A transdisciplinary approach to reconstruct nilotic socio-ecosystem in Luxor west bank during the ptolemaic period: the contribution of the study of modern cartography.

Giulia Nicatore, Christophe Petit, Damien Agut-Labordere

To cite this version:
Giulia Nicatore, Christophe Petit, Damien Agut-Labordere. A transdisciplinary approach to reconstruct nilotic socio-ecosystem in Luxor west bank during the ptolemaic period: the contribution of the study of modern cartography.. British Egyptologist Congress 5, Sep 2020, Londres, United Kingdom. hal-03922721

HAL Id: hal-03922721
https://paris1.hal.science/hal-03922721
Submitted on 14 Feb 2023

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L’archive ouverte pluridisciplinaire HAL, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d’enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.
A TRANSDISCIPLINARY APPROACH TO RECONSTRUCT NILOTIC SOCIO-ECOSYSTEM IN LUXOR WEST BANK DURING THE PTOLEMAIC PERIOD: THE CONTRIBUTION OF THE STUDY OF MODERN CARTOGRAPHY

During all its periods, Egyptian society maintained a privileged relationship with the Nile: the location of housing, necropolises and temples was dictated by the river’s course and agricultural land has benefited from the Nile’s floods (Bunbury 2019; Moreno García 2019).

- **Aim:** to reconstruct the Nilotic socio-ecosystem of Memnoneia (Luxor, West Bank) during the Ptolemaic period using a transdisciplinary approach combining:
  - cartography,
  - analysis of demotic contracts
  - and geomorphology.

- In this perspective, a selection of sources related to the study area has been identified, in order to better understand the fluvial environment of the Memnoneia and its recent evolutions while aiming to reconstruct the agricultural and alluvial landscape during the Hellenistic period.

- **Selected data:**
  - 34 Greek and Demotic land sale and lease contracts from 332 B.C. until the end of the first century B.C.;
  - maps of the west bank of Luxor from the Description de l’Égypte (Édition royale, 1821-1829) to the most recent satellite and aerial images;
  - a geoarchaeological cartography integrating geomorphological data already acquired by other archaeological missions and a geophysical mapping of the plain that we planned for the near future.

- The analysis of the available cartography of the region proves to be decisive to better understand the anthropic and geomorphological changes that occurred in the alluvial plain and to establish how quickly the landscape has changed and still evolves.

The analysis of these three georeferenced maps allows us to draw some preliminary conclusions on the evolution of the landscape of this sector.

- **Natural changesets,** we can observe:
  - significant Nile movements at Luxor towards the East in the last 100 years; at the north, at Medamud, opposite movement of the course of the river;
  - a major branch of the river and the resulting two islands at the south of the temple of Luxor in the map of Jacotin and Regnault have disappeared in the more recent one of Schweinfurth; in some cases, secondary branches of the Nile gradually dried up, causing these “îles nouvelles” (metyt in demotic) to become an integral part of the western or eastern riverbank. An example of this phenomenon is the island of Bayrat (the △ symbol on the maps), now linked to the west bank. The rate at which the islands appear and disappear is noteworthy, as we can see comparing the three images.

- **Anthropic changesets,** the rationalization of the west bank (Jacotin, Schweinfurth) :
  - creation of the railway and Fadiiyeh canal ➔ division of the alluvial plain in two plots of rectangular form (project carried out during the government of Muhammad Ali to implant new cultures, in particular cotton, in an effort to make the country more competitive);
  - presence of canals of anthropic origin can be found in the collected demotic corpus, where the canals dug by the state to irrigate even the areas furthest from the river are called “King’s Canal” (mīw Pr’sj);
  - the spread of built surface area, which in the last 50/60 years have “devoured” part of what were previously agricultural parcels.

**Methodology**: georeferencing and comparing maps with GIS tool

- Comparing the human/environmental changes produced over the course of a century
- Understanding the evolution of the Memnoneia sector and how the agrarian reform of Muhammad Ali changed the environment

In order to determine the rate of sediment deposition, we have planned to make geoarchaeological analyses for the near future.