The Travelers in the Middle East Archive (TIMEA) & Geography

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Egypt through the Stereoscope (1905)
Egypt through the Stereoscope (1905)

Egyptologist James Henry Breasted touted the power of “stay-at-home travel” through the stereograph system and maps, which was “comparable to that obtained by traveling there...The map system, simple, ingenious, and pedagogically sound, first furnishes a clear idea of locality in every case; and with this in mind, these superb stereographs furnish the traveler, while sitting in his own room, a vivid prospect as through an open window, looking out upon scene after scene, from one hundred carefully selected points of view along the Nile. By this means, then, the joys of travel can be extended to that large class of our people, who thirst for an acquaintance with the distant lands of other ages, but are prevented by the expense involved…” (12).

- Every site was keyed to map, so armchair tourists were advised to “make constant and repeated use of all the maps” (50).
Egypt through the Computer Screen (2000-)

Cairo
Cairo is the seventh largest metropolitan area in the world today. The first mosque in Africa was built here, and with the establishment of Al-Azhar mosque...

Map of Cairo
Creator: unknown
Date: 1911
Caption: "Map of Cairo"; A fold out map of...

The Citadel of Cairo
Creator: Barratt, Reginald, 1861-1917
Date: 1907
Caption: "The Citadel of Cairo"; A view of Cairo with...

CAIRO: General View of Cairo
Creator: Cairo Postcard Trust
Date: n.d.
Front: "CAIRO: General View"; back: "The Cairo Postal...

Soldiers in Cairo
Creator: Cairo Postcard Trust
Date: n.d.
Front: "Soldiers in Cairo"; back: "The Cairo Postcard Trust - Cairo: CARTE POSTALE, UNIVERSELLE"...
Focus of the Travelers in the Middle East Archive (TIMEA)

- Historical maps, primarily 19th C maps of Egypt
- Arc IMS maps of Egypt & Cyprus
- GoogleMaps providing geographical interface to collection and documenting Nile routes in 1847 and 1897
- Texts, e.g.
  - Successive editions of 19th and early 20th C travel guides for Egypt
  - Travelogues
  - Museum catalogs
- Images, e.g.
  - Stereographs & postcards
  - Souvenirs
  - Book illustrations
- Teaching modules to contextualize materials, including several on GIS & places in Egypt
Goals of **TIMEA**

- Enable “virtual **exploration**”: reflect the archive’s focus on travel by using GIS and other interactive technologies
- Organize **access** to content in digital archive based on geography, so that users could discover travel narratives and images associated with specific places
- Facilitate **analysis** of geographical phenomena, e.g. relationship of water to settlement patterns
- Allow **comparison** of maps, texts and images from different time periods, places, perspectives, etc.
- Promote **information fluency**
**Historical maps**

- Collection includes 150 digitized historical maps
- Examples of maps & plans:
  - 19th C maps of Egypt, the Nile, Cairo, Alexandria, etc.
  - Includes maps by
    - Wagner & Debes (leading German publisher of maps)
    - Heinrich Kiepert (distinguished German cartographer)
    - W. & A.K. Johnston Limited (British cartographer)
    - Stanford's Geographical Establishment (associated with the Royal Geographic Society)
- Plan to incorporate JPEG 2000 software to enable zooming, panning, etc.
Comparing Historical Maps of Cairo

Baedeker’s *Egypt: Handbook For Travellers* (1885): 7 hotels on map

Baedeker’s *Egypt: Handbook For Travellers* (1898): at least 11 hotels on map, as well as Cook’s Tourist Office
ESRI Arc IMS GIS Map of Egypt
Process of creating GIS maps

- Cleaned up data so that satellite imagery matched vector files such as boundaries and drainage systems.
- Used some manual digitizing to make boundaries more accurate.
- Extracted place names from Geonames Database; eliminated duplicate or irrelevant data.
- Used a script to correct inconsistencies in digital elevation data.
## TIMEA GIS Data Sets

<table>
<thead>
<tr>
<th>Data Set</th>
<th>Source</th>
<th>Processing Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political boundaries/ outlines, railroads, roads, inland/ coastal water bodies</td>
<td>Tobin Global Planner - Digital Chart of the World - Russian Topo Maps 1:500000 scale</td>
<td>ArcMap editing tools, WinTOPO, and AutoCAD.</td>
</tr>
<tr>
<td>Topography/elevation</td>
<td>GTOPO30 _Shuttle Radar Topographic Mission (SRTM)</td>
<td>GeoStatistical Analyst, ERDAS Imagine, Photoshop</td>
</tr>
<tr>
<td>Place Names</td>
<td>GEOnet Names Server</td>
<td>MS Access 2000</td>
</tr>
<tr>
<td>Satellite Imagery</td>
<td>Landsat Orthorectified, 1990 +/- 3yrs, 30m</td>
<td>ERDAS Imagine, Photoshop</td>
</tr>
</tbody>
</table>
Goals for Improving GIS Maps

- Provide geographic interface to collection
  - Click on a place marker, get a listing of objects in collection related to that place
- Offer more intuitive, speedier user interface
- Enable rapid development of maps by non-experts in GIS
Google Map: Browse by Place Interface for Egypt

Browse by Place

To access a list of TIMEA resources related to a particular place, select one of the place names in the menu on the right, then click on the link that opens up in the balloon above the place on the map.

To discover resources related to place names not included in the menu on the right, simply enter the place name into the search box above.

http://timea.rice.edu/browseplace.html
Comparing Nile excursions in 1847 and 1897

- Nile cruise centerpiece of trip to Egypt
- In 1847, most travelers took dahabiyas (houseboats)
- By 1897, steamers operated by Cook’s dominated
- Steamers cut Nile tour from 3 months to 3-4 weeks
- Steamers made travel in Egypt much cheaper & made possible mass tourism
- Also, 1847 guide includes details on overland transit to India (obviated by opening of Suez Canal in 1869)
Google Map of Travel Routes in Egypt: 1847

Based on Sir John Gardner Wilkinson's *Hand-book for travellers in Egypt* (1847)
Google Map of Travel Routes in Egypt: 1897

Based on Cook's tourists' handbook for Egypt, the Nile, and the Desert (1897)
## ArcIMS vs Google Maps

<table>
<thead>
<tr>
<th>Feature</th>
<th>ArcIMS</th>
<th>Google Maps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customization</td>
<td>Can manage the look of a layer, labeling, symbols, display scale, etc</td>
<td>Lack ability to control base map, but can customize markers, info windows, etc</td>
</tr>
<tr>
<td>Analysis &amp; control</td>
<td>Querying capabilities; can turn layers on/off</td>
<td>Not as easy to add layers (custom tile layers)</td>
</tr>
<tr>
<td>Speed</td>
<td>Slow: renders complete maps on the fly</td>
<td>Fast: delivers pre-rendered tiles</td>
</tr>
<tr>
<td>User interface</td>
<td>Not so intuitive</td>
<td>Intuitive, gee-whiz interface</td>
</tr>
<tr>
<td>Openness</td>
<td>Proprietary but customizable</td>
<td>Proprietary but open API</td>
</tr>
<tr>
<td>Expertise</td>
<td>For Rice, in-house knowledge available; GIS project data was developed for use within ESRI's products</td>
<td>Non-GIS folks/ non-programmers can create Google maps</td>
</tr>
</tbody>
</table>
As we left our last point of view, we turned almost toward the south, and we are now facing the southwest. The city is now on our right, the desert on our left, and also behind us, stretching away to the Isthmus of Suez and the plains of southern Palestine. Here before us rises the lovely tomb-mosque of Kait Bey, built in 1474 by the last of the really great sultans. On which of our way on August 15, 1838, we shall pass through it and sag off the road to be near the city of Suez.
Connecting texts and maps

- Process:
  - Run Python script that uses regular expressions to compare the text of paragraphs from TEI-encoded text to place names in Geonames Database, taking line breaks and page break elements into account
  - Script automatically encloses matched names with appropriate TEI markup
  - Some manual verification of place names required
  - XSLT generates link to listing of resources associated with that place name
Teaching Modules

- It’s not immediately obvious to many people how to use GIS
  - Interface can be challenging
  - May not be clear what to do with the tools & data
- TIMEA uses Connexions, an open system for creating and sharing educational materials, to produce teaching modules
- Modules include:
  - “Placing History: Introducing geographic information systems in the context of current humanities research”
  - “TIMEA GIS Map Interface Tools”
  - “Places in Egypt”
“Placing History” module

Placing History: Introducing geographic information systems in the context of current humanities research

Summary: Using the TIMEA project (Travelers in the Middle East Archive) as a case study, this module will explore an increasingly popular trend in historical research: the use of advanced mapping software—broadly called geographic information systems, or GIS—as a means of animating and visualizing research. Among current research initiatives, TIMEA has been particularly successful at employing a variety of innovative digital resources to make a large set of printed antiquities more publicly accessible. The use of Geographic Information Systems is among these digital resources and this module will explain how this tool is being leveraged to the benefit of the project.

Between the eighteenth and twentieth centuries, many Europeans and Americans traveled to the Middle East for a number of reasons. Some came to conduct archaeological expeditions or tour religious sites, while others hoped to investigate ancient cultures or pursue geopolitical interests. These travelers documented their visits through narratives and images, and today these documents provide invaluable resources for students and scholars in a variety of disciplines, ranging from literature and women’s studies, to archaeology, religion, history, and postcolonial studies. Until now, these materials have been scattered throughout libraries and private collections around the world, and systematic research on these documents has been time-consuming and expensive. However, TIMEA, the Travelers in the Middle East Archive, provides greater access to many of these rare materials as well as sophisticated analytical tools, thereby enabling new modes of scholarship focused on these textual, visual, and geographical resources.

Figure 1: The TIMEA project is not only about digitally reproducing and disseminating rare printed materials from earlier centuries but also about producing new, technologically-advanced maps to place these materials in their original geographic contexts (images courtesy of the TIMEA project)
Challenges

- Representing time (dynamic processes) as well as space, e.g.
  - Development of tourism industry
  - Egyptian empires
- Locating reliable data sources for the Middle East
- Recruiting, training and retaining staff
- Guiding website visitors in how to best use the GIS maps
Hoped-for next steps

- Adding in georeferenced historical map(s) as layer for Arc IMS map
- Considering experimenting with other techniques for marking up place names (e.g. named entity extraction as done by Perseus Project)
- Enabling deeper level of analysis, e.g.
  - What factors determined where travelers visited?
  - Where did travelers come from? How did their journeys affect them and the places they visited?
  - How did travelers get where they needed to go? How did this change?
  - Where were artifacts located and where did they end up?
- Evaluation:
  - How are these maps being used?
  - What impact are they having?
Final thoughts

- How can we best enable “virtual explorations”--without being naïve and while fostering critical inquiry?
- Mapping technologies paired with digital archives offer powerful means for exploring other places & time periods.
- Developing interactive maps requires sophisticated technical expertise as well as subject knowledge.
- GoogleMaps, YahooMaps & the like may offer relatively speedy, straightforward ways to present geographic information.
Acknowledgements

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- Eric Leshinksky (Connexions module on GIS)
More information

- Eva Garza & German Diaz, “The Travelers in the Middle East Archive (TIMEA) Project: Researching and Exploring the Middle East Through Online Maps” (2005)
  [http://dspace.rice.edu/bitstream/1911/12348/1/ESRI_TIMEA.pdf](http://dspace.rice.edu/bitstream/1911/12348/1/ESRI_TIMEA.pdf)
- Travelers in the Middle East Archive: [http://timea.rice.edu](http://timea.rice.edu)
- TIMEA Browse by Place (Google Map): [http://timea.rice.edu/browseplace.html](http://timea.rice.edu/browseplace.html)
- Google Maps of Nile Routes: [http://timea.rice.edu/NileCruise.html](http://timea.rice.edu/NileCruise.html)