

The multiple benefits of archaeological geophysical prospection in Salzburg. Ten years of archaeological feedback in retrospect

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The first use of archaeological geophysical prospection (abbreviated AGP in the following text) in the Salzburg province goes back to 2001. Remains of stone structures were visible in a field next to a rescue excavation carried out on a Roman rural site partly destroyed by road construction in a new commercial zone at Neumarkt-Pfongau. Among various other features, AGP detected four auxiliary buildings of a Roman rural villa, which have subsequently been excavated since 2008 (Kastler *et al.* 2013; 2014).

Part of the features, interpreted as putlog ditches or as pits, detected by magnetometry and clearly visible in the acquired data, could not be verified by excavation (Fig. 1a). The discovery of such soil features during excavations is dependent on factors, like climate and soil consistency (Kastler *et al.* 2012), but measured data from AGP constitute an independent source of data.

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Fig. 1a. Pfontgau I: Interpretation of AGP (Archeo-Prospections® ZAMG 2001); underlying plan of excavation results 1988–2014 (E. Binder, Landesarchäologie/Salzburg Museum)

Fig. 1b. Pfontgau II: Interpretation of AGP, archaeological features only (Posselt and Zickgraf Prospections, Marburg)

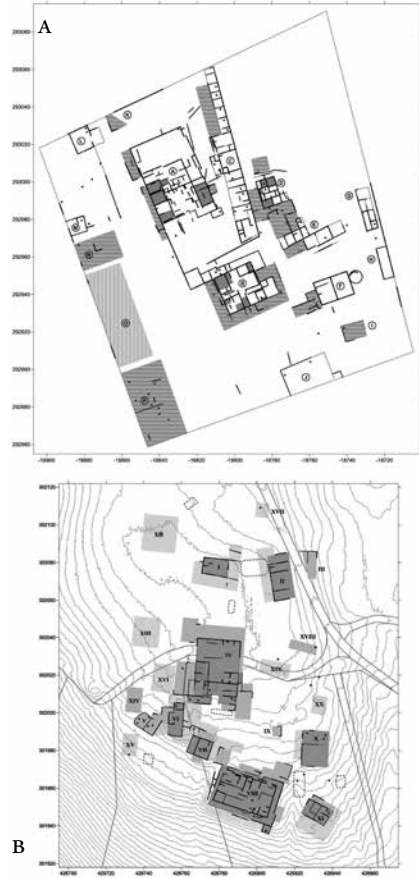


Fig. 2a. Glas: Interpretation of AGP, archaeological features only (Posselt and Zickgraf Prospections, Marburg)

Fig. 2b. Kerath: Interpretation of AGP, archaeological features only (Posselt and Zickgraf Prospections, Marburg)

On the contrary, AGP of a late Iron Age rectangular enclosure at Oberndorf north of Salzburg displayed only part of the subsoil structures that were identified in the trial excavation of one of the corners of the enclosure (Kastler *et al.* 2014). The monument was leveled in the late 1960s, when the ditches were filled with soil from the ramparts in order to facilitate modern agricultural work.

Both case studies show the need for an integrated methodological approach in order to cover all the existing archaeological features of a site. Therefore, AGP is to be used not only as

A



B

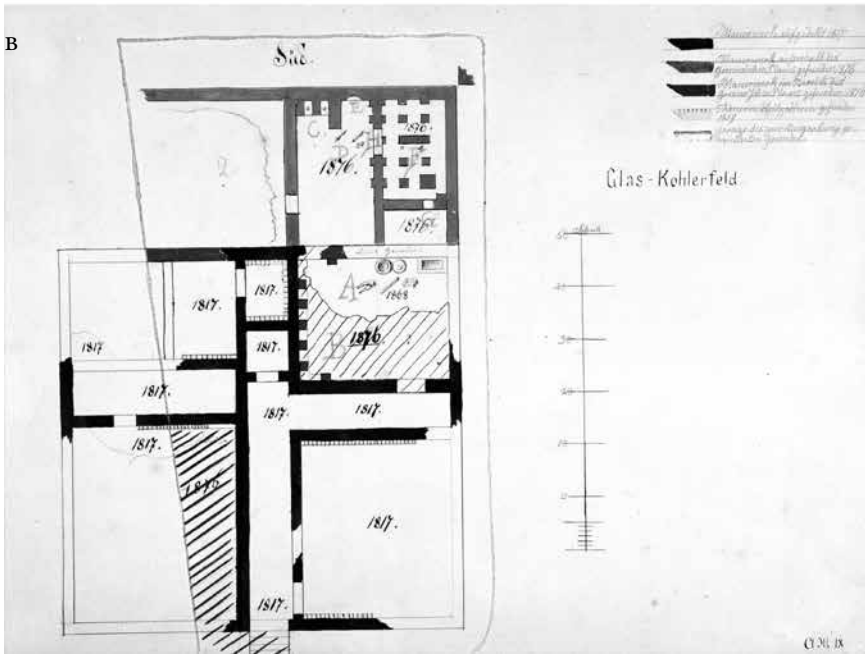


Fig. 3a. Glas, South Building: Interpretation of AGP, archeological features only (Posselt and Zickgraf Prospections, Marburg)

Fig. 3b. Glas, plan of excavations in 1817 and 1876 (G. Pezolt, Salzburg Museum, Collection of Graphics, Inv. No. 15108-49)

a comprehensive method of prospection, but also as an independent approach to the archaeological evidence of a site.

Based on positive experience with AGP surveys, a series of other sites known primarily from documentary evidence (old notification of finds and/or surface finds from metal detectors) was targeted. To date, 17 sites mostly of Roman date, have been explored by magnetic survey in cooperation with Posselt & Zickgraf Prospections GBR (Figs 1b, 2). The focus on Roman rural settlements is a consequence of their position in the alluvial landscapes north of Salzburg City, in places favorable to modern agriculture. Currently these regions are subject to fundamental changes in land use. Agricultural production is going to be superseded by spreading commercial zones (Kastler and Krammer 2007: 205–206). The responsible government body, the Federal Office for the Protection of Monuments, faces the significant threat of the archaeological record being destroyed without any documentation. Other scientific institutions, too, like the Salzburg Province Archaeology, are forced to integrate their research tasks with protective objectives to fulfill their scientific responsibility.

The additional benefit for research lies in filling a scientific void. Little was known about the structure of characteristic Roman villas and building types in the environs of Roman Salzburg, then called Iuvavum (Kastler and Krammer 2007: 205–206) and the available information relied foremost on the results of archaeological excavations. Until 2004 Salzburg State Archaeology was primarily involved in salvage excavations with the results being subject to the limitation of this specific kind of archaeological research. Generally, only small sections of complete villa sites or internal buildings were uncovered. Only a single Roman villa was completely excavated in the late 1940s. Thus, the archaeological documentation did not conform to the status of current research. Restrictions in sustainable use of archaeological sites as much as in terms of the funding nearly ruled out the option of exploring a Roman villa site in full. In this situation one can hardly underestimate the value of AGP results for research.

New and decisive evidence was gained for the typology of sites and buildings. The investigation of different Roman rural settlements in the Salzburg area demonstrated that the “Streuhoﬀ” type was the predominant settlement layout around Iuvavum, like in most parts of Noricum. Occasional rectangular boundaries and the position of internal buildings seem to characterize regularly structured entities among the Roman villa sites surrounding Salzburg (Kastler *et al.* 2009: 96; Traxler and Kastler 2010: 233).

The evidence, collected in a comprehensive database, allowed for comparisons in both directions: Complete building plans, established by magnetic prospection, fostered the comprehension of fragmentary evidence from earlier salvage excavations and data from archaeological excavations enhanced the understanding of the geophysical results. The geophysical survey also enabled a reevaluation of early 19th century excavations, known mostly from drawings and written reports. The comparison of historic archaeological data and the evidence acquired through AGP has proven to be more than a one-way communication. Reevaluation of the old documentation of excavations at Glas fostered the understanding of discrepancies between the archaeological evidence from the 19th century and its present status as documented in the magnetic survey (Kastler *et al.* 2010). It turned out that parts of the foundations of the south building had been removed after the excavations of 1876 to allow for agricultural practice (Fig. 3). Another important effect is the extension of data beyond what archaeological studies

in the narrower sense provide. Almost all the villa sites investigated by geophysical prospection proved to be far bigger and more densely built up than expected based on the earlier evidence. It will alter our perception of the economic potential of the landowning class of Iuvavum and of Roman rural economy in this part of northwestern Noricum in general.

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