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FORTVNA: A Research Tool The Archaeological Information System for Ancient Rome

II. The information system

We are developing the archaeological information system FORTVNA and will present its prototype. We plan to offer the results obtained in our test area in Rome by using FORTVNA, as well as the system itself, as a research tool on the World Wide Web. Our second aim is to develop a "user friendly tool", by this we mean *inter alia* that the user is not supposed to have any special computer training. The core of FORTVNA consists of an "object-oriented" database management system and of functions based on GIS (Geographic Information Systems) technology. By using this technology all the plans and maps that are incorporated in the system are rectified and georeferenced. This allows detailed spatial analysis. We developed the information system by using the computer language C++. We will explain why we decided to develop FORTVNA as an "object-oriented" information system. Our partners are the archaeological agencies of the city of Rome and university professors from Bonn, New Brunswick and Perugia. FORTVNA helps to understand those excavation reports of the past which are incomprehensible because the layout of the City has changed. In these cases it is necessary to reconstruct the layout of the City as it was at the time of the excavation. During the excavations at the turn of the last century some ancient structures were unearthed that had been known through drawings and paintings. These show the buildings in question sometimes in a much better state of preservation. By intersecting several cadastral maps with FORTVNA it is possible to prove the "persistence" of (Roman) structures.

Questions that FORTVNA is supposed to support -- related to topographical problems and focusing on archaeological finds are for example: Where is the area located (related to the ancient *Regiones*/ according to a certain scholar)? What archaeological finds come from this area? Which of those finds are datable in the same period? Which finds were found at exactly the same time? Which of these were published together? Is it possible to identify the "findspot" of a find which did not turn up in a modern excavation? Are any ancient buildings/ topographical features known for the area in question? How were they named over time? Are they visible on old maps and drawings? Is anything left of these ancient structures? Have these ancient structures (not) been identified with buildings known through ancient literary sources? Do these ancient literary sources contain "topological" descriptions (i.e., was the ancient building in question located "next", "above" or "adjacent to" another topographical feature)? Is it possible to date the sequence of ancient buildings that are reported for the same area? Do the ancient descriptions of these buildings/ topographical features contain data that can be visualized by using GIS technology? (cf. "I. The test area *Mons Oppius*").