The 1834 Ermellek earthquake effects and the architecture of migration after war in Baroque times

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Context

Sathmar Swabians migrated from SW Germany to Sathmar in Romania, along the Danube. Migration happened in the 18th century, starting 1712. In SW Germany that time Baroque churches started to be built. Also in Sathmar they built Baroque churches.

My grandfather was a Sathmar Swabian, hence genealogy research and personal communication with friends and relatives was combined with architectural history and earthquake engineering and geography research.
Research questions

The first aim of the research was to compare church architecture and vernacular architecture of Sathmar Swabians in their origin places with the places they colonised. It was observed, that the churches, although Baroque, are different, and that the vernacular architecture is also different. While in case of churches this may be influenced by foreign architects, in case of vernacular architecture it may be influenced by the fact that original architecture is not kept, as it was destroyed by the 1834 earthquake, and afterwards construction followed the rules from Vienna for migrants which came later to Banat.
Methods

- Literature research
- Field investigation (site visits, discussions with inhabitants and site administrators)
- Archive research in genealogy archives
- Mapping
- Network analysis
- Comparative architecture investigation
Results

- Migration
- Earthquake
Donauschwabenufer

A plate on the Danube shore in Ulm, Germany, commemorating the places where Sathmar Swabians settled: 31 localities founded in the 18th century
Oberschwaben

The localities of origin of Sathmar Swabians in SW Germany.
Satu-Mare

The places where the Swabians settled in Sathmar, NW Romania
Gephi

Network analysis of the localities most Swabians came from
Places in Oberschwaben

Where the colonists came from
The photos follow an exhibition in the Schiller house of German minority in Bucharest.
Donauschwabenufer

On the shore of the Danube, in Ulm, a memorial of Swabians who were deported 1945, 75 years ago for forced labour in the Sowjet Union.
Donauschwäbisches Zentralmuseum

A museum of Danube Swabians in Ulm, not far from the monument and the Danube shore.
Oberschwäbisches Museum Kürnbach

The village museum in Kürnbach (Bad Schussenried): typical house
Biberach an der Riß

One of the localities from where most Swabians came from. Here: the Christmas fair today.
Ravensburg

The other locality most Swabians came from. Typical vernacular architecture in half timbered construction for the region.
Weingarten

A church in a locality my ancestors (Merli) came from. The locality is today incorporated in Ravensburg, shown before.
Wiblingen

The Basilica in a locality incorporated now to Ulm. This church is Baroque and roman-catholic, a style typical for the counter-reformation, while the main central church of Ulm is gothic and evangelical.
Steinhausen

The most beautiful village church in the world, designed by a renowned Austrian architect (Dominik Zimmermann, as written under the choir), in a locality belonging to Bad Schussenried, where also the headquarters of a cultural route, the Oberschwäbische Barockstraße, are placed.
Bad Schussenried

The Baroque library, as some of these Baroque monasteries, to which the migrating peasants belonged, had this connection between library and church, including in Wiblingen (rokoko library) but also the most renowned one, the UNESCO one in Sankt Gallen.
Places in Satu-Mare

Where the colonists settled

The photos follow an exhibition in the Schiller house of German minority in Bucharest.
Carei

The memorial of 300 years since the first migrants. Migration took one century.
Foieni

Memorial of the deported in the village of my grandfather. In the cemetery also the remains of his father are kept.
Foieni

Inscription about the start of the building of the house of my ancestors, in a style different of that in the places of origin, after the 1834 earthquake, but, according to the date when they got married (from church records), around 1840, which makes it older than the Sathmar Swabian museum. The typology is however the same.
Foieni

Typical annex of a house.
Căpleni

The burial place of the counts of Károlyi, who brought the settlers. This church has been rebuilt by the architect Miklos Ybl, the most important Hungarian architect, who, born 1814, had in the post 1834 earthquake rebuilding, his first important tasks and remained afterwards the court architect of the Károlyis, building castles for them across Hungary, as, after the settlers came, their power, post 1848 revolution as well, increased.
Carei

The castle of the Károlyis. It has been recently featured in the Netflix film Princess Switch.
Petrești

The Sathmar Swabian Museum, a house conserved in situ, typical for the region, from 1871.
• The cathedral in Satu-Mare, built after the earthquake, in the bishop palace of which all records regarding migration are kept.
Moftinu Mare

One of the 3 biggest churches in the bishopship, and which also had no serious damages from the 1834 earthquake.
Ardud

A castle connected to the memory of Julia Szendrey, wife of poet Sándor Petőfi, 1848 hero, restored together with the castle.
1834 Érmellék earthquake
Earthquakes epicentres in SW Germany

Earthquake epicentres in the origin area of Sathmar Swabians. It can be observed that many earthquakes are in the Rhine valley and thus a different region, but also around the Boden lake.

Full map here:
https://drive.google.com/open?id=1nnAJ_RS51oxYni80_Lt8SvsA7Z6SpW7J&usp=sharing
1834 Érmellék earthquake

Dark blue: epicentre, and towards yellow the intensity decreases. Data after Zsiros (1981), based on damage to vernacular houses. In red not affected Sathmar Swabian settlements.

Full map here: https://drive.google.com/open?id=1VojRwL9L4UsoiNgTxyQMVG-bzVuH&usp=sharing
<table>
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<tr>
<th>Church</th>
<th>Building data</th>
<th>1834 earthquake effect</th>
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<td>Reformed church in Ciumești</td>
<td>Built in the Middle Age</td>
<td>1841 replacement of the crown</td>
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<tr>
<td>Roman-catholic church in Ciumești</td>
<td>(1854-1856) architect Albin Tischler</td>
<td>The first small church built 1815 suffered damages and it was decided to rebuild it.</td>
</tr>
<tr>
<td>Church in Căpleni</td>
<td>(1842-1848) architect Ybl Miklos</td>
<td>Built in frame of post-earthquake reconstruction.</td>
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<tr>
<td>Church in Moftinu Mare</td>
<td>1793-1797 architect Josef Bittheuser</td>
<td>It did not suffer notable damages</td>
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<tr>
<td>Kalazanci Szent József roman-catholic church in Carei</td>
<td>(1769-1779) architect Franz Sebastian Rosenstingl</td>
<td>The tower collapsed, Miklos Ybl rebuilt it as lower tower.</td>
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<tr>
<td>Reformed church in Carei</td>
<td>enlargement 1746 – 1752 architect Josef Bittheuser</td>
<td>The tower leaned, the head of the tower and the bells felt down. 1836 on June 26k a fire happened and damaged the roof. The tower was repaired 1877 and covered with new metal.</td>
</tr>
<tr>
<td>Church in Șandra</td>
<td>1781 Architect Josef Bittheuser</td>
<td>In frame of the post-earthquake repair works a flat roof was built except of the spaces along the altar and the organ.</td>
</tr>
<tr>
<td>Church in Petrești</td>
<td>1784-1786 architect Josef Bittheuser</td>
<td>The tower was damaged, and fell over the main nave. In frame of the post-earthquake repair works the vaults were replaced by a flat slab except around the altar. 1861 the tower was also rebuilt.</td>
</tr>
<tr>
<td>Church in Foieni</td>
<td>(1783-1785) architect Josef Bittheuser</td>
<td>Damaged. The tower leaned, the peak of the tower was damaged as well, and it was repaired in 1838.</td>
</tr>
<tr>
<td>Greek-catholic church in Carei</td>
<td>(1737–1739)</td>
<td>Strongly damaged, but it was repaired. 1888 it was repaired again.</td>
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</tbody>
</table>
Moftinu Mare - exterior

From 1797

- Architect Josef Bitthäuser
Moftinu Mare - interior

No notable damages
Petrești - exterior

From 1786

- Architect Josef Bitthäuser
- Tower was rebuilt 1861
The vaults were replaced with flat slab, as one can see, except of the altar (in the background) and around the organ.
Foieni

From 1785

- Architect Josef Bitthäuser

- Tower repaired 1838.
Foieni - interior

Here one can see how the original vaults of the architect might have looked like, as in other churches (Petrești, Șandra) except Moftinu Mare were not kept.
Reformed church Carei

Enlarged 1746 – 1752

- Architect Josef Bitthäuser
- Tower repaired 1877 after leaning and peak falling down as well as 1836 fire of the roof.
Reformed church Carei
Roman-catholic church Carei

From 1769-1779

- Architect Franz Sebastian Rosenstingl
- The tower collapsed, MiklosYbl rebuilt it as lower tower
Roman-catholic church Carei
• Greek-catholic church
  Carei - interior
Greek-catholic church Carei - interior

From 1739
Orthodox church Carei - exterior

About the same age as the Greek catholic church
Orthodox church Carei - interior
Conclusions – vernacular housing

• The postearthquake vernacular housing differs of the half-timbered and actually earthquake resistant housing (local seismic culture as himiş in Turkey and dhaji dewari in Nepal and gingerbread houses in Haiti or imposed as pombalino in Portugal and casa baraccata in S Italy) from the origin places.

• The postearthquake vernacular housing shows however features dictated by different agricultural use if we look at the village museum.

• Today remaining houses are postearthquake, hence, because the occurrence of the earthquake, conclusions cannot be drawn regarding the migration of heritage with the settlers.
Conclusions – church building

• In most cases when damaged occurred in churches, this affected the towers.
• For this reason a macro-elements investigation as in the method of Sergio Lagomarsino is recommended.
• The place of origin also displays some earthquake epicentres, and thus architectural solutions might be similar.
Acknowledgements

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More about the project here:

https://sites.google.com/view/domusszulofoldiosztondij/

All photos by the author.

Interior photo of Bad Schussenried library waits for approval by the building owner.
Thank you!
Questions?