Early medieval stronghold in Ślawsko from RS perspective. Adding new fragments to an old puzzle

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Introduction

Undoubtedly interpretation of satellite data by archaeologists leads to a significant number of discoveries of new sites and supports monitoring of the heritage. Yet, do analysis of spaceborne images bring any new information about archaeological sites which have been already thoroughly studied by means of other methods of prospection? The aim of the poster is to demonstrate results of interpretation of satellite data acquired for the area of stronghold in Ślawsko (Pomerania, Northern Poland). A progressing alternation of thinking about the early medieval princely seat due to use of various archaeological methods will be presented too.

Traditional perspective

So far the site was only investigated by archaeologists for a long time. First mentioned excavations took place in 19th century, though the discovered materials, and records were lost. In the first half of the following century German researchers conducted further surveys (excavations and field-walking). Yet the most influential outcomes were gained by W. Łosiński, J. Olczak, and K. Suchniński, who attempted in late 1960’s to verify each and every medieval site situated in Middle Pomerania. Their multivolume achievements still strongly affect Polish archaeologists studying Middle Ages. According to them (Łosiński et al. 1971) stronghold in Ślawsko (Fig. 6) used to be a simple, fortified, ring-shaped construction surrounded by a single moat. Although site had been already levelled at the time of survey, a comment by L. Giesebradt was mentioned: embankments and a moat used to be clearly visible in 18th century (Łosiński et al. 1971:220).

Historical maps

Interpretation of historical cartographic materials leads to two important points (Banaszek et al. 2013; Banaszek, Wróbel i Wróbel 2013). First of all, embankments seemed to be partially observable until the first half of 19th century (Rączkowski et al. 2013). It does not only show the ramparts in a good condition, but also confirms outcomes of contemporary prospection. It appears that even the most unexpected results of aerial and on-ground surveys (acquired before historical cartographic materials were analysed) only duplicate information about stronghold’s size and structure as presented in historical maps. Does it mean that application of non-invasive methods cannot break the informational barrier which was established by 18th century cartographers?

Geophysical surveys

Magnetometer and gradiometer measurements as well as multilayer resistivity profiling conducted in 2011 to some extent crossed the frontier of knowledge (Rączkowski et al. 2013:145). Thanks to it data concerning the location and depth as well as character and state of preservation of archaeological features were gathered. Yet, although some dipole-dipole anomalies were identified due to stratigraphic complexity of the stronghold it is difficult to distinguish single archaeological objects (Fig. 8). Nevertheless results of geophysical survey show that quite a number of buried structures is present underground, which perhaps allow to confirm historical information that the princely seat was destroyed and turned into ashes (SPORS 1983).

Airborne Laser Scanning

Surprisingly some local differences in relief were detected later in 2011, even though the site has been levelled for a long time (Rączkowski et al. 2013). The remains of embankments and moats are clearly visible in ALS derivatives (Fig. 7). Yet due to their similarities to present palaeomounds in valley of Wieprza river, they would be extremely difficult to distinguish them without previous knowledge about site location (Banaszek et al. 2013).

Satellite data

Recent interpretation of satellite imagery, which took place within the framework of ArchEO project, brought surprising results. Ultimately clear details regarding to the interior structure of the princely seat have been identified (Fig. 2). Occurring as regular positive cropmarks with sharp borders they may represent several hidden archaeological features. Four of them are located within the central part of the stronghold, whilst another two are situated inside the area enclosed by external double moat (Fig. 9). Although the site is located nowadays on humid riverine meadows (what makes it not an ideal location for appearance of cropmarks) processing of spaceborne data led to an emphasis of slight anomalies in grass condition.

Conclusions

Besides unclear results of geophysical survey solely interpretation of satellite imagery finally overcame the information regarding site’s structure as provided by historical cartographers. The history of archaeological investigations of Ślawsko stronghold clearly shows a complexity of the process of knowledge construction about the Past. Although the meaning of the stronghold have changed over the centuries, not until the interpretation of satellite images took place, barely anything was known about site’s interior structure.

The case of Ślawsko presents that even in actively prospected areas analysis of spaceborne data bears new fruits. Although presumably identified cropmarks represent archaeological objects, this information should be confronted by means of other methods of survey. Perhaps further multilayer resistivity profiling would be helpful in determination of features character.

References