



Reconstructing the Geomorphological Evolution of the Plain of Xanthos (SW Turkey) during the Holocene : a Geoarchaeological Approach

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In the Hellenistic period, according to Strabo, Xanthos and Letoon were very important cities and major holy places in Lycia, a peninsula in southwestern contemporary Turkey. An archaeological study of the sites of Xanthos and Letoon cannot assume that the environment in which they are located did not change since the arrival of the first settlers in the seventh century BC. The rise of the sea level in the last 15,000 years and the subsequent Holocene alluviation has a strong impact on the landscape. The river Esen Çayı meandered in the valley leaving alluvial deposits, and the slopes were eroded. The geography of the valley of the river Esen Çayı during the Lycian and Hellenistic periods, i.e. during the 1st millennium BC, yet remains significantly unknown. What was the landscape around the Letoon shrine like? Where were the river channels? What was the progradation stage of the deltaic plain? To what extent did the slope mobility determine the location of settlements and ancient roads? To answer these questions, geomorphological dynamics at work throughout the Holocene must be reconstructed.

In this communication, preliminary results from the analysis of cores and geophysical profiles, both performed during and after four field work seasons in the plain, are compared with the historical, archaeological and literary data, and a first reconstruction of the changing landscape is proposed.

The sedimentary records indicate that a marine bay was gradually closed by the development of coastal sand deposits, prompting the development of a lagoonal system. As lagoons and wetlands have long been dominant in the plain, both sites probably developed in this type of landscape. In front of the Letoon site, a channel of the river Esen Çayı has been identified. It probably allowed for a direct connection by boat between the holy place and the sea downstream, and with the city of Xanthos upstream. This channel was probably responsible of the gradual sinking of the sanctuary below the alluvial deposits. The study of the morphology of the valley reveals the high mobility of landscapes in time and space. The mobility of slopes and rivers forced men to carefully choose the location of their settlements, which they often settled on rocky promontories isolated from slopes. The roads were probably established on the right bank of the river, where the slopes are less steep. The mobility of the landscape was also exploited with a symbolic aim: the Letoon shrine was installed in a hostile environment of wetlands in the middle of the floodplain, as a challenge to the laws of nature.

Not only did the ancient societies adapt themselves to environmental constraints, but they also participated in the production of landscapes, with pragmatic and symbolic aims.