large structure dating to the Roman period. Whether these structures form part of a single monument is unknown, but it is likely that the structure represents a public monument.

Fig. 2 – Gradiometer survey at Prato Felici

The geophysical survey combined the use of both magnetometry and GPR in order to extract the maximum possible information, following a methodology developed by the BSR for research elsewhere in the Tiber Valley and southern Lazio, and as different geophysical survey methods target different properties. The survey used a Bartington Gradiometer 601-2, with a sample interval of 0.25m and a traverse interval of 0.5m (fig. 2). Due to the significant slope running from west to east, the survey had to be conducted with zigzag traverses running north-south. This steep slope had a strong effect on the data collection, however several features of archaeological interest were revealed, which were subsequently targeted with the GPR survey. A similar configuration was used for the survey to that employed for the survey of Piazza San Pietro, but with a wider traverse separation due to the difficulties presented by surveying the steep slope. The most significant features were revealed at the highest northern end of the survey area (towards the Temple of Juno Moneta) where previous rescue work (ahead of a new pipeline) conducted by the Soprintendenza per i Beni Archaeologici del Lazio had indicated the presence of several structures. However, of further interest was the alignment of several features associated to a potentially large structure further to the south in a central area of the slope.

Area 3: Piazza Santa Maria

The third area investigated with geophysical survey lies in the centre of the medieval town in Piazza Santa Maria. The aim of the survey was two-fold: firstly, to investigate the hypothesis put
forward by recent research (Colaiacomo) that the earlier cathedral of Segni lay on a different alignment to the current 17th century cathedral, and that the modern layout of the square has been greatly transformed since the medieval period (Cifarelli and Colaiacomo, 2011: 96); and secondly, that this was also the site of the Roman forum, as is indicated by the position and alignment of several preserved remains throughout the town.

The geophysical survey was conducted using a GSSI SIR-3000 configured with a 400 MHz antenna mounted on a cart system. A total of 165 traverses of varying length were collected with a traverse separation of 0.25m. The exceptionally clear results of the GPR survey, as illustrated by the data slice in figure 3, display a sequence of high amplitude linear anomalies (indicated in black in figure 3 below), which were interpreted as denoting the walls of buildings. These features appear to have similar alignments, providing insight into the historical plan of this area. Furthermore, later phases of buildings have been built on earlier structures, suggesting some level of reconstruction as well as the possible reuse of building materials. There are two concentrations of structural remains: the first is along the north-western edge of the survey area, and the second is located centrally within the survey area.

![Fig. 3 – GPR survey results (depth approximation 20-22ns: 1.15m to 1.27m) from Piazza Santa Maria.](image-url)
Excavations 2012

The first season of excavations took place between 27th August and 21st September 2012. The team was formed by staff from the British School at Rome (led by Stephen Kay) and the Archaeological Museum of Segni (led by Dr Francesco Cifarelli and Dott.ssa Federica Colaiacomo), and 27 undergraduate and postgraduate students from a number of UK and Italian Universities.

Area 1: Piazza San Pietro

Following the analysis of the results of the GPR survey in Piazza San Pietro, two areas were identified for excavation, one to the north of the temple podium and one larger trench to the south of the complex.

The northern trench was placed alongside the northern face of the temple podium, in a restricted space between the structure and the asphalt road (3 x 1.5 m). The excavation revealed a structure built from lime, probably pertaining to a limekiln dating to the late medieval period.

![Fig. 4. - The late medieval lime kiln.](image)

The structure, at a relatively shallow depth, had been heavily disturbed by modern features, but at the western end of the trench there was preserved part of the floor surface of the structure running alongside the podium. The surface, light white in colour and very smooth, sloped away from the structure towards the west. Excavated material from these contexts suggests that the structure dates to the late medieval period.

The area investigated to the south of the podium revealed a stratigraphy heavily compromised by numerous modern services (see fig. 5). A large area was investigated on the eastern side of the modern square immediately to the south of the podium, which revealed the level of the bedrock was very high, information which when combined with the known structural sequence of the podium provides useful evidence of the level of the pavement in front of the temple.
Investigation of the south west corner of the podium (fig. 5) also revealed that the bottom row of the polygonal blocks which form the podium also incorporated the bedrock, which had been worked in order to form a smooth surface for the row above.

**Area 2: Prato Felici**

The excavation at Prato Felici covered an area of approximately 45 m², and was formed by two main trenches running north-south and east-west, which focused upon the features revealed by the geophysical survey in association with those visible on the surface. The excavation began with the general clearance of a significant amount of topsoil which had accumulated in the central areas due to an attempted terracing of the field in the early 20th century.

**Period 1**

A small test trench immediately to the south of the structure revealed evidence for the earliest phases of activity on the site, as several layers were revealed with late Bronze Age material. This discovery is of particular significance as material of this period has not previously been found at Segni, therefore suggesting an earlier occupation on this plateau. Furthermore, several upper layers also contained material dating to the archaic period, of importance due to the location of this site between the complexes of Santa Lucia and the Temple of Juno Moneta.

**Period 2**

The subsequent period of occupation at the site of Prato Felici saw the construction of a large complex built in *opus caementicium*, which from initial investigations, focused only upon the southern extent, appears to be a large cistern. The walls of the structure, orientated north-south, are
built in *opus incerta* using pieces of local limestone, bonded with a strong grey mortar. The structure is conserved to a significant height on its western side (2.70m), due to the steep terracing of the hill, whilst its eastern face is reduced to a shallow level or in places has collapsed down the slope. The floor surface of the structure is formed by a thick layer of *opus signinum* (approximately 40cm) characterized by a raised boarder against the walls (fig. 6)

The construction style of the structure, together with its associated stratigraphy dates the building to the second half of the 2nd century BC. However, the cistern was later adapted, as illustrated by a dividing wall (fig. 7), built in large blocks of limestone with no bonding mortar, which was constructed directly upon the earlier floor surface.

**Period 3**

The excavation showed that by the 2nd century AD the cistern was abandoned, as several deep layers indicate that the structure was backfilled. However, the width of the recorded external walls suggest that these may also have acted as a substructure for an overlying building, a hypothesis which will be further investigated over the course of future excavations.

**Period 4**

The final phase of activity on the site is documented by the discovery of a small hearth, found in the south eastern corner within the cistern (fig. 8). The hearth was constructed upon a 2nd century AD layer of abandonment, so can therefore only be dated to a subsequent phase, as no associated material was recorded together with the hearth. However, other similar excavated examples in the area suggest a date beginning in the late 6th century AD.
Area 3: Piazza Santa Maria

The excavation in Piazza Santa Maria (fig. 9) confirmed the presence of structures underneath the modern pavement, which had been hypothesized by a study conducted by the Archaeological Museum of the Comune di Segni and recorded by the GPR survey prior to the excavation. The structures, dating to different periods, probably relate to two or three phases of occupation, identifiable through the distinctly different occupation levels. Despite the relatively restricted size of the trench (4.5 x 9m), it was possible to establish some preliminary conclusions as well as define the requirements and location of future investigations.

Fig. 9 – The excavation in Piazza Santa Maria (north towards right of photo)

Period 1

The earliest phase of activity recorded by the excavation is documented by the discovery of a structure with a polychrome mosaic with a geometric motif (fig. 10) pertaining to a possible private or public space. The well preserved mosaic lies on the eastern edge of the trench and can be seen to continue underneath the section, whilst the southern and western edges were defined by walls which have subsequently been leveled or removed.

Period 2

In a following phase, possibly in the late antique or early medieval period, the preparation for a floor surface was constructed at the same level immediately to the west of the mosaic. The compact preparation reused fragments of the Republican mosaic to form a reddish cocciopesto. This was later cut in several areas, possibly for the insertion of burials, which will be investigated over the course of the next season of excavation.
Period 3

In a later phase, a small wall formed by a series of irregularly placed limestone blocks was built on a layer of abandonment directly above the mosaic, forming a division between the earlier walls to the north and south. Furthermore, a small hearth, similar to one excavated at Prato Felici was also identified in the south east corner of the trench.

Fig. 10 – The polychrome mosaic Piazza Santa Maria

Period 4

The final phase of activity was characterised by the significant raising of the ground level in the area, possibly an event to be associated with the construction of the later cathedral. At the northern limit of the excavation several burials were also identified, which had been disturbed by the construction of a modern pipeline.

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Authors

Christopher Smith, Stephen Kay (British School at Rome)
Francesco Maria Cifarelli, Federica Colaiacomo (Museo Archeologico, Comune di Segni)
Letizia Ceccarelli (University of Cambridge)

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