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Buildings in a State of Flux: The Wooden Churches of the Carpathians

Edificios en proceso de transformación permanente: Las iglesias de madera de los Cárpatos

Edifícios em processo de transformação permanente: As igrejas de madeira dos Cárpatos

Abstract | Resumen | Resumo

The prevailing paradigm of resilience in architecture relies on the assumption that a building is a static artifact. But historical models of resilience enable buildings to be in a constant state of flux, able to adapt their physical form in response to societal and environmental changes. The thousands of wooden churches in the Carpathian Mountains of Eastern Europe have physically transmuted over time thanks to the malleability of their constituent materials. Wood has endured as a material of profound social importance and wooden construction has proven to be adaptable for continuing use and longevity. With wood making a comeback through mass-timber technologies, could the wooden churches of Eastern Europe help us improve how we design and build for resilience today?

El paradigma imperante de la adaptabilidad en arquitectura se basa en el supuesto de que un edificio es un objeto estático. Sin embargo, los modelos históricos de adaptabilidad permiten a los edificios estar en un estado de evolución constante y ser capaces de adaptar su forma física en respuesta a los cambios sociales y medioambientales. Las miles de iglesias de madera de la Cordillera de los Cárpatos en Europa Oriental se han transformado físicamente a lo largo del tiempo gracias a la maleabilidad de los materiales con los que están construidas. La madera, como material, ha tenido una profunda importancia social y las construcciones en madera han demostrado su durabilidad y capacidad para adaptarse a un uso continuado. Con el renovado protagonismo de la madera gracias a las tecnologías de madera procesada, ¿podrían las iglesias de madera de Europa Oriental ayudarnos a mejorar la adaptabilidad del diseño y de la construcción de hoy en día?

O paradigma dominante de resiliência na arquitetura assenta no pressuposto de que um edifício é um artefacto estático. Mas os modelos históricos de resiliência permitem que os edifícios estejam num estado constante de fluxo, capazes de adaptar a sua forma física em resposta às mudanças sociais e ambientais. Os milhares de igrejas de madeira nos Cárpatos da Europa de Leste transmutaram-se fisicamente ao longo do tempo, graças à maleabilidade dos seus materiais constituintes. A madeira subsistiu como um material de profunda importância social, e a construção em madeira mostrou ser suficientemente adaptável para uma utilização contínua e duradoura. Com o regresso da madeira através das tecnologias de produção de madeira em massa, poderiam as igrejas de madeira da Europa de Leste ajudar-nos a melhorar a forma como concebemos e construímos para a resiliência hoje em dia?

One does not typically think of buildings as objects in a state of flux. On the contrary, one thinks of them as static artifacts whose “original” physicality is liable to be preserved. While traveling in the valleys of the Carpathian Mountains of Eastern Europe, through the Maramureş region of Romania, the Zakarpattia and Galicia regions of Ukraine, the Lesser Poland region of Poland, and the Prešov region of Slovakia with the Robert A.M. Stern Traveling Fellowship in 2019, I found another paradigm: wooden churches as “buildings in a state of flux”. Although built and rebuilt many times since at least the twelfth century in remote mountain villages, these Greek Orthodox, Greek Catholic, Russian Orthodox, Lutheran and Roman Catholic wooden churches establish a consistent formal vocabulary through their constituent materials and their unique construction system. The *Blockbau* system, following a logic of laying logs horizontally at equal heights, advancing from one row to the next, is well preserved in Carpathian communities, which are its “principal refuge of styles” (Buxton 1981: 1) and continue to treat churches as communal village property.

On visiting the Church of St. James in Powroźnik, Poland, originally built in the seventeenth century, I noticed that works were underway to replace the deteriorated wood-shingle roofing, a process that occurs every two or three decades. The three roofs and walls of the building are covered with fir shingles, but because different parts have been restored at different times, there are shingles of differing ages, sizes and hues, depending on the craftsman who made them, the type of wood,

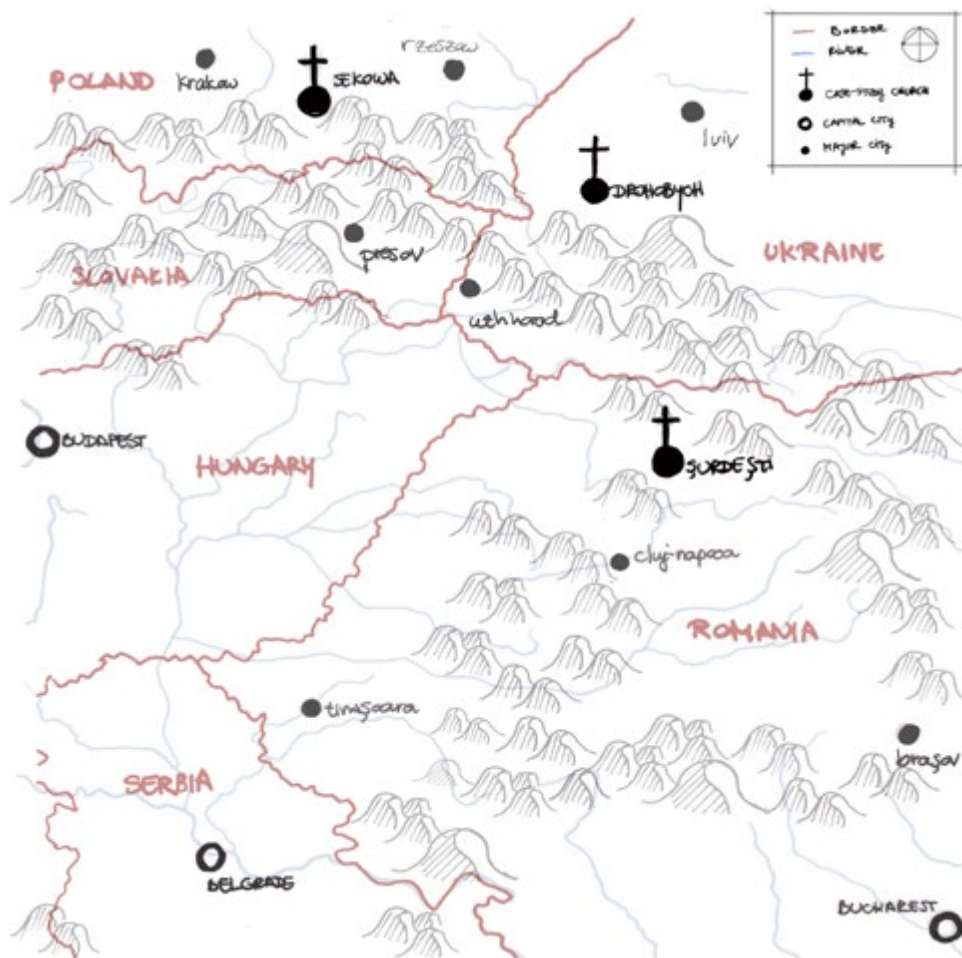
Church of St. James in
Powroźnik, Poland



and the technique used, with manual or machine cutting. The ease with which the church's eclectic aesthetic can change suggests that it might have looked very different when first built. The bell tower above the narthex is dated to the eighteenth century, meaning it was added onto or replaced a former structure, and it is uncommonly built with a timber frame, suggesting that new building techniques had changed the wooden church's makeup.

Researchers find that dating specific elements is difficult, as “even with documentation, one cannot be sure that what exists now is what was documented” (Patterson 2001: 22). In this context I relied on orally transmitted histories to identify key moments of change in the churches' transformations. From a talk with the parish priest at Powroźnik it transpired that the church had been moved in the nineteenth century due to a flood at its original location nearer the river. He added that the sacristy, which is thought to have once been the building's sanctuary, was rebuilt and enlarged in the move. And while the stacking logic of the *Blockbau* system means that any modification in a wall will affect neighboring elements, I found this to have been common practice, at Powroźnik and elsewhere.

The question of the architectural style of these churches is the subject of art history debate. Topped with bulbous domes or tall spires, the wooden churches of the Carpathians derive their form either from the masonry domes of Persia (a disputed theory) or from the Western Gothic and Baroque (Buxton 1981: 37). Given the frequency and ease with which modifications were made above their ceilings, we can assume that their roof shapes have changed considerably, along with their architectural aesthetic. Currently Roman Catholic, the church at Powroźnik used to serve a Greek Catholic community of Lemk ethnicity, displaced from the region after World War II. The complicated history of the church at Powroźnik is typical of these wooden churches and has resulted in the evolving form that we find today. This suggests that the churches' “state of flux” is inherent to their design and materiality.



Map of the Carpathian region with the churches presented in this article



RAMSA Travel Fellowship, Church of St. Cosmo & Damian, Lukov, Slovakia

A Model of Resilience?

By contrast with the qualities of masonry, concrete, and steel, the plasticity of timber and the dismantlability of *Blockbau* construction enabled the builders of wooden churches to experiment with complex sculptural forms, add appendages, and make incisions in the building envelope. In response to frequent border changes, migration, and economic fluctuations, Carpathian communities modified the architectural envelope of their wooden churches to accommodate changing needs. This transformational capacity has made them resilient as sacred spaces and community anchors up to this day. The physical survival and continuous use of these fragile wooden structures attest to times when everything was made of wood, from weapons and beds to vehicles and buildings. In forested regions, entire towns were built of wood. With easy and affordable access to concrete in the past decades, the Carpathian villages one may visit today bear little resemblance to those archaic timber villages – with the sole exception of the wooden church, still serving as a place of worship.

In the context of contemporary pressures on the architectural profession to design for flexible uses, I reflect on the historical precedent of the wooden churches of Eastern Europe as an architectural model that resiliently combines changing uses and architectural form. We will look specifically at three such churches identified during my Travel Fellowship in the Carpathians which show visible traces of physical transformation: the Church of St. George in Drohobych, Ukraine; the Church of Archangels Michael and Gabriel in Șurdești, Romania; and the Church of St. Philip and St. James in Sękowa, Poland. In August 2019 I documented 50 of the region's thousands of wooden churches in dimensioned plans and sections. These planar studies show that, while local variations exist, the wooden churches are typically laid out in three spaces – narthex, nave, and sanctuary – in an enfilade commonly offset by exterior colonnades forming an exonarthex. The sectional studies highlighting

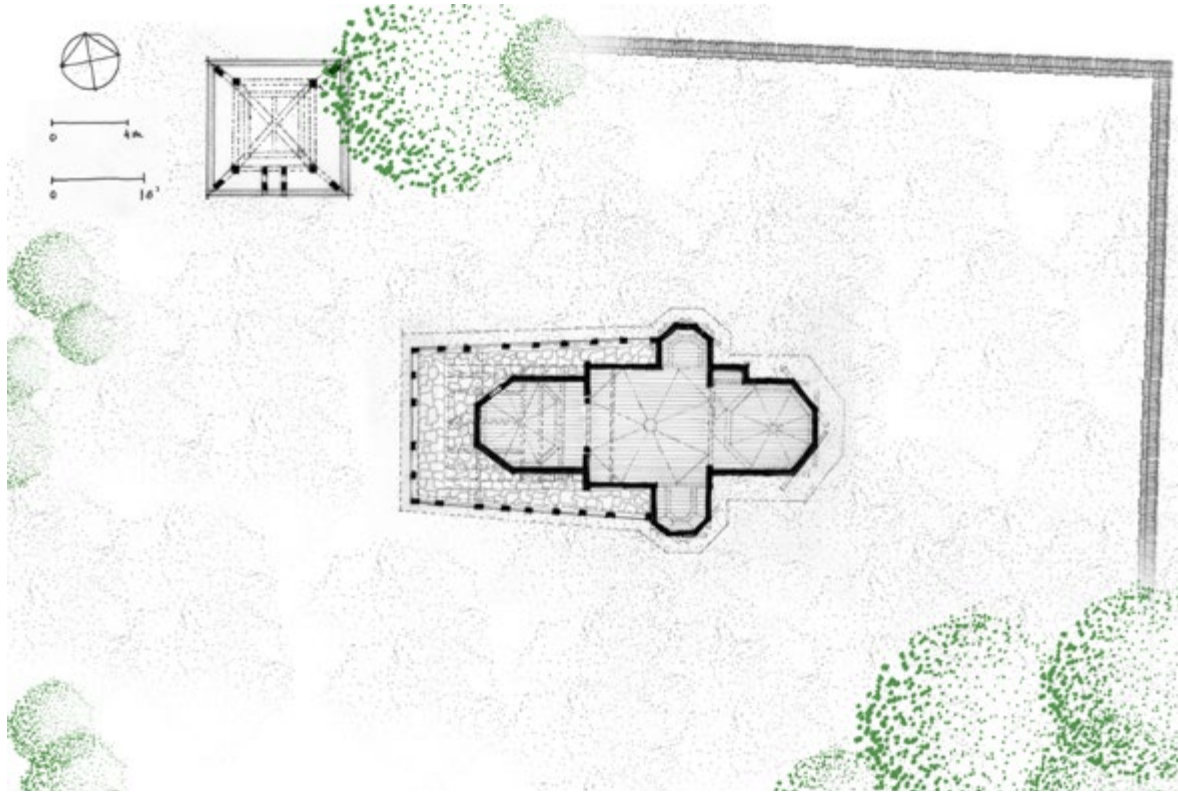


“Stitched-on” narthex, Church of St. George, Drohobych, Ukraine

the articulated forms reflect the experience I had on approaching these wooden buildings: the monumental massing of the typical church extends the architectural experience to the surrounding mountainous landscape from whose valleys the church towers rise. I also contextualize this graphic documentation with orally transmitted histories which, while not verifiable, collectively suggest the churches’ transformations over time.



Bulbous domes, Church of St. George, Drohobych, Ukraine



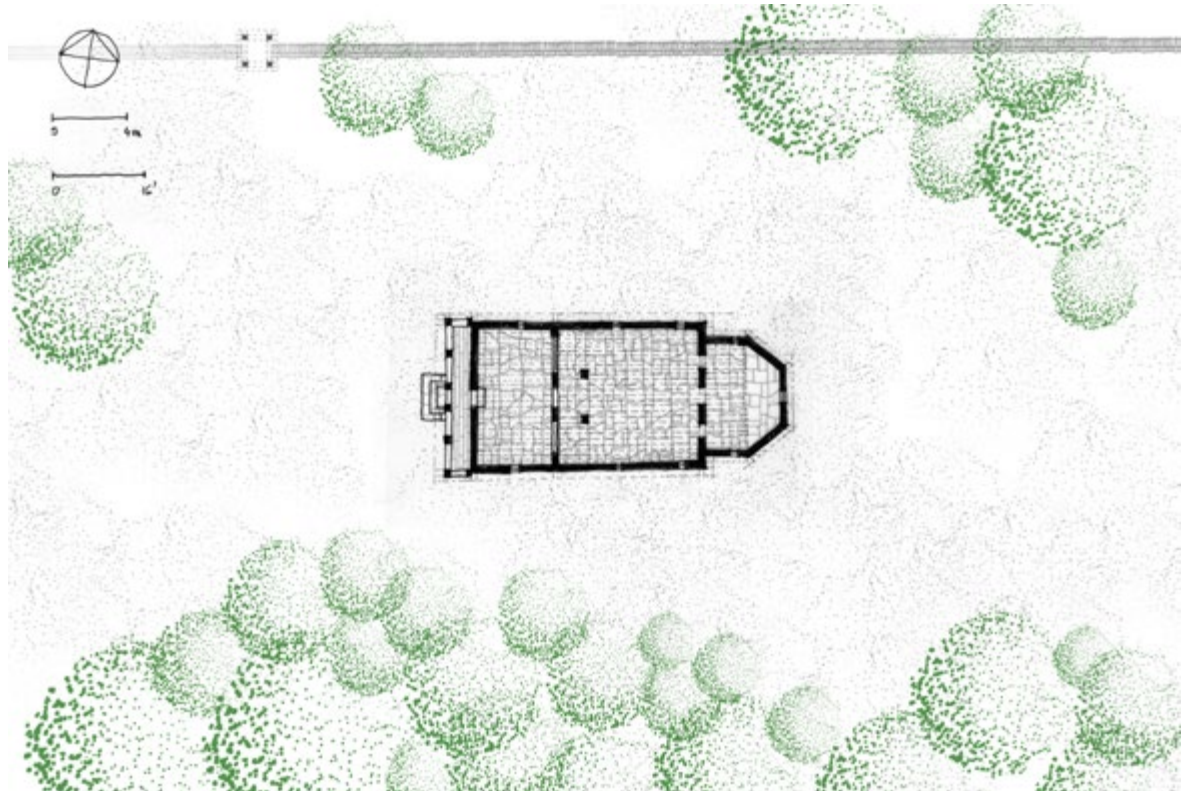
Plan of the Church of St. George, Drohobych, Ukraine

I. Change through Destruction: Church of St. George in Drohobych, Ukraine

In the Western Ukrainian town of Drohobych, a wooden church surrounded by a lush green plain stands among the AAC (autoclaved aerated concrete) block buildings currently under construction. Originally built in the 15th century and rebuilt several times, the wooden church has a legible arrangement of three volumes, each crowned by a large onion dome. The nave extends sideways into a modest transept capped by even more modest cupolas. On walking through the exonarthex I noticed in the joinery that one bit of the building – the narthex – had been “stitched” on. The plan shows a polygonal narthex – a first in narthex types – adjoining the nave, suggesting that the narthex was added after the building’s construction. Oral history accounts for the atypical polygonal shape as resulting from this narthex being the sanctuary of a church from a neighboring village. Following fire damage in the eighteenth century, the Church of St. George needed to be rebuilt, and so the community acquired the sanctuary of another wooden church in an economically struggling village in exchange for salt, thereby replacing their damaged narthex while also rebuilding the nave and sanctuary. Though this narrative cannot be verified, one thing must be true given the peculiar shape: the polygonal narthex is the decommissioned sanctuary of an older church. The wooden church’s *Blockbau* building system made the “stitching” of the structure possible, enabling the builders to reuse building fragments in the renewed construction.



Section of the Church of St. George, Drohobych, Ukraine



Plan of the Church of Archangels Michael and Gabriel in Șurdești, Romania

2. Change through Shifts in Religious Practice: Church of Archangels Michael and Gabriel in Șurdești, Romania

A few Carpathian peaks to the south, in the village of Șurdești, the spire of the Church of the Archangels Michael and Gabriel, built in 1721, stands high at 72 meters. Unlike the church at Drohobych with its three-part massing, the one at Șurdești has a rectangular plan with a narthex and a nave and a polygonal sanctuary at the end. These are merged under an unusual long shingle roof.



Section of the Church of Archangels Michael and Gabriel in Șurdești, Romania

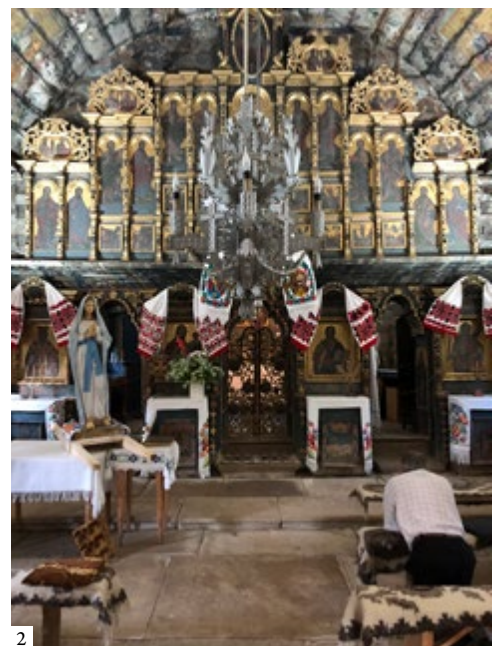


Gothic spire of the Church of Archangels Michael and Gabriel in Șurdești, Romania

Above the exonarthex and narthex, a slender spire-topped tower pierces the roof with the Gothic aesthetic that many of the wooden churches in the region of Maramureș are associated with (Buxton 1981: 297). The exonarthex is covered by a projecting canopy above which a series of small apertures



1: Exonarthex of the Church of Archangels Michael and Gabriel in Șurdești, Romania



2: Iconostasis, Church of Archangels Michael and Gabriel in Șurdești, Romania

punctuates the church wall. At the front of the building the exonarthex is articulated in the form of a veranda, included in the building's volume. The exonarthex adds a fourth space in the enfilade sequence but also darkens the interior proper, as the roof projects over it.

Historically, the narthex was the space where women and children would attend mass, as the parish priest explained. Religious practice changed in the early twentieth century and women and men ceased to be seated separately. Hence whereas the partition between narthex and nave used to be closed, reflecting gender segregation, today large apertures are cut into it, opening up the space. This was made possible by wood's plasticity, allowing incisions into the mass.

The unique conception of sacred space in Eastern European Christianity is also crystallized in the interior experience at Șurdești. The entrance door is low in height so as to encourage the faithful to bow on entering. It also has a thick, intricately carved frame, elevating the door into a portal. The interior across the narthex, nave, and sanctuary, separated by an ornate iconostasis, is dimly lit with just small apertures in the nave and sanctuary walls letting in shafts of light and focusing one's attention on the intimate candlelit setting.

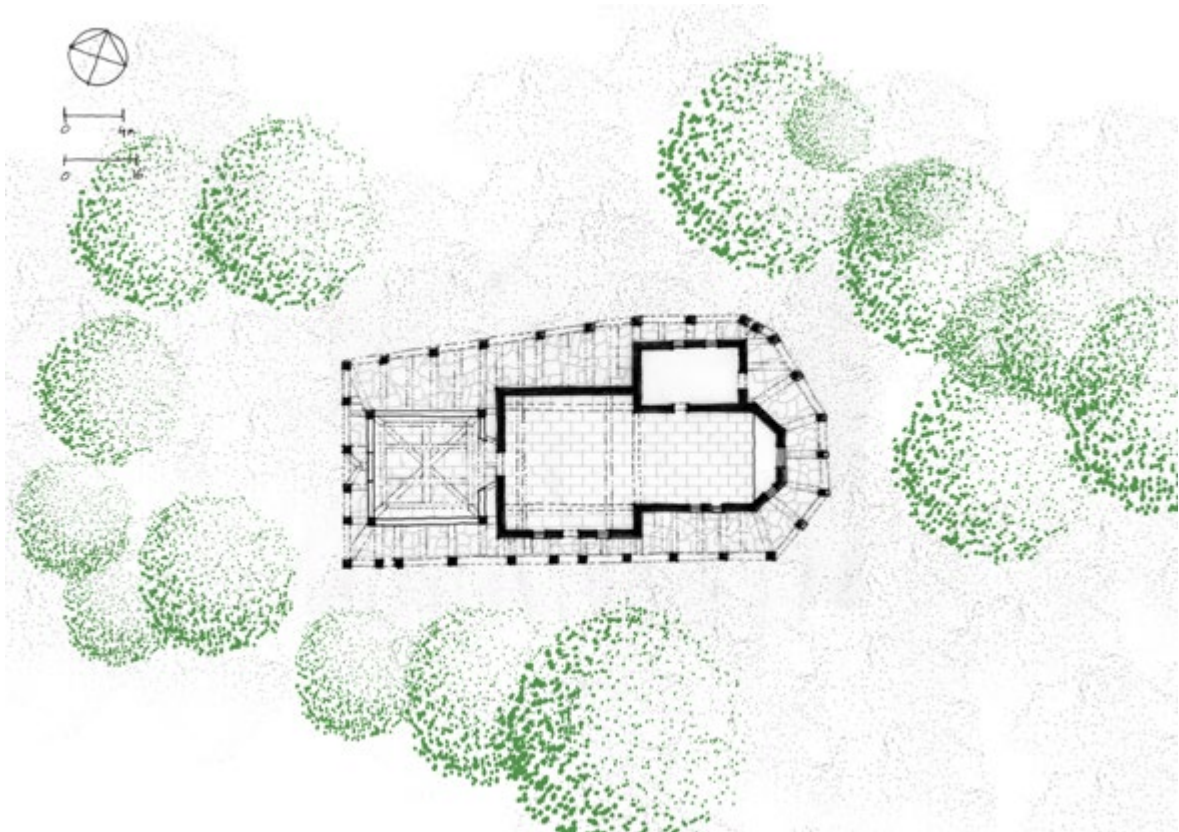
3. Change through Technological Innovation: Church of St. Philip and St. James in Sękowa, Poland

At the bucolic spot where a stream flows into the Sękowka River in the Carpathians of Lesser Poland, fragments of a great wooden shingle roof are framed by dense vegetation flourishing at the confluence. The shingle surface of the side elevation comes into full view as one approaches. Below the eave where the curved roofing begins, an exonarthex wraps around the entire building, unifying its enfilade. Along the exonarthex canopy, strips of roof peel off from this wrapper either to allow a window to poke through or to accommodate a lateral volume interrupting the planar symmetry typical of these churches. The operations described – curving, wrapping, peeling – are signs that the physical building has adapted to the alteration, addition, or removal of constituent fragments over time. Thus when the Roman Catholic Church of St. Philip and St. James in Sękowa was first built in the sixteenth century, its appearance would have been very different. And looking up into the bell tower from what seems to be a space combining narthex and exonarthex, I noticed a timber-frame system used in the tower structure, atypical of these wooden churches' vocabulary.

With *Blockbau* endemic to the Carpathian region, the timber-frame system must have been introduced at a later date than the building's original construction for reasons of economy, as a



Monumental roof of the Church of St. Philip and St. James in Sękowa, Poland



Deformed plan of the Church of St. Philip and St. James in Sękowa, Poland

technological innovation borrowed from Western Europe. The peeling-off of the canopy above the priest's room – the space which breaks the symmetry in plan – indicates that this volume may have been added more recently to serve as a sacristy with separate access for the clergy. And while historical accounts of these transformations are transmitted orally, the church's twentieth-century history is more clearly recorded. In the Gorlice-Tarnów offensive of World War I, as the German and Austro-Hungarian Empires fought the Russian Empire in Prussia, wood from the church at Sękowa was used for trenches and making fire, leaving the building damaged. Then after the war the church was reconstructed into the building we see today.



Timber frame and *Blockbau*, Church of St. Philip and St. James in Sękowa, Poland



1: Bulbous domes of the Church of St. Paraskevi in Kwiaton, Poland

2: Tripartite arrangement of the Church of the Holy Virgin in Matkiv, Ukraine

Wood in its Social Dimension

Throughout the Carpathians, timber from church structures was used in both world wars. This depletion required a post-war restoration of many churches. Fires, storms, congregation growth, and changes in religious practice are further examples of events prompting physical transmutations in these wooden churches across the centuries. My observations of current restoration work and the oral histories passed down over generations suggest that today's churches bear little resemblance to their original versions. In the three churches described above, the malleability of wood has enabled local communities to exercise resilience by adapting the buildings to changing demographic, religious, and social circumstances in ways allowing them to thrive as community anchors up to this day.

Recently wood has re-emerged as a material of bio-economy, renewable energy, and carbon neutrality, and recent technological innovations in mass-timber products have made it viable as an urban construction material. Some contemporary timber technologies, such as glulam, use *Blockbau* logic on engineered wood. Yet mass-timber trends today favor the limited formal vocabulary of standardized timber panelization and few contemporary constructions explore wood's sculptural potential, inherent in its malleable quality. Instead, the mass-timber panel merely replaces steel or concrete elements. This is a missed opportunity to rethink the design paradigm with flexibility and resilience into a model of designing buildings for a state of flux. In the regional and cultural context of the Carpathians, wood has endured as a material of profound social importance, demonstrating that wooden construction techniques can be adapted for continued use and longevity. Could the living history of the wooden churches of Eastern Europe, made possible by their timber materiality, provide a precedent for rethinking the way we design and build for resilience today?



1: Boat-like volume, Church of the Archangel Michael in Uzhok, Ukraine

2: Textured skins, Church of the Ascension of Christ in Yasinia, Ukraine

3: In the fields, Church of St. Michael in Krive, Slovakia

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Biography | Biografia | Biografia

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Radu-Remus is the 2022-2023 Architectural Activism Fellow at the University of Wisconsin Milwaukee School of Architecture and Urban Planning. Until recently, Remus was Architectural Designer at Diller Scofidio + Renfro and Robert A.M. Stern Architects in New York City and, as Urban Planner, advised the United Nations Human Settlements Organization on urban regeneration in a post-Covid-19 world. In 2019 he was awarded the Robert A.M. Stern Architects Fellowship in order to investigate the wooden churches of the Carpathians and continued this effort through the Julia Amory Appleton Fellowship awarded by Harvard University Graduate School of Design. His research today is focused on bringing together the rich formal experimentation of archaic *Blockbau* wood construction and contemporary mass-timber technologies. Radu-Remus holds an undergraduate degree (RIBA Part I) from the Architectural Association School of Architecture and graduated with distinction from Harvard University Graduate School of Design with a Master in Architecture and a Master in Urban Planning. His international professional experience spans architectural design and urban planning and design, having previously trained at the offices of Herzog & de Meuron, Dogma, Robert A.M. Stern Architects, Hosoya Schaefer Architects, the NYC Department of City Planning and the United Nations, among others.