Historical Cadastral Maps for Locating and Sizing Old Jewish Cemeteries

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European Jewish Cemeteries: An Interdisciplinary Conference

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About Historical Cadastral Maps

• What is a (historical) cadastral map?
  - a legal map defining property boundaries, usually to support fair taxation
  - like plat maps in the US and similar maps all over the world today
  - following the Habsburg example, produced in some form by many European
    states from the early- to mid-19th century

• Where can historical cadastral maps be found?
  - paper: national archives and libraries in Europe; regional and local land
    survey offices; rarely in private collections
  - digital: websites of archives and libraries, as for paper maps; specialist map
    websites

• Why use cadastral maps to locate and/or size Jewish cemeteries?
  - many traditional sources of geographic location are imprecise (Yizkor books,
    memory maps, local residents)
  - many current and online sources are incomplete, and include some errors
  - few available sources precisely define cemetery boundaries

Historical cadastral maps have many of these same limitations,
but often can supplement other sources and methods
(More) About Historical Cadastral Maps

• Historical cadastral map production:
  - coverage of much of Europe, including the entire Austro-Hungarian Empire
  - developed in at least three stages, from an initial field sketch accompanying the land survey, through intermediate sketches with improved accuracy, to one or more final states printed from lithographic plates
  - any of the map stages may be hand-modified from new field surveys in subsequent years, and new final-state maps were produced several times over 100+ years in some regions
  - any of the map types, from sketch to final/revised print, may be found in archives today; for some towns only the early types have survived

• Accuracy of the maps:
  - at 1:1500 to 1:5000 (commonly 1:2880), and produced under strict controls, these are usually the most precise and accurate maps available
  - at this scale, typical map fine line width is 1~2m
  - for lithographed maps, inaccuracy results from original survey errors, map production errors, paper distortion due to moisture and handling, etc.
  - georeferencing accuracy quoted by some sources is 15~20m, but relative accuracy to identifiable permanent geo features is much better
  - earlier-stage maps are much less accurate (field sketches can be spectacularly distorted), but still help by showing relative position and size of boundaries
Jewish Cemeteries on Historical Cadastral Maps

On maps of the Austrian Empire...

...look for the triangle
"Classic" Representations of Jewish Cemeteries

Chortkiv 1859
Dębica 1849
Hrymailiv 1828

Milevsko 1830
Leżajsk 1853
Głogów 1849
Variant Representations of Jewish Cemeteries

- Bolekhiv 1878
- Knyahynychi 1876
- Lviv 1853
- Łańcut 1849
- Hrymailiv nd (20th c.)
- Żurów 1876
Some Ways to Use the Maps in Cemetery Research

• Digital Geo-referencing and Overlays, Plus Measurement: GIS
  - formal and informal digital Geographic Information Systems have been available for personal computers for more than 25 years
  - GIS technology can be complex, but locating cemeteries and establishing approximate boundaries can use ordinary image manipulation software
  - output requirements for subsequent analysis depend on the end goal of the research; as guidance for ground measurements, GPS coordinates and visual references are likely sufficient
Geo-Referencing Historical Cadastral Maps

▲ Using the original map sheet corner geo-coordinates... Or visually ▼
An Example: Sokołów Małopolski 1853 on Google Maps
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What if Cemetery Boundaries Change?

Ulanów 1853

Ulanów Bing
Evolution of a Cemetery: Hrymailiv 3x on Bing Maps
Evolution of a Cemetery: Hrymailiv 3x on Bing Maps
Evolution of a Cemetery: Hrymailiv 3x on Bing Maps

Bing:
1910: 1861: 40%
1828: 100%
Evolution of a Cemetery: Hrymailiv 3x on Bing Maps
Evolution of a Cemetery: Hrymailiv 3x on Bing Maps
Evolution of a Cemetery: Hrymailiv 3x on Bing Maps
Evolution of a Cemetery: Hrymailiv 3x on Bing Maps

Bing:
1910: 20%
1861: 100%
1828:
Evolution of a Cemetery: Hrymailiv 3x on Bing Maps
Evolution of a Cemetery: Hrymailiv 3x on Bing Maps
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Evolution of a Cemetery: Hrymailiv 3x on Bing Maps

Bing: 60%
1910: 100%
1861: 1828:
Evolution of a Cemetery: Hrymailiv 3x on Bing Maps

Bing: 80%
1910: 100%
1861:
1828:
Evolution of a Cemetery: Hrymailiv 3x on Bing Maps
If No Cadastral Maps Are Available: Alternatives

Kraków's New Cemetery (Miodowa), marked with a cross on the Austrian Empire's 3rd Military Survey (1869~1887, 1:25000)
If No Cadastral Maps Are Available: More Alternatives

1846 Cadastral Field Sketch
1921 Cadastral Prelim Sketch
Rohatyn Old Cemetery

1944 Luftwaffe Aerial Photo

2015 Wide-View Panorama
Rohatyn New Cemetery

1944 Luftwaffe Aerial Photo
A Few Links

• Jewish Cemetery Locations:
  - US Commission for the Preservation of America's Heritage Abroad:
    http://www.heritageabroad.gov/ -> Surveys
  - IAJGS International Jewish Cemetery Project:
    http://www.iajgsjewishcemeteryproject.org/
  - Virtual Shtetl:
    http://www.sztetl.org.pl/ -> Towns

• European Cadastral Maps:
  - Mapire: Historical Maps of the Habsburg Empire:
    http://mapire.eu/ -> Maps (includes Austrian military surveys)
  - Gesher Galicia:
    http://maps.geshergalicia.org/ (maps)
    http://maps.geshergalicia.org/references/ (background & references)
  - ICARUS: International Centre for Archival Research, working group on Cadastral Maps and Proceedings of 2013 Conference:
    http://icar-us.eu/