The Virtual Cilicia Project

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Introduction

Since 2005, a particular research focus of the Institute for Archaeological Sciences in Bern has been on the exploration of Cilicia (Turkey), specifically on the settlement clusters in Cilicia Pedias. This research is closely associated with three survey and excavation projects (Magarsos, Sirkeli Höyük and Uzunoğlan Tepesi) based at the Institute for Archaeological Sciences of the University of Bern. One of the primary goals of the project, which is conducted in collaboration with Istanbul Üniversitesi and Çanakkale Onsekiz Mart Üniversitesi, is the reconstruction of the region's paleo-landscape. Special attention is given to acquiring further knowledge of ancient river courses as well as the organization of water supply and irrigation networks in antiquity, as these factors play a crucial role in the comprehensive understanding of the historical developments within the plain of Cilicia. In addition, the evaluation of the relationships between the individual cities and states within the settlement clusters requires detailed research on street, trade, and political networks during the respective time periods.

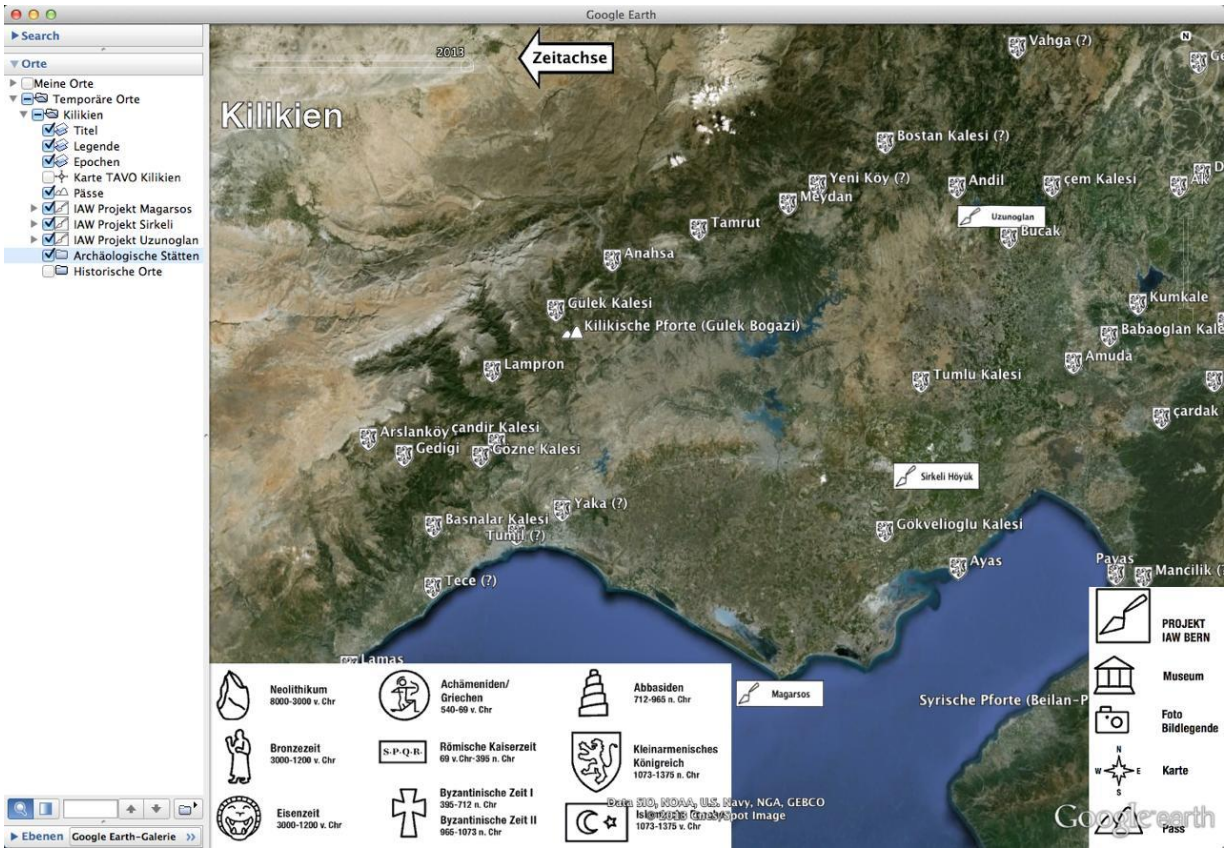

Figure 1 – Overview user interface (German)

Approach for visualisation

New approaches are necessary to visualize the development of this complex region at the crossroads between Anatolia, the Levant, and Syria during various eras and to present this information in a manner that is not only understandable to specialists, but also to laymen. Innovative methods of knowledge transfer should not be limited to a linear narrative structure; rather, they can give users the opportunity to interactively explore the interplay between environment and settlement patterns. By doing so, the user is provided with the possibility to adapt the available information to his or her state of knowledge and specific interests. To achieve these goals within so called "Virtual Cilicia," a Google Earth based approach was chosen. Since Google Earth uses KML 2.2, an open standard XML notation, it is simple to add one's own content. Moreover, KML has become an increasingly common standard within geographic information systems and online tools, therefore becoming a well-documented future-proof solution. The integration of a timeline directly into Google Earth makes it a perfect instrument for the visualization of historical developments.

The use of a virtual globe as a tool for archaeological visualization allows the integration of heterogeneous data sources, such as ancient maps, satellite images, photographs, texts, as well as bibliographies and results of archaeological excavation and survey projects. This approach provides anyone with the opportunity to explore the structure of ancient settlements and compare them not only to each other, but also to their modern day appearances.

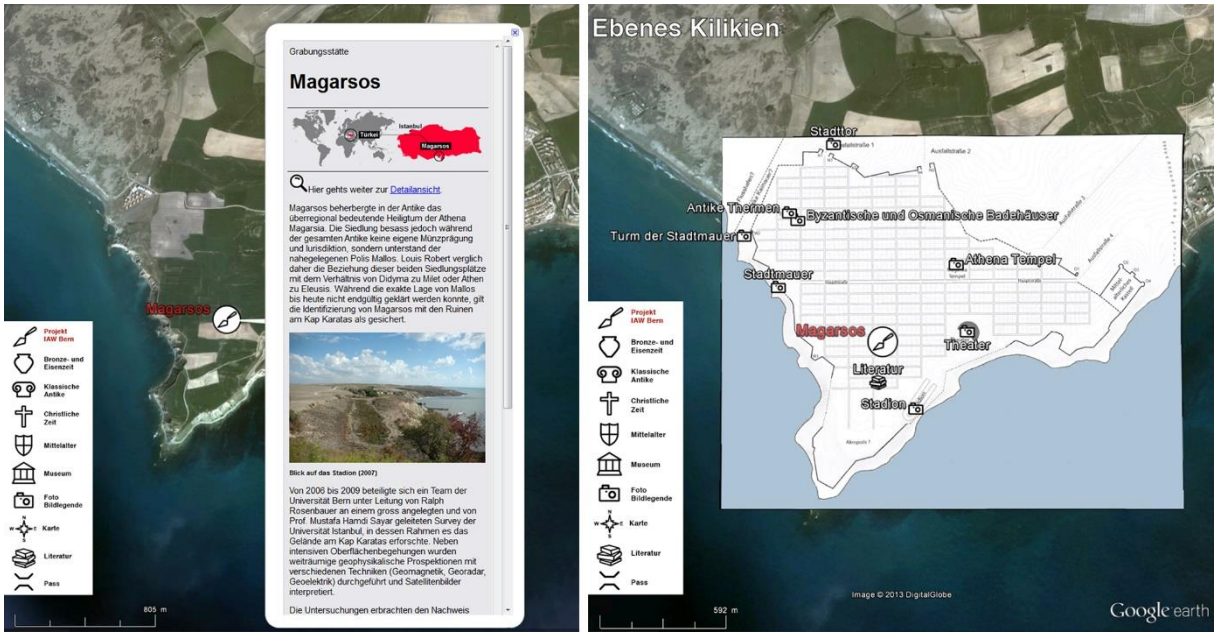

Figure 2 – Fieldproject Magarsos, text box and map with the reconstruction of the settlement system

Challenge

This paper recapitulates the special benefits and the challenges of virtual globes as a media in historical and archaeological research and presents the particular approach of the "Virtual Cilicia Project". Special attention will be given to different possibilities regarding the narrative structure offered by an online project - in comparison – to printed media.