My First Galician Map: Rohatyn

by Jay Osborn
Gesher Galicia Digital Map Manager

THE 1846 CADASTRAL sketch of Rohatyn in eastern Galicia was the first map I digitally assembled for web display (pre-dating the Gesher Galicia Map Room). It documents one of my wife's ancestral towns in Galicia (*see Marla Raucher Osborn's article on page 32 of this issue*), so it remains special for me among the more than 125 cadastral maps in the growing online collection. Thanks to additional research by Rohatyn descendants and others, the map is also a good example of the several ways these unique graphical records can support genealogical and family history research, historical demographic studies of neighborhoods and towns, and investigations to anchor modern heritage preservation efforts of many types by local and international organizations.

Beginning of the Idea

The roots of the Map Room are in a past Gesher Galicia project created by the organization's late president, **Pamela Weisberger**, and focused on cadastral maps and landowner records. Gesher Galicia raised funding to research selective inventories of archives in today's southeastern Poland and western Ukraine and then to collect property tax registers and detailed maps of towns and villages surveyed by the Austrian Empire, primarily in the nineteenth century. After beginning to collect record data in image format, Pamela realized she had opened a window into an unusual and valuable resource for genealogists, but she was stumped in her efforts to make the maps easier to use. Original Austrian cadastral maps were sketched and drafted at high scale, so they cover large expanses of paper; even maps for small villages were usually divided into several large sheets, and some large cities cover more than 50 separate sheets, a dizzying puzzle to reassemble for modern use.

Meanwhile, the founder of the Rohatyn Shtetl Research Group, Dr. Alex Feller, had organized a fundraising campaign among Rohatyn descendants to support Gesher Galicia's acquisition of images of the 1846 cadastral records for the town from the Central State Historical Archive of Ukraine in Lviv. In early 2011, those images were delivered, including a good set of building and land parcel registers along with an alphabetical property owner register which helped to relate people to numbered properties. Together with the text records were color photographs of the individual sheets of what we now understand is a field sketch of the town. These preliminary survey maps were sketched at the time the initial land measurements were being made, in order to indicate the relative locations of numbered measurement points. Cadastral field sketches are rough and typically quite distorted compared to the actual geography; once the complete land measurements had been made and a final cadastral map had been drafted and lithographed, an early sketch no longer served any further purpose. But for Rohatyn, this sketch was all we had.

Recreating the Image

What to do with the map sheet images? There are more than 20 individual large sheets in the Rohatyn cadastral sketch, covering a mid-nineteenth-century town with an estimated population of 4,000 people (more than 50% Jewish), as well as the surrounding farm fields.

Next page: *Excerpt from the 1846 cadastral sketch of Rohatyn, showing the town center and Jewish quarter.*

Alex experimented with available internet tools, including Google Maps and Google Earth, creating overlays of the historic map sheets on satellite images of the modern town, and with these tools he was able to identify where each sheet should fit in a kind of digital jigsaw puzzle. But the distortions in the sketched sheets made it impossible to assemble a coherent image of the complete historical town; in many places, geographic errors in the initial sketch caused sheets to overlap each other. The tools Alex experimented with permitted some simple distortions, but not enough to make the full map easily understandable.

So we shifted gears and I began to disassemble and reassemble the map sheets using an inexpensive graphics editing program. We also purchased satellite images of Rohatyn from commercial services, which we used as a base reference for some portions of the graphic work; many roads and other features of the historical town are easily recognizable in the town today. My image distortion capability was still limited, but now I could cut each map sheet into hundreds of small pieces, stretch the pieces to fit the underlying satellite data, and then reassemble and blend the pieces to make a reasonably smooth whole. In the end, it took over 100 hours to assemble a single rectified composite image of the entire map from thousands of digital fragments, resulting in a 250-megapixel file over 80MB large even in compressed JPEG format. This is too large for most of us to effectively load in Google Earth, so I turned to tiled mapping methods (like Google Maps) to render the map in internet browsers, and uploaded it to a personal web-hosting server. Finally, we were able to share the rectified complete map with Rohatyn descendants and others.

Pamela then proposed to assemble and share other cadastral map images acquired by Gesher Galicia, and to see if we could create a virtual map room from the records. We quickly learned that the Rohatyn field sketch was perhaps the worst possible image set to start with; nearly all lithographed final-state cadastral maps are precisely drafted to very accurate measurements, and small residual distortions in the scan images are typically introduced during modern digitization rather than in the 150-year-old cartography.
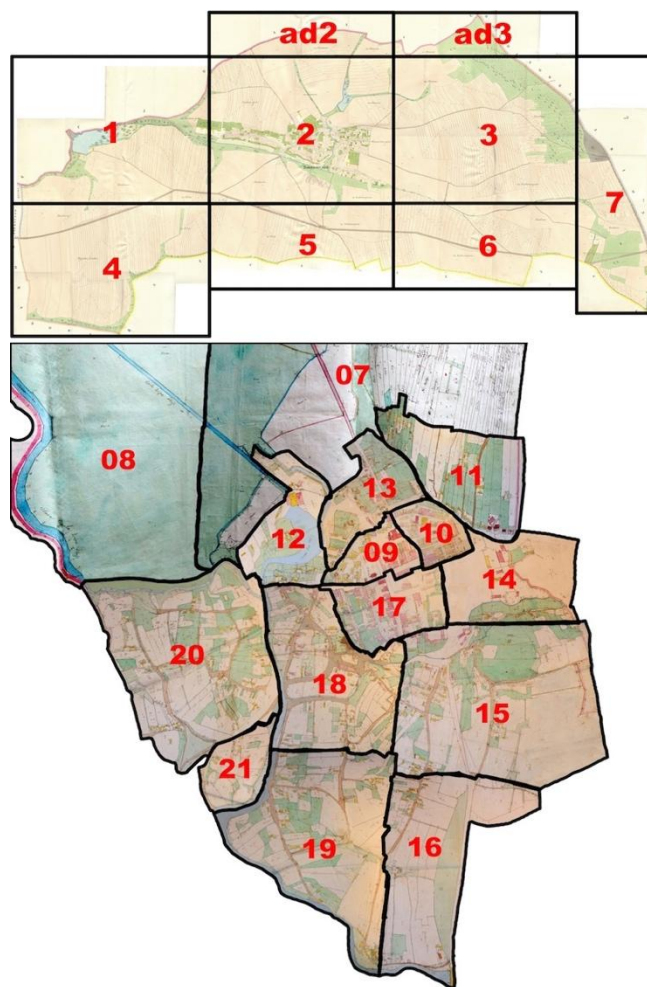
Comparing the complexity of map assembly: A lithographed map of Romanowe Sioło (top) vs. the Rohatyn sketch (bottom).

So while some maps still required 20 or more hours to assemble, production proceeded quickly with the backlog of acquired map images. The **Map Room** was launched in 2012 with a handful of first cadastral and regional maps, and continues to grow as new research progresses.

After this initial introduction to Galician cadastral maps, we continued to learn more about how they were made, used, and stored. A large portion of the maps preserved in Polish and Ukrainian archives are field maps, either sketches like the Rohatyn map or lithographed maps which were brought back to the towns for new updates to the original surveys; these latter maps show red-line revisions indicating changes (added or modified buildings, land parcel splits, etc.). Imperial surveyors returned to some towns multiple times over nearly a century, marking old maps and making new ones. Yet for other towns, no cadastral maps of any development stage have survived in archives, a testament to the fragility of the paper maps and the many government changes the region has seen since the outbreak of World War I.
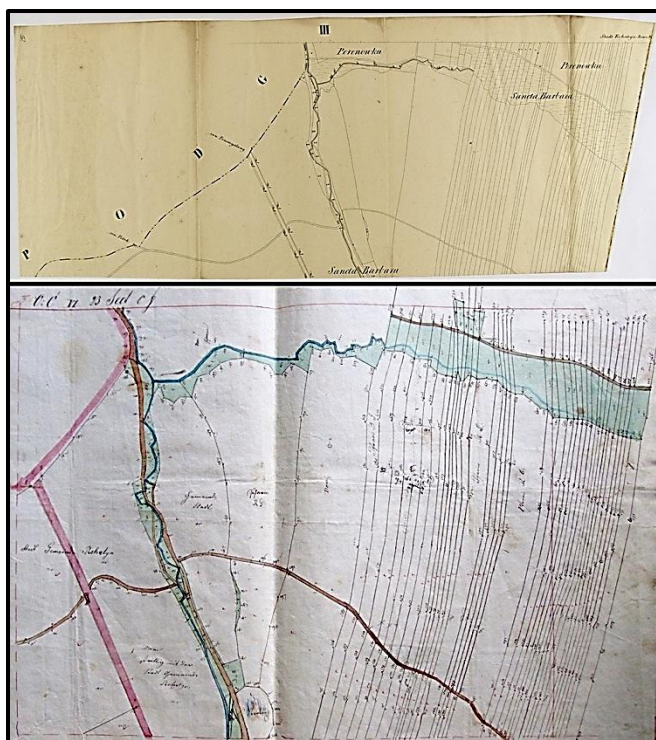
The single surviving scrap of a lithographed historical cadastral map of Rohatyn (top image).

A few years ago, Alex found a single scrap of a lithographed cadastral map of Rohatyn at the archive at Wawel Castle in Kraków. It is tantalizing, because it means there was once a full and accurate cadastral map of Rohatyn, but the surviving fragment covers only a small agricultural area outside of the main town area.

Learning About the Town

Even with its flaws, the Rohatyn field sketch is a remarkable asset for Rohatyn descendants. Annotations on cadastral maps changed from initial sketches through intermediate stages to the final-stage lithographed map. Final-stage maps are marked with parcel numbers (both building and land), a kind of tax ID number which is only recorded in property registers and legal documents. But initial field sketches were marked with house numbers—the effective address system of the nineteenth century and still in use in some smaller villages here and there in the former Empire. This means that vital records which record birth and death places before World War I can often be used to learn where families lived, simply by looking for the house number on the field sketch. For families with farm holdings outside the town center, some will be fortunate to find their names written directly on parcels on the sketch. (The beautiful and accurate final-state maps can also be used to locate family houses in those towns, but they require a two-step records process, as described in the Map Corner column in the March 2017 issue of the *Galitzianer*.).

While the 1846 map is a snapshot in time of the development of Rohatyn, the house numbering system pre-dated the map (it also underlies the 1787 and 1820 cadastral surveys) and persisted for several decades after the 1846 survey, extending the map's usefulness. Earlier and later vital and other records which reference house numbers can also be tied to locations in the town, if the numbers are included in the more than 500 buildings detailed on the 1846 sketch.

These characteristics mean that family historians can trace where in town their ancestors lived, how they moved over time, where their children made homes, and more. Context to personal and family histories can be gleaned from the relative locations of homes with the market square; Jewish community features including **five synagogues**, **the religious school**, and **the cemetery**; but also the river and mills, a monastery, and several churches, some already hundreds of years old when the town was first surveyed. Family stories about the cattle market in Rohatyn can be tied to a specific place on the 1846 map, giving historical meaning to what is today just a common street intersection.

The same map and text data can be aggregated for larger research into the historical demographics of multicultural Rohatyn. Working from the property registers plus supplemental records and analysis, historians can map the diversity of Rohatyn neighborhoods or the entire town at one point in time. The same analysis over several points in time can help depict the evolution of those neighborhoods and the informal borders between communities.

As an example, Marla and I have studied the "**Jewish quarter**" of Rohatyn northeast of the market square, where houses ringed four synagogues and other Jewish community buildings, in 1820 and 1846 when property surveys were made (no map from 1820 survives). In the adjacent figure, the top image shows the original 1846 map with our highlighting of the community buildings and one of my wife's family houses (from property and vital records). In the middle image, we have colored the buildings based on analysis of 1820 property records and some assumptions about ethnic naming systems: dark blue represents Jewish community buildings, light blue Jewish family houses, dark red is a Polish community building, green is an Austrian hospital, and white represents buildings
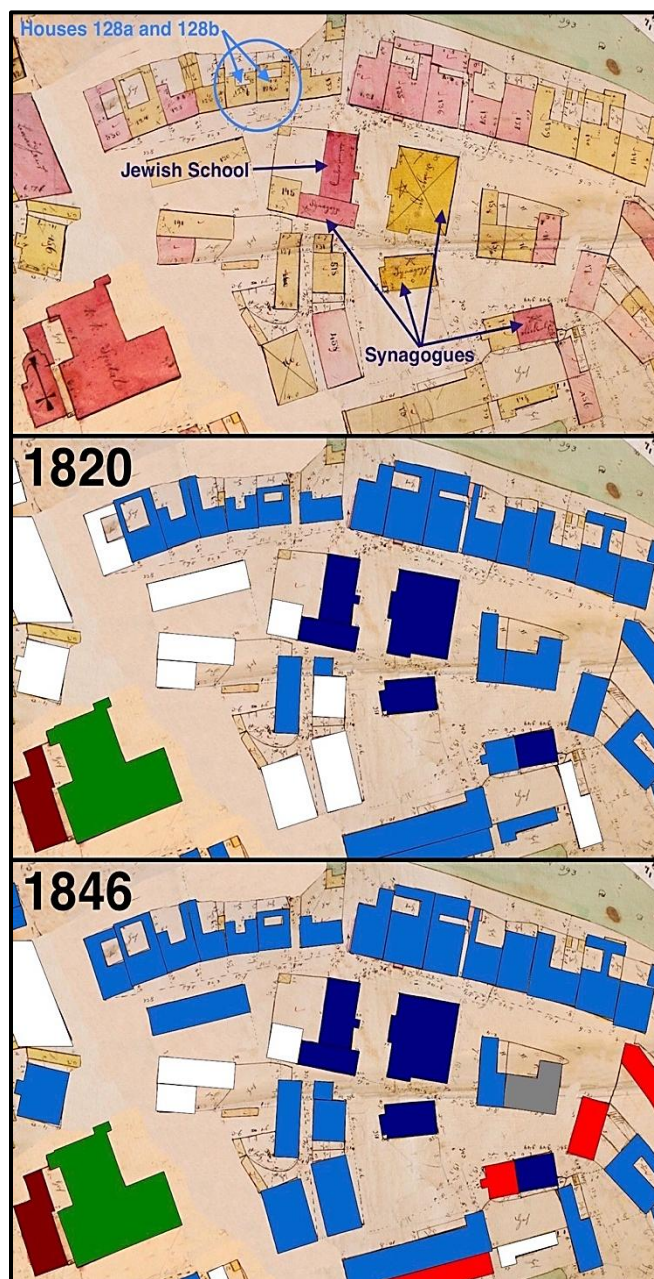
Spatial analysis of Rohatyn's historical demographics: the Jewish quarter in the first half of the 19th century.

which did not exist in 1820 or for which no ownership was specified in the records.

A generation later, in 1846 as shown in the bottom image, the neighborhood was changing. Polish families, indicated by medium red color, had moved into some formerly Jewish houses.

More houses had been built in the quarter, mostly by Jews. For one building indicated by grey color, we were unable to determine the social group of the house's new owner.

A similar analysis of the market square in 1846 shows the density of homes and businesses there linked to Jewish families, a trend which (from other records review) continued after World War I even though much of Rohatyn was destroyed during that war. Further analysis can be performed to embrace the entire town, which for most of the Galician era had significant populations of Ukrainians, Jews, and Poles. Understanding the dynamics of the diverse settlement can help raise recognition of the town's land and building features by local history museums and place-focused historians.

Historical research into physical features shown on detailed cadastral maps can also inform heritage preservation efforts. For example, the field sketch of Rohatyn shows that in 1846, both the Christian and Jewish cemeteries were smaller in area than they are today; 170 years ago, the Jewish community had already purchased land to extend the cemetery, but the future extension of the Christian cemetery was in use as grazing and farm land. Nearby the Jewish cemetery on the 1846 map is a hilltop parcel of land labeled "Jerusalem" and marked with a large cross; in 2012 we were alerted in Rohatyn of a possible displaced Jewish headstone outside the cemetery, but when we excavated around the stone with friends, we discovered it was in fact the base of the former landmark cross on the Jerusalem hill.

The old Jewish cemetery in Rohatyn, which closed in the 1920s, and the new cemetery which then opened north of the town, are protected and cared for by the city today and are key parts of our heritage projects in the town, but in some other locations in Poland and Ukraine, visible indicators of prewar Jewish cemeteries (and some

Christian cemeteries as well) were erased by Nazi and/or Soviet actions, then forgotten by all but the oldest town residents. Where historical cadastral maps exist, they can sometimes be used to guide visitors and heritage workers to locate the original cemetery boundaries. Marla and I have used old Galician cadastral maps to identify early boundaries of Jewish and Polish cemeteries in Galician Ukraine, and Jewish and Lemko cemeteries in Galician Poland; similar study can help locate cemeteries of displaced people throughout the former Austrian Empire.

The old Jewish cemetery (top), future expansion of the cemetery by the Jewish community (bottom), and the Jerusalem hill with cross (bottom left).

In summary, the 1846 cadastral sketch of Rohatyn is an example of the art of Austrian surveying and cartography, but even in its roughness and simplicity it can serve as a valuable guide to the history of the town and its people. I am glad that most of the maps now in the Gesher Galicia Map Room are not so difficult to reassemble, but that early effort was worth the effort to make this still-useful artifact accessible to all.