

A study on Digital Asia Platform and Base Spatial information in Archaeological application

Nobuya Watanabe[1]

[1] Department of History and Geography, Chubu Univ.

#Spatial information in Archaeology

Artificial remain and ruin are one of the most essential data in archaeology. Both spatial and temporal information are highly required attributes for using the data in archaeological analysis. The study focuses on the spatial aspect, and it will discuss the effectiveness of Digital Asia Platform (DAP) in archaeological application. The information of unearthed location and the shape of remains have to be recorded in survey maps during the excavation, which scale is between 1/10 to 1/500. Also preliminary survey requires spatial information to detect the sign of ruin and to grasp its distribution (scale may be 1/5000-1/15000). Aerial photography is commonly used for this purpose, which may provide the crop mark and surrounding landscape information. Obtained data can be utilized by integrating them with other spatial information when it comes to archaeological interpretation phase. Thus, various (i.e. scale, type) spatial information are used in almost every phase of archaeological study. This means that the improvement in spatial data utilization may directly aid the archaeological studies itself.

#Trend of the use of digital spatial information in archaeology

It seems that recent improvement of spatial information technologies as represented by GPS/GIS, are also pushing the diffusion of digital spatial information use in archaeology. Both GPS and GIS technologies are introduced in many aspects of archaeological studies. As a whole, digital spatial information and its related techniques are getting much closer to archaeologists. On the other hand, improvement of the base spatial information infrastructure is still unsatisfying. Most of the prepared spatial data and administrative archaeological GIS systems are not intended for data sharing. It is needless to say that most of these base maps used in the system are not usable for individual archaeologist. GPS obtained ruin distribution data can be put in to practice only by integrating them with other base maps. It is still difficult for most of the archeologists to prepare original base data into the GIS systems of their own. Especially, this is noticeable in oversea surveying. There is difficulty of obtaining topographic maps in many of the country in Asia for political and national defense reasons. Satellite image can be quite effective in these cases, although it is difficult for archaeologists to handle. The base spatial information supplied by DAP are prospected for supporting not only domestic archaeological excavations but also oversea archaeological studies.

#Archaeological study and DAP base spatial information

Various spatial information are required in archaeological study as we have seen. Satellite image can be one of the most applicable spatial information for this purpose. Because of, 1)It can obtain image of any region 2)There are various resolutions(scale). Landsat, Aster, Corona satellite image and old topographic maps were prepared in this study. The effectiveness of these data and its qualification for DAP base spatial information were discussed from the view point of archaeological study.

#Perspective of DAP in archaeological study

DAP will enable the data sharing and data integration, which may improve the use and its possibilities of digital spatial information in archaeological application (e.g. database, analysis) in the short run. In the longer vision, improvement of convenience for archaeologists can possibly accelerate the bottom up data accumulation. Interoperable data structure can then, utilize the stored archaeological information and may lead to a new archaeological perspective.