ICOMOS CIAV
International Committee on Vernacular Architecture
International Council on Monuments and Sites

# CIAV NEWSLETTER

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# EDITORIAL

**Hossam Mahdy**
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**Dear colleagues and friends,**

Warm greetings from CIAV Bureau and from myself.

The CIAV Annual Meeting will be held on Saturday 6th December at 12.00 CET. I look forward to seeing you then, even if only via Zoom. It is not the same as meeting in person. But it is an opportunity to make the meeting accessible to us all. Thanks to the post-COVID19 new normal. In pre-COVID19 world, we used to meet in person, which meant that the Annual Meeting was only accessible to those who could afford to travel to attend it.

We still meet in person during symposia that CIAV organizes or contributes to. As you know we met during the Heritage2025 in Valencia, Spain (10 – 12 September 2025): https://heritage2025.blogs.upv.es/ . It was the second time that CIAV supports and participates in this series of conferences in Valencia, which were organized by CIAV expert members Fernando Vegas and Camilla Mileto.

By the time you read these words, some of us would have met during the International Conference (25 – 26 October 2025) "Reshaping Heritage Conservation In Higher Education: What, How, For Whom?". It is organized by the First International Network for Urban-rural Heritage Conservation in Higher Education Institutions (UHC-HEI): https://whc.unesco.org/en/news/2712

This is the fruit of great efforts and leadership by CIAV Vice President and Editor in Chief of CIAV Newsletter, Shaoyong. Moreover, thanks to Shaoyong's great coordination and diplomacy with the capable leadership of Gisle Jakhelln, former CIAV President, the "International Yunlong-ICOMOS Workshop on Tangible and Intangible Culture of Vernacular Heritage 2025" from 11th to 23rd October 2025 would have been completed. As you know, it is the first camp that CIAV holds in collaboration with ICOMOS International Scientific Committee on Intangible Heritage (ICICH) with the aim of producing a manual/ toolkit for the documentation of both tangible and intangible attributes of the built vernacular heritage.

We are lucky that some of us met in person twice this year, in Valencia and Shanghai. However, these meetings are limited to interactions and to knowing each other more. All CIAV business matters are conducted during the online meeting so that to give a chance to every CIAV member to attend and contribute to the discussions. I very much look forward to our discussions on 6th December.

The CIAV Web Café series is another opportunity for us to meet regularly online and to exchange our experiences, thoughts and discussions. A very inspiring talk took place on 20th September by CIAV expert member Julie Nichols and her colleague Travis Thomas. They presented their super interesting research paper entitled: At the Edge of Knowing: Reframing Melrose through Pyrovernacular Histories. If you did not manage to attend, the recording should be available, by the time this issue is out, on CIAV YouTube channel: https://www.youtube.com/@CIAV-fy6pm. Many thanks to Julie, Travis. And thanks to Marwa, CIAV Vice President, for the wonderful organization and moderation of the event. The aim of the CIAV Web Café series is to add a platform for discussions and exchange of ideas and expertise among CIAV members and all colleagues who are interested in the field of built vernacular heritage. Please do participate in the CIAV Web Café series by discussions and proposing topics and speakers for future ones. The last CIAV Web Café for the year 2025 will be held directly after the CIAV Annual Meeting on 6th December.

The CIAV Bureau invites CIAV Emerging Professionals to take a more active role in our work and activities. As you may know, we are working on amendments to CIAV By-Laws to create four extra CIAV Bureau positions, with a priority for EPs to occupy them. I am writing these words before the ICOMOS AdCom meeting on 12 – 14 October. We have requested an approval on the proposed amendments with the hope to get the approval before our Annual Meeting on 6th December. The importance of active EPs cannot be overemphasized to ensure that the work of CIAV will continue in the future and also to bring in CIAV's activities the ideas, skills and aspirations of the younger generation of CIAV members. I am delighted to report that a starting first baby step was taken by appointing Catarina Mouraz as CIAV representative to the Emerging Professionals Working Group (EPWG) and the leader of CIAV EPs. I was very happy to attend the first meeting that Catarina organized for the CIAV EPs. It was agreed during the meeting to hold a regular CIAV EPs meeting every six weeks. I am very optimistic that CIAV EPs will add wonderful vitality to the activities and improve the visibility and relevance of CIAV in the near future.

I would like to draw your attention to an event that is highly relevant for us all: "The 14th Terra World Congress 2026", which is planned to be held from13 to 16 April 2026 in Al Ain, UAE: http://terraalain2026.ae/ . I strongly encourage you to attend this very important event if your circumstances permit. CIAV formally supports the event.

All the words of this article may give the impression that all is well and business as usual. Far from it! The fact that the genocide committed by Israel in Gaza continues for more than two years is heart-breaking. I have no words to express my anger and sadness for the failure of humanity and the international community to put an end to this unspeakable crime. The aggressors must be stopped and held accountable for their crimes. I hope that my address of the next CIAV Newsletter will be in a kinder and more peaceful world. With my best wishes.

Yours,

***Hossam Mahdy***

CIAV President

# EDITORIAL

**Hossam Mahdy**
President of CIAV
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**Estimados colegas y amigos,**

Reciban un cordial saludo de la Mesa Directiva del CIAV y de mi parte.

La Reunión Anual del CIAV se celebrará el sábado 6 de diciembre a las 12:00 CET. Espero verlos entonces, aunque sea solo a través de Zoom. No es lo mismo que reunirnos en persona, pero es una oportunidad para que la reunión sea accesible para todos nosotros. Gracias a la nueva normalidad post-COVID19. En el mundo pre-COVID19, solíamos reunirnos en persona, lo que significaba que la Reunión Anual solo era accesible para aquellos que podían permitirse viajar para asistir.

Seguimos reuniéndonos en persona durante los simposios que el CIAV organiza o en los que participa. Como saben, nos reunimos durante el congreso Heritage2025 en Valencia, España (10 – 12 de septiembre de 2025): [https://heritage2025.blogs.upv.es/] . Fue la segunda vez que el CIAV apoya y participa en esta serie de congresos en Valencia, organizados por los miembros expertos del CIAV Fernando Vegas y Camilla Mileto.

Para cuando lean estas palabras, algunos de nosotros ya nos habremos reunido durante la Conferencia Internacional (25 – 26 de octubre de 2025) "Remodelando la Conservación del Patrimonio en la Educación Superior: ¿Qué, Cómo, Para Quién?". Está organizada por la Primera Red Internacional para la Conservación del Patrimonio Urbano-rural en Instituciones de Educación Superior (UHC-HEI): [https://whc.unesco.org/en/news/2712]

Este es el fruto de los grandes esfuerzos y el liderazgo del Vicepresidente del CIAV y Editor en Jefe del Boletín del CIAV, Shaoyong. Además, gracias a la gran coordinación y diplomacia de Shaoyong con el competente liderazgo de Gisle Jakhelln, expresidente del CIAV, el "Taller Internacional Yunlong-ICOMOS sobre Cultura Tangible e Intangible del Patrimonio Vernáculo 2025" del 11 al 23 de octubre de 2025 ya se habrá completado. Como saben, es el primer taller de este tipo que el CIAV realiza en colaboración con el Comité Científico Internacional de ICOMOS sobre Patrimonio Cultural Inmaterial (ICICH) con el objetivo de producir un manual/kit de herramientas para la documentación de los atributos tanto tangibles como intangibles del patrimonio vernáculo construido.

Tenemos la suerte de que algunos de nosotros nos hayamos reunido en persona dos veces este año, en Valencia y Shanghái. Sin embargo, estas reuniones se limitan a la interacción y a conocernos mejor. Todos los asuntos institucionales del CIAV se tratan durante la reunión en línea para dar la oportunidad a cada miembro del CIAV de asistir y contribuir a los debates. Espero con gran interés nuestros debates del 6 de diciembre.

La serie de CIAV Web Café es otra oportunidad para reunirnos regularmente en línea e intercambiar nuestras experiencias, pensamientos y debates. El 20 de septiembre tuvo lugar una charla muy inspiradora a cargo de la miembro experta del CIAV Julie Nichols y su colega Travis Thomas. Presentaron su muy interesante trabajo de investigación titulado: *At the Edge of Knowing: Reframing Melrose through Pyrovernacular Histories*. Si no pudieron asistir, la grabación debería estar disponible, para cuando se publique este número, en el canal de YouTube del CIAV: [https://www.youtube.com/@CIAV-fy6pm]. Muchas gracias a Julie y Travis. Y gracias a Marwa, Vicepresidenta del CIAV, por la maravillosa organización y moderación del evento. El objetivo de la serie CIAV Web Café es añadir una plataforma para el debate y el intercambio de ideas y conocimientos entre los miembros del CIAV y todos los colegas interesados en el campo del patrimonio vernáculo construido. Por favor, participen en la serie CIAV Web Café a través de los debates y proponiendo temas y ponentes para futuras ediciones. El último CIAV Web Café del año 2025 se celebrará justo después de la Reunión Anual del CIAV el 6 de diciembre.

La Mesa Directiva del CIAV invita a los Profesionales Emergentes (PEs) del CIAV a tomar un papel más activo en nuestro trabajo y actividades. Como quizás sepan, estamos trabajando en enmiendas a los Estatutos del CIAV para crear cuatro puestos adicionales en la Mesa Directiva, con prioridad para que los PEs los ocupen. Escribo estas palabras antes de la reunión del AdCom de ICOMOS del 12 al 14 de octubre. Hemos solicitado la aprobación de las enmiendas propuestas con la esperanza de obtenerla antes de nuestra Reunión Anual del 6 de diciembre. Nunca se insistirá lo suficiente en la importancia de la participación activa de los PEs para asegurar que el trabajo del CIAV continúe en el futuro y también para incorporar en las actividades del CIAV las ideas, habilidades y aspiraciones de la generación más joven de miembros. Me complace informar que se ha dado un primer pequeño paso con el nombramiento de Catarina Mouraz como representante del CIAV ante el Grupo de Trabajo de Profesionales Emergentes (EPWG) y como líder de los PEs del CIAV. Estuve muy feliz de asistir a la primera reunión que Catarina organizó para los PEs del CIAV. Durante la reunión se acordó celebrar una reunión regular de los PEs del CIAV cada seis semanas. Soy muy optimista en que los PEs del CIAV añadirán una maravillosa vitalidad a las actividades y mejorarán la visibilidad y relevancia del CIAV en un futuro próximo.

Me gustaría llamar su atención sobre un evento de gran relevancia para todos nosotros: "El 14º Congreso Mundial Terra 2026", que está previsto que se celebre del 13 al 16 de abril de 2026 en Al Ain, EAU: [http://terraalain2026.ae/] . Les animo encarecidamente a que asistan a este evento tan importante si sus circunstancias se lo permiten. El CIAV apoya formalmente el evento.

Todas las palabras de este artículo pueden dar la impresión de que todo está bien y que seguimos como si nada. ¡Nada más lejos de la realidad! El hecho de que el genocidio cometido por Israel en Gaza continúe desde hace más de dos años es desgarrador. No tengo palabras para expresar mi rabia y tristeza por el fracaso de la humanidad y de la comunidad internacional en poner fin a este crimen indescriptible. Los agresores deben ser detenidos y deben rendir cuentas por sus crímenes. Espero que mi próximo mensaje en el Boletín del CIAV sea en un mundo más amable y pacífico.

Con mis mejores deseos.

Atentamente,

***Hossam Mahdy***

Presidente del CIAV

# EDITORIAL

**Fernando Vegas**
**Camilla Mileto**
Guest Editors
Universitat Politècnica de València

Photos Cassia Davis. © 2024 J Paul Getty Trust

**Dear colleagues and friends,**

As organizers of the Heritage2025: International Conference on Earthen and Vernacular Heritage. Conservation, Adaptive Reuse and Urban Regeneration, we have been invited to co-edit this special issue of the CIAV Newsletter, which brings together a number of articles related to this recently held event. The recent Heritage2025 Conference was part of "Earth4Future - Sustainable Rehabilitation of Earthen Architecture and its Lessons for Contemporary Architecture," funded by the Spanish Ministry of Science and Innovation, the "Re-Habitat– Sustainable restoration and rehabilitation of traditional housing in historical contexts" project, funded by the Valencian Regional Government, and the ENACT 15m City project – Visualization of neighborhoods and co-creation of thriving communities in the 15-minute city, co-funded by the European Union, led by the Norwegian University of Science and Technology with the participation of the Universitat Politècnica de València, Oxford Brookes University, the University of Oxford, and Politechnika Gdanska as partners.

Following the experiences of the former Heritage2020 and Heritage2022 conferences, we are pleased with the quality of participation, both in the conferences and in the practical workshops, presentations, posters, documentary screenings, and study visits. The conference proceedings have been translated into three interesting volumes that can be read online at the following address:

https://ocs.editorial.upv.es/index.php/HERITAGE/HERITAGE2025/schedConf/presentations

The conference program included a practical workshop on sanded and waxed gypsum floors, and another on burnished and waxed lime mortar or concrete finishes. In addition to the conference sessions, presentations, and posters, the event included the presentation of the 4th edition of the conservation manual "Learning to Repair" and the screening of two interesting documentaries entitled "Indigenous Architecture of Zaaimanshoek in Baviaanskloof," about the Khoikhoi in South Africa, and "ANENT: Magical Songs that Connect Worlds," about the architecture and culture of the Shuar and Ashuar peoples in the Amazon rainforest of Ecuador.

The conference offered a closing dinner in the Albufera de Valencia, preceded by a visit to a traditional adobe hut with a thatched roof and a sunset boat trip with appetizers. The following visits were also included: the traditional architecture of Rincón de Ademuz and the Utiel wineries with optional local wine tasting; the houses in the historic center of Valencia; the beautiful architecture in the El Cabanyal neighborhood; several buildings and monuments in northern Castellón, including La Vilavella Castle, the Soriano-Manzanet Pantheon in Vila-Real, the Garden of Memory in Vinaroz, and the Tower of Cálig. Within this framework, a joint meeting of the CIAV and ISCEAH committees was held.

This issue features articles on some of these experiences. We hope you find these articles interesting and we would like to take this opportunity to invite you to the next edition of the Heritage Congress, to be held in three years' time.

Best regards,

***Fernando Vegas and Camilla Mileto***

Universitat Politècnica de València
Organizers of the Heritage2022 Conference
Guest editors of Vol. 59 of the CIAV Newsletter

**Fernando Vegas**
**Camilla Mileto**
Guest Editors
Universitat Politècnica de València

Photos Cassia Davis. © 2024 J Paul Getty Trust

**Estimados colegas, amigas y amigos,**

en calidad de organizadores del Congreso Heritage2025: International Conference on Earthen and Vernacular Heritage. Conservation, Adaptive Reuse and Urban Regeneration, hemos sido invitados a coeditar este monográfico de la Newsletter del CIAV que reúne un buen número de textos en torno a este evento recientemente celebrado. El pasado Congreso Heritage2025 se enmarca en el "Earth4Future - Sustainable Rehabilitation of Earthen Architecture and its Lessons for Contemporary Architecture", funded by the Spanish Ministry of Science and Innovation, el Proyecto "Re-Habitat– Sustainable restoration and rehabilitation of traditional housing in historical contexts," funded by the Valencian Regional Government y el Proyecto ENACT 15m City – Visualization of neighborhoods and co-creation of thriving communities in the 15-minute city, co-funded by the European Union, led by the Norwegian University of Science and Technology with the participation of Universitat Politècnica de València, Oxford Brookes University, University of Oxford, Politechnika Gdanska, as partners.

Tras las experiencias pasadas en los anteriores Congresos Heritage2020 y Heritage2022, estamos satisfechos de la calidad de la participación, tanto en las conferencias, como los talleres prácticos, las ponencias, los posters, la proyección de documentales y las visitas de estudio. Las actas del congreso se han traducido en tres interesantes volúmenes que se pueden leer online en la siguiente dirección:

https://ocs.editorial.upv.es/index.php/HERITAGE/HERITAGE2025/schedConf/presentations

El programa del congreso incluía un taller práctico de realización de pavimentos lijados y encerados de yeso, y otro de acabados bruñidos y encerados de morteros u hormigones de cal. Además de las sesiones de conferencias, ponencias y pósters, el evento incluyó la presentación de la 4ª edición del manual de restauración "Aprendiendo a restaurar" y la proyección de dos interesantes documentales titulados "Indigenous Architecture of Zaaimanshoek in Baviaanskloof", en torno a los Khoikhoi en Sudáfrica, y "ANENT: cantos mágicos que conectan mundos", sobre la arquitectura y la cultura de los shuar y los ashuar en la selva amazónica de Ecuador.

El congreso ofreció una cena de clausura en la Albufera de Valencia, con previa visita a una barraca tradicional construida con adobes y cubierta vegetal, y paseo en barca al atardecer con aperitivo. También se incluyeron las siguientes visitas: la arquitectura tradicional del Rincón de Ademuz y las bodegas de Utiel con degustación opcional de vino local; las viviendas del centro histórico de Valencia; las preciosas casas del barrio de El Cabanyal; y varios edificios y monumentos restaurados en el norte de Castellón, que incluían el castillo de La Vilavella, el panteón Soriano-Manzanet de Vila-Real, el jardín de la memoria en Vinaroz y la Torre de Cálig. Dentro de este marco, se celebró una reunión conjunta de los comités del CIAV e ISCEAH.

En este número se presentan artículos sobre algunas de estas experiencias. Esperamos que os interesen estos textos y aprovechamos para emplazaros para la próxima edición del Congreso Heritage a celebrar dentro de tres años.

Saludos cordiales,

***Fernando Vegas y Camilla Mileto***

Universitat Politècnica de València
Organizadores del Congreso Heritage2022
Editores invitados del Vol. 59 de la CIAV Newsletter


SERIES REPORT

# Heritage2025:International Conference on Earthen and Vernacular Heritage. Conservation, Adaptive Reuse and Urban Regeneration

**Fernando Vegas and Camilla Mileto**
**Universitat Politècnica de València**

The HERITAGE2025 International Conference is the third edition of the Heritage conference, with the previous editions having been held at this same venue in 2020 and 2022. These editions were preceded by the ResTapia 2012, Versus 2014, and SOSTierra 2017 conferences, which initiated this international dissemination and exchange activity carried out by the RES-Arquitectura research group at the Pegaso Center for Research in Architecture, Heritage, and Management for Sustainable Development at the Universitat Politècnica de València. This 2025 edition, entitled "Vernacular and Earth Heritage: Restoration, Rehabilitation, and Urban Regeneration," has been organized within the framework of three competitive research projects.

"Earth4Future - Sustainable Rehabilitation of Earthen Architecture and its Lessons for Contemporary Architecture", funded by the Spanish Ministry of Science and Innovation, has as its main objective to investigate the energy performance and viability of compatible interventions in earthen constructions in Spain. The aim is to identify solutions that increase


During a coffee break © 2025 Vegas & Mileto

energy efficiency and reduce emissions without compromising cultural, heritage, and social values.

"Re-Habitat– Sustainable restoration and rehabilitation of traditional housing in historical contexts," funded by the Valencian Regional Government, which focuses on the analysis of historical buildings in urban and rural environments. Through the analysis of cases in the Valencian Community, the aim is to propose guidelines and criteria for intervention that are compatible with heritage and that are economically viable, environmentally sustainable, and energy efficient.

ENACT 15m City – Visualization of neighborhoods and co-creation of thriving communities in the 15-minute city, co-funded by the European Union and led by the Norwegian University of Science and Technology, in collaboration with other associations, organizations, and universities, including the Universitat Politècnica de València. Larger-scale analysis is addressed in the "ENACT 15m City" project, which examines the potential for redesigning historic urban spaces and improving quality of life, active mobility, accessibility, and social relations through case studies such as Trondheim, Gdańsk, Valencia, and Oxford.

The three projects are complementary to each other, as they seek to promote sustainable architecture and urban planning linked to heritage, energy efficiency, and community development, always with the aim of achieving a balance between tradition and innovation. This is a response to critical challenges such as climate change, population loss, the disappearance of traditional crafts, and the need for vibrant, inclusive, and resilient cities. This further highlights the urgent need to promote research, raise awareness and action across multiple sectors, and actively support the transition to more sustainable societies in terms of heritage and urban planning.

In line with these reflections and objectives, the topics established for this congress are: Firstly, Vernacular Architecture and Earthen Architecture through its documentation and cataloguing; as well as the study and enhancement of traditional construction materials, techniques, and crafts; sustainability mechanisms; restoration, conservation, maintenance, and management actions; and energy efficiency and sustainable design projects.

Secondly, Urban and Rural Historic Sites, with studies of historic urban and rural areas; intervention and regeneration, maintenance, and management projects; the identification of threats, risks, and opportunities such as tourism, infrastructure, and identity building; the local economy and traditional commerce.


Some participants of the conference © 2025 Vegas & Mileto

And thirdly, the fundamental step, From Tradition to Contemporaneity, with contemporary projects inspired by tradition; traditional mechanisms of sustainability applied to contemporary architecture; and the integration of contemporary projects into the historical context.

The scientific committee of Heritage 2025 was composed of 89 internationally renowned researchers and specialists in the topics analyzed, from 25 different countries on 5 continents. All contributions submitted, both abstracts and final texts, underwent a rigorous peer review process. Of the 244 proposals submitted, a total of 150 articles written by 328 authors from 30 countries across five continents were selected for final publication.

The selected articles have been published in three volumes edited by the publishing house of the Universitat Politècnica de València, available in print and online, entitled Vernacular Heritage: Documentation, Conservation and Adaptive Reuse; Earthen Heritage: Conservation, Adaptive Reuse and Sustainable Design; and Historic Settlements: Conservation, Regeneration and Management.

The organization, publication, and development of the conference was made possible thanks to funding from the Spanish Ministry of Science and Innovation through the "Earth4Future" project, the Department of Innovation, Universities, Science, and Digital Society of the Valencian Regional Government through the "RE-HABITAT" project, the Universitat Politècnica de Valencia, the School of Architecture, the Research Center for Architecture, Heritage, and Management for Sustainable Development (PEGASO), the Department of Architectural Composition; and the sponsorship of the Generalitat Valenciana, the Master's Degree in Architectural Heritage Conservation, the EMR – CPA Chair: Study of Restoration Methods – Architectural Heritage Conservation.

The conference is held under the auspices of UNESCO and WHITR-AP – World Heritage Institute of Training and Research for the Asia-Pacific Region, ICOMOS ISCARSAH – ICOMOS International Scientific Committee for the Analysis and Restoration of Architectural Heritage Structures, ICOMOS CIAV – ICOMOS International Committee on Vernacular Architecture, ICOMOS ISCEAH – ICOMOS International Scientific Committee on Earthen Architectural Heritage, and PROTERRA – Ibero-American Network of Earthen Architecture and Construction.

Finally, we would like to thank the authors who have contributed to the quality, variety, diversity, and richness of the publication with their articles and studies. We are indebted to all the members of the scientific committee for their work throughout the process of reviewing abstracts and articles. Above all, we would like to thank the organizing committee for their invaluable assistance in preparing the conference, the style and language reviewers for their corrections, and all the collaborators for their invaluable work in managing and organizing each and every stage of the process.


Closing ceremony © 2025 Vegas & Mileto

## Research Project: Earth4Future.

# Sustainable reuse of earthen architecture and its lessons for contemporary architecture

**Authors: Camilla Mileto, Fernando Vegas, Sergio Manzano-Fernández**

**Universitat Politècnica de València**

### 1. Introduction

Faced with the threat of climate change, the need to save energy and reduce $CO_2$ emissions is currently a priority both at the European and global level. In all European countries, significant efforts and investments are being made in the field of architecture to improve the energy performance of existing buildings and new constructions, as well as to control emissions throughout the life cycle of buildings. Architectural heritage, in particular historic housing in urban centers and rural areas, is included in this process.

However, there is not always a true compatibility between the energy rehabilitation of dwellings and their heritage values (replacement of woodwork, installation of insulating panels on façades and roofs, renderings with industrial materials, etc.). This type of intervention, conceived for newly constructed buildings, is applied to traditional architecture without taking into account its capacity for energy saving and emission reduction during its life cycle, in addition to the low cost of the materials typical of traditional construction. These considerations become even more evident in the case of earthen architecture, a typology and material widely used in the traditional architecture of Spain.

Figure 1. Earthen architectures out of use in Catarroja (Valencia, Spain). © The author

Numerous studies provide the foundations on which these investigations are to be carried out, among them the RES-Tapia (2011–2013), SOS-Tierra (2014–2018) and RISK-Terra (2019–2022) projects – a series that, using a case-study methodology, carried out the search, cataloguing and analysis of more than 3,000 earthen buildings, their risks and conservation strategies, including those of a monumental, vernacular or archaeological character within the territorial context of the Iberian Peninsula.

### 2. The Earth4Future project

Earthen architecture has a strong presence in urban and rural heritage, especially in Spain, where it makes up a large part of the traditional building stock. Its use responds to local conditions of resources, climate and culture, and its environmental advantages are well known: low toxicity, good thermal inertia, low cost, use of recyclable materials and a low carbon footprint. These qualities have prompted renewed interest in contemporary architecture since the 1980s; however, the project's approach focuses on useful architecture that is consistent with local traditions rather than on signature/author architecture. Despite growing recognition, interventions on earthen architecture continue to apply standardized solutions, due in part to the limited research on energy efficiency and low emissions in its rehabilitation. Although there are isolated studies and manuals, these issues have scarcely been addressed from an integral perspective or with methodologies such as Life Cycle Assessment (LCA).

Figure 2. Geographical distribution of case studies in the database ( Rammed earth, Adobe, Half-timber walls, New construction). © The author

The methodology proposed within the framework of the Earth4Future project responds to a comprehensive approach, structured in five successive and complementary phases, with a strong analytical, documentary, experimental and participatory component: the collection of information and selection of case studies; the creation of a database of case studies for general and detailed analysis, including statistical and probabilistic studies, as well as LCA in accordance with ISO 14040 and 14044 standards, based on the data obtained in the previous stage; the design and analysis of virtual prototypes; and the development of guidelines based on the conclusions obtained.

In this way, 70 traditional buildings constructed with earthen techniques that have undergone intervention in recent decades are identified and recorded, together with 15 newly built structures that incorporate contemporary solutions based on the use of earth. For each case, an individualized technical record is prepared, systematizing information regarding the architectural and construction features prior to the intervention, the geographic and climatic context, the traditional and current construction systems employed, the materials used, the degree of heritage protection, the compatibility of the adopted solutions with the original systems, and other parameters relevant for further analysis.

With these data, an analysis matrix is established, designed to facilitate comparison between cases and to enable the identification of patterns, types of intervention, and relationships between climatic, technical and cultural factors. This instrument also facilitates the selection of a more reduced and significant sample for detailed analysis, which constitutes the second phase of the study. At this stage, between 15 and 20 cases of intervened buildings and between 5 and 10 examples of new construction are selected, based on criteria of geographical diversity, technical representativeness, documentary quality, and relevance in terms of sustainability or innovation.

General issues such as the identification of levels of planning in the intervention, the material and technique employed and their compatibility, the aim of the intervention, and the breakdown of activities by architectural element are studied for these cases. With regard to new construction, the degree of traditional implementation in the place stands as a matter of particular interest, arising from the socio-cultural dimension in modern definitions of sustainability, where the use of environmentally sustainable materials may affect these concepts when imported from other territories. The relationship with the local tradition, industrialization, or constructive coherence.

On the other hand, detailed studies facilitate the issuing of value judgments in the intervention through the 26 parameters identified in charters, conventions, and recommendations of the sector. Similarly, the adaptation of traditional systems in contemporary society is assessed through new construction, identifying the common earthen elements, their function in the building, and characteristics. The monitoring of their hygrothermal behavior, by means of dataloggers located in at least two spaces of the residential unit, establishes values of transmittance and temperature of the envelope, relating environmental quality with level of occupation and use according to ISO 70130. Other studies, such as infrared thermography, airborne noise insulation, $CO_2$ concentration, or

Figure 3. Variability of spontaneous intervention with modern materials. © The author

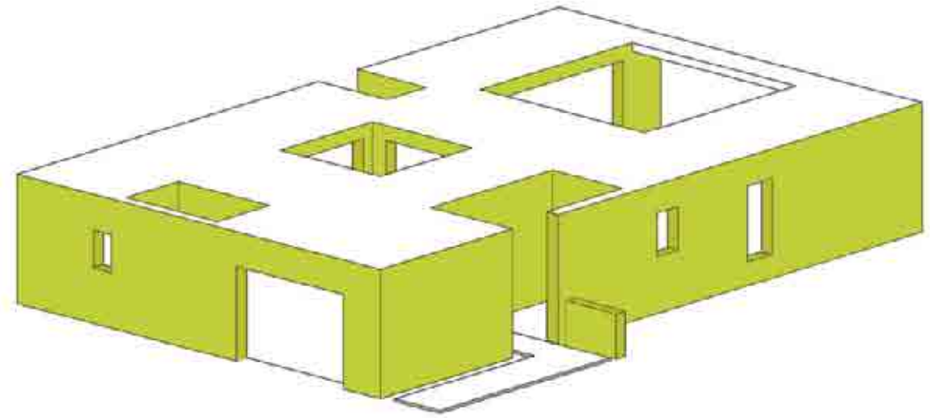

Figure 4. Presence and traditional implementation of new-built architectures. © The author

the level of natural light, may complement these results of indoor quality. On the other hand, computer-based study through virtual models and the use of IFC Builder and CypeTherm may provide values of energy demand to be contrasted with hypothetical improvements and interventions in earthen architecture, under different scenarios. The Life Cycle Analysis, ultimately, incorporates values such as global warming potential, acidification, eutrophication, stratospheric ozone depletion, human toxicity, or freshwater aquatic ecotoxicity.

## 3. Conclusions

The compilation of studies in the field of sustainability of intervention through earthen materials and construction techniques is able to provide a vision oriented towards the generation of knowledge, social awareness, and the creation of networks around the values of earthen built heritage, with particular attention to its role in contexts of climate risk. Addressing the path opened by different studies, where traditional earthen intervention is capable of reducing emissions both in the phases of extraction, transport, execution, and use, may reinforce the use of the material with attention to the environmental, socio-cultural, and socio-economic dimensions of sustainability.

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## Research Project: Re-Habitat.

# Sustainable Conservation and Adaptive Reuse of Traditional Dwellings in Historic Contexts

**Authors: Fernando Vegas, Camilla Mileto, Alicia Hueto-Escobar**

**Universitat Politècnica de València**

### 1. Introduction

The publication of the European Green Deal in 2019 made clear that the efficient use of energy and resources in constructing and renovating buildings is a key line of action against climate change. The building sector concentrates a significant share of these impacts, not only during the use phase (especially heating and cooling) but also in raw-material extraction, manufacturing and transport of materials, as well as demolition and end-of-life waste management. In this context, the rehabilitation of the building stock takes on special relevance, particularly given forecasts that the number of dwellings rehabilitated per year will increase sixfold by 2030.

Much of the effort and research aimed at decarbonising construction and improving energy efficiency has focused on dwellings built in the second half of the twentieth century, with studies of particular interest on measuring and quantifying energy efficiency. However, there are notable differences between rehabilitating those dwellings and intervening in traditional buildings, due to typological, construction and structural specificities and a greater need to preserve the cultural values associated with the building (Fig. 1). In this sense, interventions in traditional dwellings require a comprehensive approach that reconciles contemporary demands for energy efficiency, environmental sustainability and economic viability with the protection and conservation of heritage values.

Fig. 1 Example of an intervention using industrial materials in a building in Zorita del Maestrazgo (Castellón). © The author

### 2. The RE-HABITAT research project

Acknowledging the need to reconcile energy-improvement interventions with heritage values—while reducing emissions and ensuring economic feasibility—the RE-HABITAT research project proposes to measure, demonstrate and transfer sustainable restoration and rehabilitation solutions in traditional dwellings located in historic contexts within the Valencian Community (Spain). The working hypothesis holds that intervening in traditional dwellings with materials and techniques compatible with their heritage values can be technically viable, environmentally effective and economically reasonable, and can also contribute to territorial cohesion and the fight against depopulation.

Building on this premise, the project sets three overarching goals: to demonstrate the validity of restoring and rehabilitating traditional dwellings through technical, environmental and economic evidence; to provide guidelines for intervening in vernacular architecture without compromising its values while improving energy performance and reducing environmental footprint; and to promote the rehabilitation of historic traditional dwellings in the Valencian Community from an integrated environmental, sociocultural and socioeconomic perspective.

To this end, interventions in traditional buildings must be studied against real parameters of environmental impact and alignment with conservation principles. A comprehensive methodology is defined in four complementary phases: compiling information and selecting case studies; conducting a general analysis of the case-study database; selecting cases of particular interest for detailed study in terms of intervention compatibility, life-cycle assessment, actual economic cost and hygrothermal efficiency; and, finally, drafting guidelines based on the conclusions obtained.

Fig. 2 Intervention in a historic building in Forcall (Castellón), using industrial materials such as cement mortar. © The author

### 3. Selection of case studies and general analysis of interventions in historic residential buildings

First, 85 traditional buildings that have undergone interventions in recent decades were identified and documented (Fig. 2), encompassing varied urban and rural contexts and construction techniques such as rubble masonry, brickwork, rammed earth, adobe, etc. An individualised analysis sheet was then designed to record information on the geographic and climatic context, architectural and construction features prior to intervention, degree of heritage protection, and, systematically, details of the interventions carried out regarding materials used, technical compatibility and other relevant parameters.

With these data, an analysis matrix was established to facilitate comparison across cases and enable the identification of patterns, intervention typologies, and relationships among climatic, technical and cultural factors. This tool also supports selecting a smaller, more meaningful sample for detailed analysis, which constitutes the second phase of the study. In this phase, eight case studies were selected, based on criteria of geographic diversity, technical representativeness, access to the building and availability of technical information on the intervention.

### 4. Detailed analysis of interventions in historic buildings: criteria, life cycle, actual costs and monitoring

To assess real-world parameters concerning heritage compatibility, energy effectiveness, environmental impact and economic viability, a series of detailed studies was undertaken. First, compatibility of the interventions with criteria commonly applied in architectural conservation was analysed (Fig. 3), specifically against 26 parameters identified after a systematic review of restoration charters issued by international bodies such as ICOMOS and UNESCO.

Regarding energy effectiveness, hygrothermal monitoring was conducted over one year using data loggers, recording indoor, outdoor and surface temperatures of envelope components and indoor and outdoor relative humidity, with daily readings. These data make it possible to estimate the effective thermal conductivity of the envelope and the risk of condensation.

To estimate environmental impact, a Life-Cycle

Fig. 3 Intervention in a historic dwelling using traditional materials and techniques, in Sesga (Ademuz, Valencia).
© The author

Assessment was carried out in accordance with ISO 14040 and 14044, evaluating production, transport, installation, use and maintenance, and end-of-life phases. Impacts were calculated in relevant categories such as global warming potential, acidification, eutrophication, stratospheric ozone depletion, human toxicity, freshwater ecotoxicity and biogenic carbon. This analysis was performed for the case study in Sesga (Ademuz) (Fig. 4), showing that rehabilitation with traditional materials and techniques is the lowest-impact option across all categories, with reductions of 50–80% compared with other scenarios—specifically, over 50% versus rehabilitation with industrial materials and over 70% versus demolition and new-build.

To ensure economic feasibility, actual intervention costs were analysed and compared with industrial options. Executed cost items were compiled for each intervention and classified by the construction elements involved, then used to compare productivity and costs of traditional solutions against industrial ones. Item-by-item analysis (carpentry, finishes, walls, services, floor structures, roofs, built-in furniture, etc.) enables comparative readings and the detection of differential cost drivers. Applied to the same case in Sesga (Ademuz), the final cost of restoration and rehabilitation using traditional techniques was found to be 30% lower than constructing a similar new house with industrial techniques. The study also showed that a larger share of cost is concentrated in labour, with lower shares in materials and machinery. Consequently, such compatible and respectful interventions can help reactivate the local economy, revive traditional crafts and enhance the cultural value of the territory.

## 5. Conclusions

Once the studies are completed, a cross-cutting comparison by blocks will determine the conditions, limitations and advantages of restoring and rehabilitating traditional dwellings. To disseminate results and promote these interventions among the public, guidelines will be drafted with principles, details and impact measurements to support decision-making by architects, architectural technologists, owners, managers and public authorities.

The RE-HABITAT project is conceived with a dual demonstrative and propositional character. Demonstrative, because it provides real measurements of emissions, efficiency and costs in restored vernacular cases and tests hypotheses through instrumentation and full life-cycle analysis. Propositional, because it translates that knowledge into operational guidelines for professionals and administrations and fosters a project culture that understands sustainability in an integrated way. At a time when the ecological transition demands drastic impact reductions without sacrificing the quality of the built environment, rehabilitating traditional architecture emerges not only as a heritage obligation but as an effective strategy for decarbonisation, resilience and territorial cohesion.

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Fig. 1 © 2025 Vegas & Mileto

## Research Project :ENACT-15mC


**Authors: Javier Orozco, Fernando Vegas, Camilla Mileto, Víctor Cantero**

**Universitat Politècnica de València**


The ENACT-15 mC project - Envisioning Neighbourhoods and Co-Creating Thriving Communities in the 15-Minute City, co-funded by the European Union under the framework of the program Driving Urban Transitions, fosters dialogue between local governments and citizens to promote sustainable urban development, particularly concerning land use and transport. Through Urban Living Labs (ULLs) in Trondheim, Valencia, Gdańsk, and Oxford, the project co-creates walkable, cycle-friendly, and liveable neighbourhoods adapted to diverse cultural and geographical contexts. Supported by Virtual and Augmented Reality (VR/AR), ENACT-15mC employs iterative design methods to address spatial challenges while integrating multiple stakeholder perspectives. Coordinated by the Norwegian University of Science and Technology (NTNU), the consortium brings together twenty partners—including universities, municipalities, and industry representatives—combining expertise in architecture, urban planning, heritage, and digital technology to deliver inclusive, context-sensitive urban solutions.

The project pursues three main objectives. First, to understand how co-creation and advanced digital tools can enhance inclusivity, accessibility, and sustainability in public spaces and neighbourhoods. Secondly, to develop, test, and validate interventions that encourage active mobility within the framework of four Urban Living Labs. Thirdly, to propose actionable strategies for implementing the 15-minute city (15mC) and overcoming barriers to its adoption.

ENACT-15mC promotes the integration of urban functions, sustainable transport, and efficient logistics, especially in peri-urban areas. Through co-creation, it seeks to address urban challenges such as gentrification, housing inequities, and accessibility gaps, ensuring that citizens, local businesses, and authorities collaborate in shaping socially mixed, liveable districts.

Combining research and innovation, the project explores participatory and technology-based methods to strengthen community engagement and urban regeneration. ULLs serve as testing grounds for scalable and replicable solutions that align with the 15mC model. Each local team investigates site-specific issues, while visiting partners contribute interdisciplinary insights, encouraging mutual learning and creativity.

A series of workshops in the four participating cities structured the project's timeline and knowledge exchange. The Valencia Urban Living Lab exemplifies ENACT-15mC's integrative methodology. Hosted by the Universitat Politècnica de València (UPV), it analysed the historic centre through interdisciplinary

Fig. 2 © 2025 Vegas & Mileto

workshops combining fieldwork, spatial analysis, and stakeholder dialogue.

In collaboration with Tourism and Market Research students, a Participatory Action Research (PAR) project examined emblematic shops listed in the city's Special Protection Plan. These businesses—such as fan makers, textile shops, and goldsmiths—represent local identity but face threats from tourism, rising rents, and generational turnover. Surveys of ten establishments revealed limited digital adaptation and widespread concern over tourism-driven displacement. Over twenty heritage shops have closed in the past decade, underscoring the urgency of heritage-sensitive policies.

A second initiative by architecture students conducted spatial and typological analyses of historic shops, spanning from 19th-century to postwar establishments. Each case was contextualised through mapping, photography, and furniture assessments. Based on diagnostic findings, students proposed conservation strategies aimed at enhancing cultural value and ensuring long-term preservation. The activity provided an updated overview of the status and transformation of traditional commerce in the historic center.

A complementary research line developed a Spatial Decision Support System (SDSS) for sustainable logistics in Ciutat Vella, integrating GIS, parametric modelling, and optimisation algorithms. Using cadastral data, field surveys, and delivery-demand models, the SDSS identified vacant commercial units suitable for micro-logistics hubs. Implemented in Grasshopper (Rhinoceros 3D) and optimised via the Galapagos genetic algorithm, it explored $2^{44}$ potential site configurations to balance demand coverage and spatial equity.

Results indicated that 6–9 optimally distributed platforms could satisfy 100% of the estimated 14,681 pallets/week demand, reducing redundant capacity by over 90%. The approach demonstrates that reusing existing ground-floor spaces can enhance efficiency while preserving heritage and reducing environmental impact. The methodology offers a transferable, data-driven tool aligned with 15mC and New European Bauhaus (NEB) principles, supporting adaptive, low-carbon urban logistics.

As a conclusion, we may add that the ENACT-15mC project illustrates how co-creation, technological innovation, and interdisciplinary collaboration can shape sustainable, inclusive, and resilient urban futures. Across its four Urban Living Labs, the project has demonstrated the potential of combining participatory design, digital simulation, and evidence-based spatial analysis to address local challenges—from demographic change and housing pressure to mobility and logistics.

The Valencia case study exemplifies these dynamics, revealing both the complexity of balancing heritage preservation and economic development, and the transformative capacity of community-engaged, research-led planning. By integrating diverse knowledge systems—academic, civic, and professional—ENACT-15mC contributes to a replicable framework for climate-neutral, human-centred urban development that aligns with the 15-minute city and New European Bauhaus visions.

Fig. 3 © 2025 Vegas & Mileto

Fig. 1. Both workshops taking place at the same time. © Heritage2025 Committee

## Heritage 2025 Conference: Workshops on Natural Coatings

**Eva Tortajada Montalvá**

**Universitat Politècnica de València**

The HERITAGE 2025 International Conference on Earthen and Vernacular Heritage: Conservation, Adaptive Reuse and Urban Regeneration', held at the Universitat Politècnica de València in September, was not just about lectures, debates and exhibitions. There was also an opportunity for hands-on experimentation and the practical transmission of traditional building knowledge. As an introduction to the conference, the Organising Committee proposed two optional workshops, bringing together a small group of participants to learn, experiment and, above all, get hands-on experience with materials and techniques that form part of the Mediterranean building heritage: Moroccan tadelakt and alabaster gypsum flooring.

Both workshops took place on Wednesday, 10 September, from 10 a.m. to 2 p.m., with 15 and 12 participants respectively. These numbers encouraged closeness and personal transmission and allowed each participant to carry out their own application tests on supports that had been prepared in advance. At a conference reflecting on the conservation, restoration and future of built heritage, these practical experiences embody the idea that conservation is also about know-how and detailed materials, tools and processes knowledge that bring heritage to life.

### Tadelakt

The first workshop, entitled 'Polished finishes: tadelakt', was led by Syrka Helmdach-Lopez Altuna. She is a designer, teacher and trainer at the Okambuva Training Centre, a bio-construction cooperative with a long history of using natural lime and earth coatings.

Tadelakt is an ancient Moroccan coating technique based on slaked lime, polished with stones. It is characterised by its impermeability, glossy finish and adaptability to both indoor and outdoor use. Originally used in hammams, fountains and palaces in Morocco, this technique has now attracted growing interest in restoration and contemporary eco-construction projects worldwide.

During the workshop, Syrka introduced participants to the technique's history and origins, detailing suitable substrates, tools,

Fig. 2. Tadelakt workshop. © Heritage2025 Committee

Fig.3. Tadelakt workshop. © Heritage2025 Committee

and applications. A particularly educational moment was the demonstration using samples at different stages of completion, which enabled participants to visualise the evolution of the mixture, its application in successive layers and the polishing process required to achieve its characteristic silky, shiny appearance. Afterwards, each participant was able to apply the technique to a prepared surface, experimenting with texture, the malleability of the material, and the importance of curing times.

**Gypsum flooring and coating**

Meanwhile, another group of participants explored the world of traditional gypsum under the guidance of Andrés Millán from Nohuki. The company specialises in decorative coatings and continuous flooring made from artisanal gypsum, a natural material sourced from the alabaster quarries of Albalate del Arzobispo and fired in a vaulted kiln.

The workshop aimed to convey the essential notions for executing traditional gypsum flooring, considering its technical particularities and the value of using local raw materials. The workshop was particularly revealing for the attendees, as artisanal gypsum is not widely recognised as a building material in many countries, and the traditional manufacturing process has been lost in some places for decades, not to mention the craft of applying it to flooring. The practical demonstration allowed participants to rediscover this humble material, which has enormous technical and aesthetic potential, but whose presence in vernacular Mediterranean architecture often goes unnoticed.

The fact that participants came from diverse places such as China, Argentina and India made the uniqueness of the technique even more apparent. For many of them, it was their first time coming into direct contact with a gypsum floor, a fact that generated surprise and admiration. Questions and keen interest in exploring how this knowledge could inspire contemporary solutions in their local contexts were sparked by the speed of setting, the texture of the material, and the quality of the finish.

The day began with an introduction to obtaining gypsum from alabaster, a mineral whose purity and properties make high-quality, resistant finishes possible. Andrés explained high-temperature firing and the different degrees of fineness, as well as their impact on the result. The demonstration was very informative. Each stage of the flooring process was shown, from preparing the substrate to pouring, levelling and applying finishing treatments. The audience was able to observe firsthand how quickly gypsum sets and the importance of precise timing and coordination between tools and hands. Examples of finished flooring and wall coverings incorporating various additives, textures and polishes were also presented. As in the tadelakt workshop, participants had the opportunity to try out the technique themselves and experience the physical demands and level of precision required.

**Hands-on workshops: adding value to the conference**

Held simultaneously, these two workshops provided a fundamental counterpoint to the academic programme of Heritage 2025. While the plenary and thematic sessions addressed the global challenges of architectural heritage conservation, the workshops explored the tangible, physical and manual aspects of heritage.

Fig.4.Gypsum workshop. © Heritage2025 Committee

Fig.5. Gypsum workshop. © Heritage2025 Committee

Working directly with natural materials such as lime and gypsum is a transformative experience that raises awareness of the importance of preserving not only buildings, but also the knowledge that made them possible, moving beyond theory.

Heritage 2025 demonstrated that congresses can also serve as spaces for transmitting craftsmanship. The tadelakt and gypsum flooring workshops offered a unique opportunity to learn about traditional techniques that form part of Mediterranean cultural heritage, while also having enormous potential for application in contemporary green building.

By integrating these activities into the official programme, the Congress emphasised a key message: the future of heritage depends as much on scientific and academic research as it does on preserving and revitalising traditional crafts. Training, practice and sensitivity to natural materials are, in short, a bridge between the past and the future of our architecture.

Fig.6. Gypsum workshop. © Heritage2025 Committee

Fig. 1 © 2025 Vegas & Mileto

## EXHIBITIONS HELD DURING THE HERITAGE2025 CONFERENCE

**Camilla Mileto and Fernando Vegas**

**Universitat Politècnica de València**

In addition to the numerous interesting posters presented at the conference and displayed throughout the event, attendees had the opportunity to enjoy eight exhibitions, some of which were prepared specifically for the occasion and were therefore being shown for the first time. These exhibitions were as follows:

- "**Materia**," curated by Dominique Gauzin-Müller, Yann Le Bihan, and Zoë Tric, and sponsored by the Pavillon de l'Arsenal in Paris, an exhibition showing a selection of the projects selected for the international Materia Award, which we are exhibiting here thanks to the collaboration of the Territorial College of Architects of Valencia.

- "**Tradition+Art+Future. Art and craftsmanship for the future of tradition**," curated by Camilla Mileto and Fernando Vegas, which brings together the proposals of artists and artisans who create their works based on tradition and who were selected in the international competition of the same name held as part of the European project Versus+ Heritage for People.

-"**Architecture with/without architects. Documentation and conservation proposals by RES students**," curated by Eva Tortajada Montalvá and Valentina Cristini, which brings together the results of the practical work carried out by students on the Architectural Restoration course during the 2024-25 academic year, documenting studies and proposals for the restoration of vernacular buildings in the Valencia countryside.

Fig. 2 © 2025 Vegas & Mileto

-"**Architecture and nature. Opening up to others**", curated by David Eduardo Morocho Jaramillo, Camilla Mileto and Fernando Vegas, which shows the fieldwork and research on the architecture and culture of the Shuar and Ashuar peoples of the Ecuadorian Amazon rainforest. The documentary screened as part of the exhibition, entitled "ANENT: magical songs that connect worlds," received a special mention from the jury at the Turicine festival in Ecuador.

-"**Traditional Wood Construction**," curated by Alicia Hueto Escobar, Camilla Mileto, and Fernando Vegas, which introduces us to the richness of mixed wood, earth, and masonry structures, their cataloging, conservation, and transformation.

-"**Sustainable Rehabilitation of Earth Architecture. Lessons for Contemporary Architecture**," curated by Camilla Mileto, Fernando Vegas, Sergio Manzano, and Alicia Hueto, which showcases part of the research being developed in the EARTH 4 FUTURE project.

Fig. 3 © 2025 Vegas & Mileto

-"**RE-HABITAT. Sustainable restoration and rehabilitation. Traditional housing in historical contexts**," also curated by Camilla Mileto, Fernando Vegas, Sergio Manzano, and Alicia Hueto, which shows some of the results of the research being carried out in the RE-HABITAT project.

- "**ENACT-15Mc. Envisioning Neighborhoods and Co-creating Thriving Communities**," curated by Javier Orozco, Camilla Mileto, Fernando Vegas, and Víctor Cantero, which shows the results of applying the studies and research of the European ENACT project to the case of Valencia.

Fig. 4 © 2025 Vegas & Mileto


Fig. 1. Colours and tiles that bring life to the neighbourhood streets. © Morocho, 2021.

## THE CABANYAL NEIGHBOURHOOD: ITS MEMORY AND RESISTANCE

**David Eduardo Morocho Jaramillo**

**Universitat Politècnica de València**

Visiting the Cabanyal neighbourhood means delving into centuries of history in a neighbourhood linked to the sea and to various social events that have transformed the urban morphology of this area and, in turn, forged an identity based on resistance. For those of us who participated in the Heritage 2025 International Conference on Earthen and Vernacular Heritage: Conservation, Adaptive Reuse and Urban Regeneration, walking through its streets was not only an architectural experience, but also an encounter with a community that has managed to keep its essence alive in the face of pressures that have threatened it.

The origins of Cabanyal date back even before the Roman city of Valencia was founded, when the mouths of the Turia River, the irrigation ditches and the ravines already served as improvised landing stages. It was in this marshy, wetland environment that the first shacks appeared: simple constructions made of cane, mud and plant cover that served as temporary or permanent shelters for fishermen.

For centuries, its inhabitants lived on a shoestring, cultivating land as sharecroppers or venturing out to sea in search of sustenance. In 1837, the settlement achieved full municipal autonomy until its annexation to Valencia in 1897. By then, the neighbourhood was beginning to experience new dynamics: in the 18th century and especially in the 19th century, the arrival of holidaymakers from Valencia and Madrid transformed the local economy. The old huts were rented out during the summer season, and this contact opened the door to a process of change that would leave its mark on the architecture and urban landscape.

### A pattern drawn by water and light

El Cabanyal grows parallel to the coastline, responding to a logic closely linked to geography and water. The branches of the Mestalla irrigation channel, which flowed into the sea, subdivided the territory and gave rise to three centres: El Canyamelar, El Cabanyal and El Cap de França. This hydraulic structure not only organised the settlement, it also shaped everyday life. The marshland, the orchards and the canals were part of the same cultural ecosystem where the sea and the land were always connected. The grid pattern that can still be seen today is the legacy of those rows of huts that, over time, were transformed into streets, blocks and more solid dwellings.

At the beginning of the 20th century, colour exploded with modernism: polychrome tiles, mosaics, trencadís and pastel shades coexisted with exposed brickwork and wrought iron details. Thus, Cabanyal became an urban mosaic where each house added another nuance to the whole. The Mediterranean light does the rest. Throughout the day, the sun transforms the materials: the whitewashed walls dazzle at midday, the tiles glisten with an enamel shine and the balconies cast shadows that cool the atmosphere. Patios, rooftops and terraces complete this relationship between architecture and climate, regulating the temperature and creating intermediate spaces of shade and coolness that are also places for social interaction.

The ever-present sea reinforces this privileged microclimate. The sea breeze, humidity and orientation of the streets (east to west, parallel to the coast) ensure cross ventilation and climatic comfort that residents have been able to take advantage of for centuries. Recent research has confirmed with data what experience already showed: Cabanyal enjoys a unique microclimate that is inseparable from its identity.

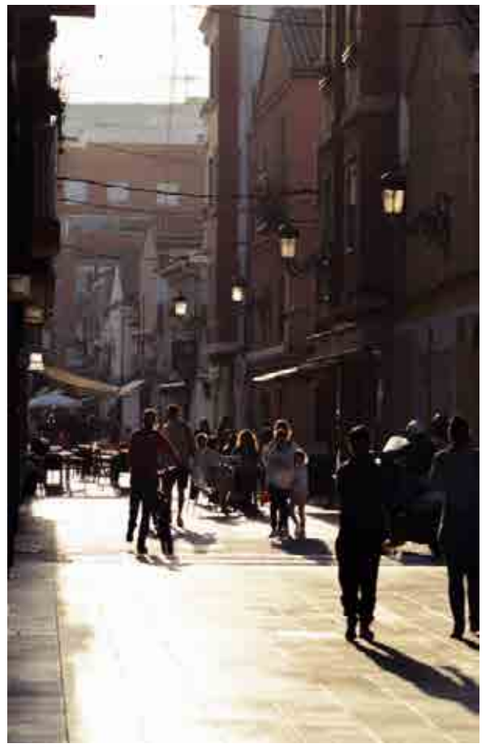

Fig. 2. The water trace paths that lead to the sea. © Morocho, 2021.

### A neighbourhood in resistance

The history of Cabanyal is also the history of its resistance. Since the late 19th century, various urban development projects have envisaged a grand avenue linking the centre of Valencia with the sea. These proposals, inspired by European hygienist urban expansion projects, threatened to cut the neighbourhood in two, demolishing part of its historic fabric.

Although many remained on paper, the threat returned time and time again. The most recent attempt, at the beginning of the 21st century, was on the verge of becoming a reality with the plan to extend Blasco Ibáñez Avenue. It was then that civil society responded with a force that would mark a turning point.

In 1998, the Plataforma Salvem el Cabanyal-Canyamelar (Save Cabanyal-Canyamelar Platform) was born, becoming a symbol of the neighbourhood's struggle to defend its heritage. Through cultural events, such as Cabanyal Portes Obertes, residents opened their homes as temporary museums to showcase the value of their architecture. These actions were joined by cultural groups, homeowners' associations and academic proposals that offered alternatives to demolition in favour of rehabilitation.

Finally, public pressure, together with heritage protection, managed to halt the project. Part of the neighbourhood had been declared a Site of Cultural Interest (BIC) in 1993, and it was also considered a Protected Historic Site and a Site of Local Relevance. These forms of protection, together with public mobilisation, reinforced the idea that Cabanyal was much more than just an urban space; it was a symbol of the neighbourhood's collective memory.

Today, Cabanyal remains a working-class neighbourhood, marked by its seafaring tradition and deeply rooted cultural identity. Its narrow, colourful streets, its layout inherited from the barracks and its modernist architecture make it a perfect laboratory for reflecting on the challenges of conservation, adaptive reuse and urban regeneration. For this reason, including it in the Heritage 2025 Congress excursion programme was a natural and necessary gesture. This neighbourhood encompasses, in a single space, many of the issues that guide our international debate: the preservation of vernacular architecture, the relationship between climate, the value of cultural fishing landscapes and, above all, the strength of the community as an active agent in conservation.

Fig. 3. In the bright light, the doors awaken their own brilliance. © Morocho, 2021.

Fig. 4. Good Friday procession, part of Holy Week in 'semana sant marinera' and its intangible heritage. © Morocho, 2021.

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## Exploring Eight Centuries of Residential Architecture in Valencia's Historic Center

**Valentina Cristini* & Vincenzina La Spina****

***Universitat Politècnica de València, Spain**
****Universidad Politécnica de Cartagena, Spain**

As part of the HERITAGE2025 Congress, participants took part in a guided visit through the historic center of Valencia. Far from being a mere sightseeing activity, the tour was conceived as a living lesson on the city's long and complex architectural evolution. By examining eight centuries of residential architecture, attendees gained valuable insights into traditional constructive systems, the variety of wall fabrics, the treatment of plaster surfaces, and the diverse strategies employed in the composition of façades.

The itinerary began at the Torres de Serranos, one of the medieval gateways to the city, located near the former quays of the Turia River. Here, the urban fabric still preserves its labyrinthine character, and the earliest surviving dwellings reveal masonry techniques that combine stone blocks with brick walls, and in some cases, with earthen construction. These walls, often irregular in texture, still retain traces of Islamic building traditions. Participants noted how the apparent simplicity of these structures concealed remarkable ingenuity: irregular courses were compensated by generous use of mortar, while façades were unified with continuous plaster coatings.

The tour then advanced through the historic core to the Plaza de la Reina, where residential architecture stands in dialogue with monumental landmarks. From there, the group visited the Basilica of the Virgen de los Desamparados, one of Valencia's most emblematic religious monuments. Beyond its spiritual importance, the basilica illustrated the interrelationship between monumental and domestic architecture in the city's historic core. The surrounding façades—with their plastered walls, brickwork, and distinctive balconies—demonstrated how everyday dwellings coexist alongside sacred architecture, reinforcing the square's role as both civic and religious space.

The next stop was the Plaza de la Almoina, a site that encapsulates Valencia's layered history. Flanked by important religious and civic buildings including the Valencia's cathetral (13th-15th centuty), the square is also bordered by domestic architecture that reflects centuries of transformation. Archaeological excavations conducted in the late 20th century uncovered the foundations of Valentia Edetanorum, the Roman colony established in 138 BCE. Within this archaeological complex, remains of the forum and ancient streets illustrate the city's earliest

Fig.1. Some participants looking at the Church of Santos Juanes (on the right) and one of the two pavilions that flank the main entrance to the Central Market (on the left). © Author

Fig. 2. Some participants at Plaza de la Almoina Archaeological Square. © Author

urban layout. The coexistence of Roman remains and Art Noveau façade, and later interventions provided participants with a striking perspective on the overlapping of constructive traditions within a single urban setting. In certain cases, fragments of sgraffito decoration and gypsum-based surfaces remain visible, offering evidence of the delicate interplay between construction and ornament.

The final stage of the visit led to the Central Market, the vibrant heart of Valencia and one of its most celebrated landmarks. While the market itself stands as a masterpiece of early 20th-century architecture, its surrounding streets are characterized by traditional shops and historic residential buildings that preserve original wall fabrics, façades with gypsum plasters, and long-established urban plots. This environment illustrated how historical construction systems continue to coexist with the city's living traditions of commerce and community located next to the 15th century Lonja (Silk Exchange), one of the most famous civil gothic monuments in Europe which is listed as a UNESCO World Heritage Site. The presence of small trades and family-run businesses emphasized that architectural heritage encompasses not only the material fabric but also the continuity of urban life—continuity that, in certain cases, faces challenges from gentrification and overtourism.

Throughout the visit, special emphasis was placed on the stratigraphic quality of the façades. Each wall, plaster layer, and decorative finish testifies to a history of adaptation and resilience. Rarely were buildings erected in a single phase; rather, they were successively modified in response to changing functional needs, stylistic preferences, and economic circumstances. By interpreting these layers, participants could better understand the ongoing dialogue between permanence and transformation that defines Valencia's historic center.

In conclusion, the visit highlighted the richness of Valencia's historic core as a palimpsest of residential architecture. Across eight centuries, constructive traditions—stone masonry, brick fabrics, iron balconies, gypsum finishes façades and decorative plaster elements—have generated an urban environment of extraordinary continuity and diversity. For participants in HERITAGE2025, the experience offered more than architectural appreciation: it provided a framework for reflecting on the profound interconnections between architecture, materials, commerce, and society in the making and remaking of the city.



Fig. 3. Some participants visiting local historical traditional basketry shop. © Author

Fig. 1. General view of Zaaimanshoek in Baviaanskloof. The village where the documentary was recorded. © Lucy Vosloo

## Indigenous Architecture of Zaaimanshoek in Baviaanskloof

**A documentary by Dr. Magda Minguzzi (Nelson Mandela University), assisted by Arch. Lucy Vosloo, in coordination with Gaos/Chief Margaret Coetzee, Inqua People.**

**Trailer:**
https://vimeo.com/812088198?activityReferer=1

This 35 min documentary speaks about a First Indigenous Peoples of South Africa's village -Zaaimanshoek- and its wattle and daub dwellings located in Baviaanskloof Valley; a remote area of the Eastern Cape Province of South Africa. Both the village and its dwellings has not been documented before.

The documentary is a research output of a project started in 2021, entitled "The First Indigenous Peoples of South Africa's Built Environment and Dwellings in Baviaanskloof", developed at the Nelson Mandela University by a working group composed of academics and Indigenous Leaders (PI Minguzzi). This project is particularly relevant because of its groundbreaking nature. In fact, thanks to this project, three hamlets – Zaaimanshoek, Sewefontein, and Joachimskraal – and dwellings documented by the working group in collaboration with the inhabitants, were recognised and acknowledged as unique examples of Khoikhoi vernacular architecture which still exist and are in use. Therefore, this research is a unique opportunity to build up new knowledge and a better understanding of the Indigenous Peoples' building traditions and living heritage. A know-how which has been passed down orally in these communities from previous generations up to the present time.

Fig. 2. Group photo in Baviaanskloof. From left: Associate Prof. Magda Minguzzi, Mr Brian Williams-owner of the extended house in the documentary, Chief Margaret Coetzee, Mr Sappie Kleinbooi-the Master builder, Arch. Lucy Vosloo. © Lucy Vosloo

Fig. 3. The extended dwelling recorded in the documentary © Lucy Vosloo

Considering the history of repression, segregation, and the genocide suffered by the First Indigenous Peoples in South Africa, together with the prevalent colonial narrative which paints the San and Khoikhoi as extinct peoples, the topic under study and the process of cultural reappropriation involved are of crucial importance (Minguzzi, a2025; Minguzzi, b2025).

There are three key factors that make those dwellings unique:

1-Isolation: the dwellings are located in an area geographically difficult to be achieved. For this reason, the lifestyle of inhabitants was not drastically influenced by the arrival of the settler's colonialists;

2-Permanent continuity: the Indigenous Peoples are settled there for centuries, since pre-colonial time, and did not experience forced removal as in the rest of the Country. Despite that, they were dispossessed of their territory and became mainly bywoners, which in Afrikaans means "landless tenants", giving their labour in exchange for the right to occupy the land. When the productive life period of the individual ended, or if the landowner changed, the Indigenous families were at risk of being evicted from their farmland dwellings.

3-Common land/self-built: the dwellings are located on common land owned by the indigenous community where they have been able to self-build their houses using local materials self-collected. Zaaimanshoek was established by local Indigenous families to stop

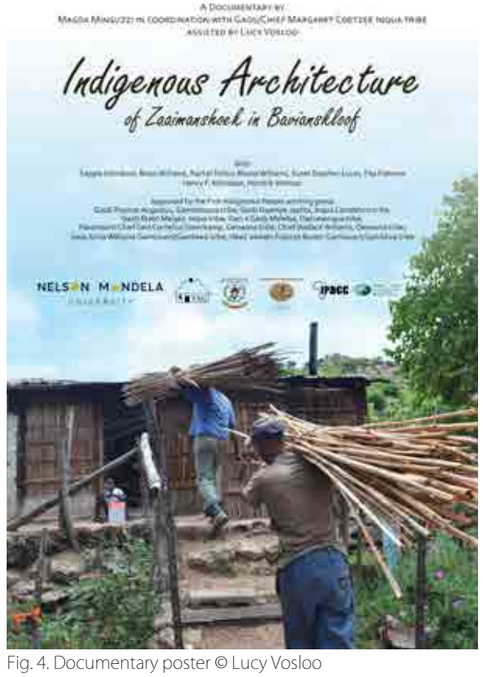



Fig. 4. Documentary poster © Lucy Vosloo

Validating indigenous knowledge of architecture and design

ZENZILE KHOISAN

Fig. 5. The research project and documentary was discussed in an article published in the only First Nation Newspaper in South Africa, "Inheemse Spoor", edited by Chief Zenzile Khoisan. November 2023, p6. © Inheemse boustyl oor eeue

the oppressive cycle. They bought land from farmers willing to sell it to them as the original custodians (Minguzzi, a2025).

The documentary is organised in three major sections: the first part contains the interview of Mr Sappie Kleinbooi, the master builder who helps the community to build the dwellings, followed by a walkabout of the dwellings he built. The last part showcases the procedures used for building the dwellings with wood, reeds and mud.

The scope of this documentary and research is not only to document those living testimonies but to start a debate that can help to re-activate our forgotten indigenous knowledge, based on a regenerative approach to the built environment and resources. In the current environmental-socio-economic crisis that we are facing globally, those dwellings and the indigenous Knowledge systems related to them represent a unique opportunity to study and reflect on. Especially using the lens of equal opportunity to access housing, which empowers people (self-building), improves their living conditions and creates at the same time food security lifestyle.

Since 2024 the Baviaanskloof research project is among those funded by the Endangered Wooden Architecture Programme of Oxford Brookes University and the hamlets and dwellings documented are included in an open source archive. For the working group, this was a crucial international recognition of the value of the San and Khoikhoi heritage, and the acknowledgement that a First Indigenous heritage still exists and is a living heritage. Furthermore, it will help the community to preserve the record of the technology applied and to pass this knowledge on to future generations. Without forgetting that the project helps the Indigenous Peoples in the process of writing their narrative and their story, advancing the process of restoration of the Indigenous culture and identity.

**Acknowledgements**

I acknowledge the First Indigenous Peoples of South Africa, the San and Khoikhoi, as the traditional custodians of the land where the documentary and described research project took place. My gratitude goes to the Leaders and their community members who actively participated in the research project. In particular to: Gaos Margaret Coetzee, Ingua People (Team Leader of this project); Gaob Thomas Augustus, Gamtobaqua People; Gaob Daantjie Japhta, Inqua People (Camdeboo); Gaob Brato Malgas, Inqua People (Jansenville); Chief Gert Cornelius Steenkamp, Oeswana People; Chief Wallace Williams, Oeswana Camdeboo; Gaos Anne Williams, Gamtouers/Gamktwa People (Thornhill/Loerie area).

The academic team members of this research project are: Assoc. Prof. Magda Minguzzi (Nelson Mandela University) (PI); Arch. Lucy Vosloo (Nelson Mandela University) (CO); Dr Yolanda Hernández Navarro (Universitat Politècnica de València) (CO); Arch. Kim Harmse (Nelson Mandela University) (CO).

**Reference:**

Minguzzi, M. a2025. Documenting and Studying the First Indigenous Peoples of South Africa's Villages and Dwellings in Baviaanskloof, Applying an Indigenous Methodology. In C. Mileto, F. Vegas, A. Hueto-Escobar & S. Manzano-Fernández (Eds.) Earthen and Vernacular Heritage: Conservation, Adaptive Reuse and Urban Regeneration. September 10th – 12th, 2025, Valencia (Spain). edUPV. https://doi.org/10.4995/HERITAGE2025.2025.19381

Minguzzi M. b2025. ORIGINS, KhoiSan heritage sites in the Eastern Cape, South Africa. Mandela University Press. ISBN, 1998959171, 9781998959174.

Magda Minguzzi, professor at the Nelson Mandela University, South Africa

For info: magda.minguzzi@mandela.ac.za

Fig.6. the general working group © Lucy Vosloo


**Abstract**

In the 1850s, Melrose was established as the northernmost colonial settlement outpost from Adelaide. This site was at the geographic and administrative extremities of the South Australian colony. Yet, just beyond its surveyed boundaries, in the shadow of Mount Remarkable (Warkalitja in Nukunu language), significant shelter tree precincts reveal a parallel spatial history. These fire-curated trees formed part of a long-standing Nukunu system of land management, seasonal refuge, and ceremonial gathering.

- This paper explores the relational proximity between these Indigenous shelter sites and the siting of colonial Melrose. Drawing on oral histories from a Nukunu co-author alongside archival and spatial research, it investigates whether this adjacency was a coincidence—or a form of tacit colonial learning about how to inhabit Country.
- Foregrounding the concept of pyrovernacular architecture, the shaping of shelter through cultural fire practices, it argues that vernacular knowledge systems have been instrumental in place-making yet largely excluded from architectural historiography. While settler forms such as stone cottages and survey grids dominate the archive, Indigenous typologies, shelter trees, fire mosaics, ceremonial clearings, remain illegible within conventional frameworks of preservation and cultural authorship.
- In the context of the early 2025 Wilmington bushfires, the paper reconsiders Melrose as a site not just of climatic vulnerability, but of epistemic extremity—where architectural knowledge was embedded in Country but actively excluded from the record. It asks: what do we fail to acknowledge when architecture is only understood through building and drawing? How might shelter trees be reconsidered as a legitimate morphology of habitation or a distributed dwelling system?
- In revisiting the entangled spatial logics of Melrose, this paper urges a rethinking of architecture as a culturally situated, ecologically responsive act. An architecture that is shaped by multiple knowledge systems, even at the limits of empire.

**Keywords**

- Nukunu Country;
- Architectural historiography;
- Shelter trees;
- Pyrovernacular studies;
- Decolonial architecture;
- Epistemic Extremities

**Travis Thomas**

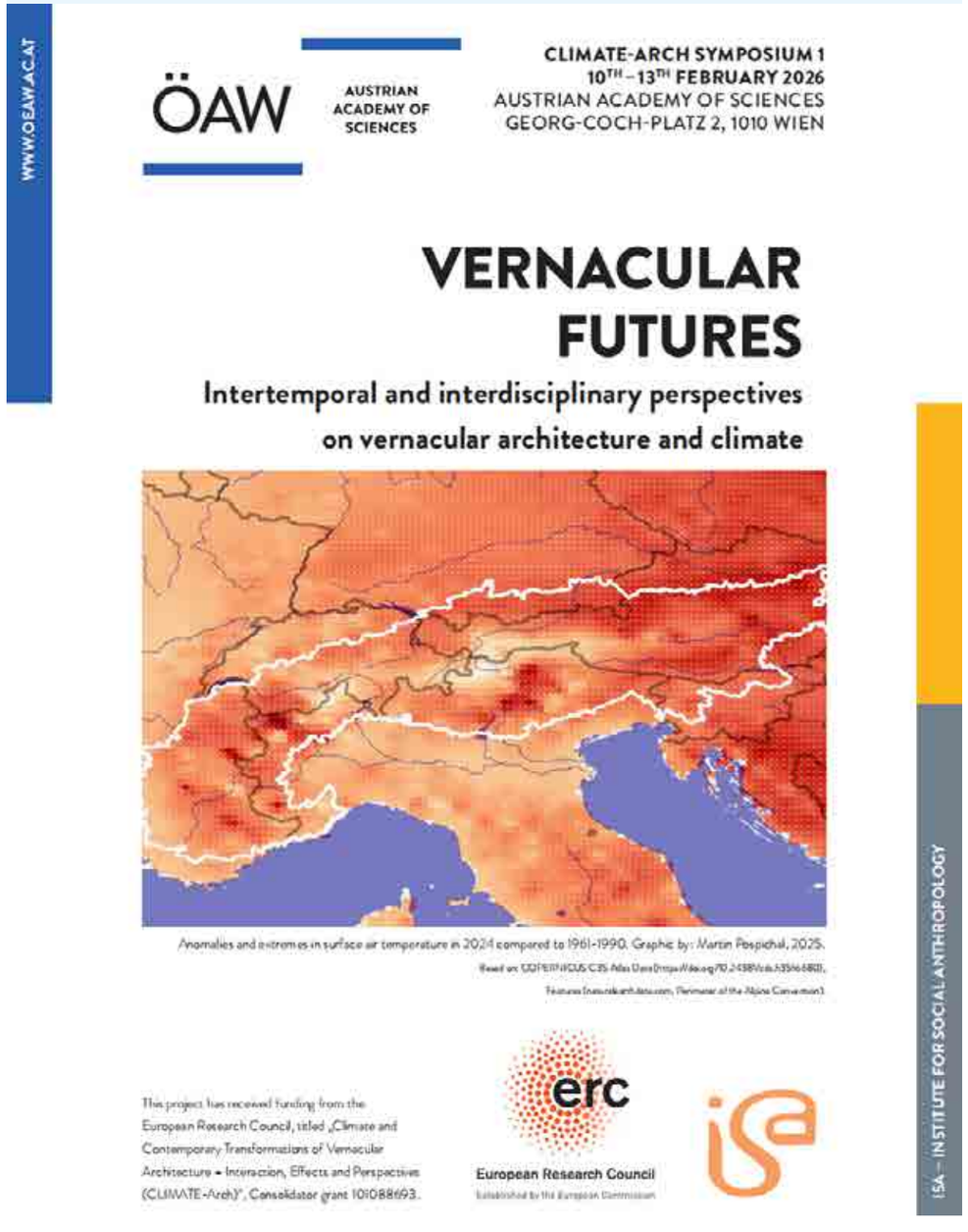
Travis has served as Co-Lead of the First Nations Clean Energy & Emissions Reduction Advisory Committee, Chair of the Nukunu Wapma Thura Aboriginal Corporation, and Co-Chair of the First Nations South Australia Aboriginal Corporation – a peak body advocating for First Nations across South Australia. As part of his role, he has worked with the South Australian Aboriginal Community Controlled Organisation Network around 'closing the gap' initiatives and advocacy for Aboriginal community-controlled organisations. Travis has been advocating and assisting in the advancement of First Nations interests, sharing and protecting culture and the incorporation of its values into policy and practices across multiple sectors to generate better outcomes for First Nations.

**Julie Nichols**

Julie is a Senior Lecturer at the University of South Australia [from 2026 the new Adelaide University], leading research that bridges cultural heritage and regenerative co-design practices with First Nations communities in Australia and Indonesia. As Director of VKRG and Co-Director of TLCMap, Julie integrates methods of architectural ethnography with digital and manual documentation in her research. Julie's emergent field, pyro-vernacular studies, examines cultural burning and vernacular siting to inform resilient built environments. Julie's research prioritizes participatory, community-driven methods, advancing disaster recovery, adaptive reuse, and culturally responsive, regenerative design through the Aceh Method and VERNADOC.

**Recommended Conference**

# Vernacular Futures: Intertemporal and Interdisciplinary Perspectives on Vernacular Architecture and Climate




## OUTLINE

This symposium will explore various ways in which locally specific and culturally embedded forms of architecture are shaped through dynamic interactions between climatic, environmental, social and technical processes. Bringing together historical and contemporary research from a broad range of academic and applied disciplines, the event seeks to clarify the role climatic factors play in the transformation of vernacular architecture over time, as well as to identify the main threats and opportunities it is likely to face over the remainder of the 21st century. This may include discussion of emerging risks and vulnerabilities as well as strategies, innovations, and interventions that could bolster resilience in future.

The symposium adopts a resolutely comparative, intertemporal and interdisciplinary approach. It will provide ample space for the presentation of specific methodologies and focused case studies, while encouraging exchange between scientific, technical, and social science experts. The aim is to develop collaborative platforms for the generation of comparative insights concerning vernacular architecture and climate across temporal, spatial, social, and disciplinary frames. The event will focus primarily on the Alps and the Himalayas, but research from other mountainous regions and different bioclimatic zones will provide vital comparative scope.

## SESSION A: BACK TO THE FUTURE

### Intertemporal approaches to vernacular building and buildings

**A1: Interpreting and representing the past.**

**A2: Vernacular Futures.**

**A3: Land use, infrastructure, and regulation**

**A4: Climate-triggered changes in timber construction**

## SESSION B: CLIMATE CHANGE ANDEXTREME WEATHER EVENTS

### Vulnerability, resilience, mitigation, and adaptation in interdisciplinary perspective

**B1: Vernacular buildings in the Anthropocene.**

**B2: Climate change and protected vernacular monuments.**

**B3: Narratives and metrics of vulnerability and resilience**

**B4: The "noble vernacular" revisited: Sustainability and suitability in question.**

## FURTHER DETAILS AND NEXT STEPS

The above structure remains tentative and the program will evolve according to the responses and propositions received. If you are interested in participating or presenting a paper at Symposium 2, please visit our project website https://climate-arch.eu for further information and online registration.

Further details of Symposium 3 will follow over the coming months. You are welcome to attend all three events, but if this is not feasible, please select the one that resonates most with your research interests. Note also that publication projects are linked to all three symposia.

**Contact:**

hubert.feiglstorfer@oeaw.ac.at

calum.blaikie@oeaw.ac.at

**Dates:**

Symposium 1 | 10th – 13th February 2026

Symposium 2 | 17th – 20th November 2026

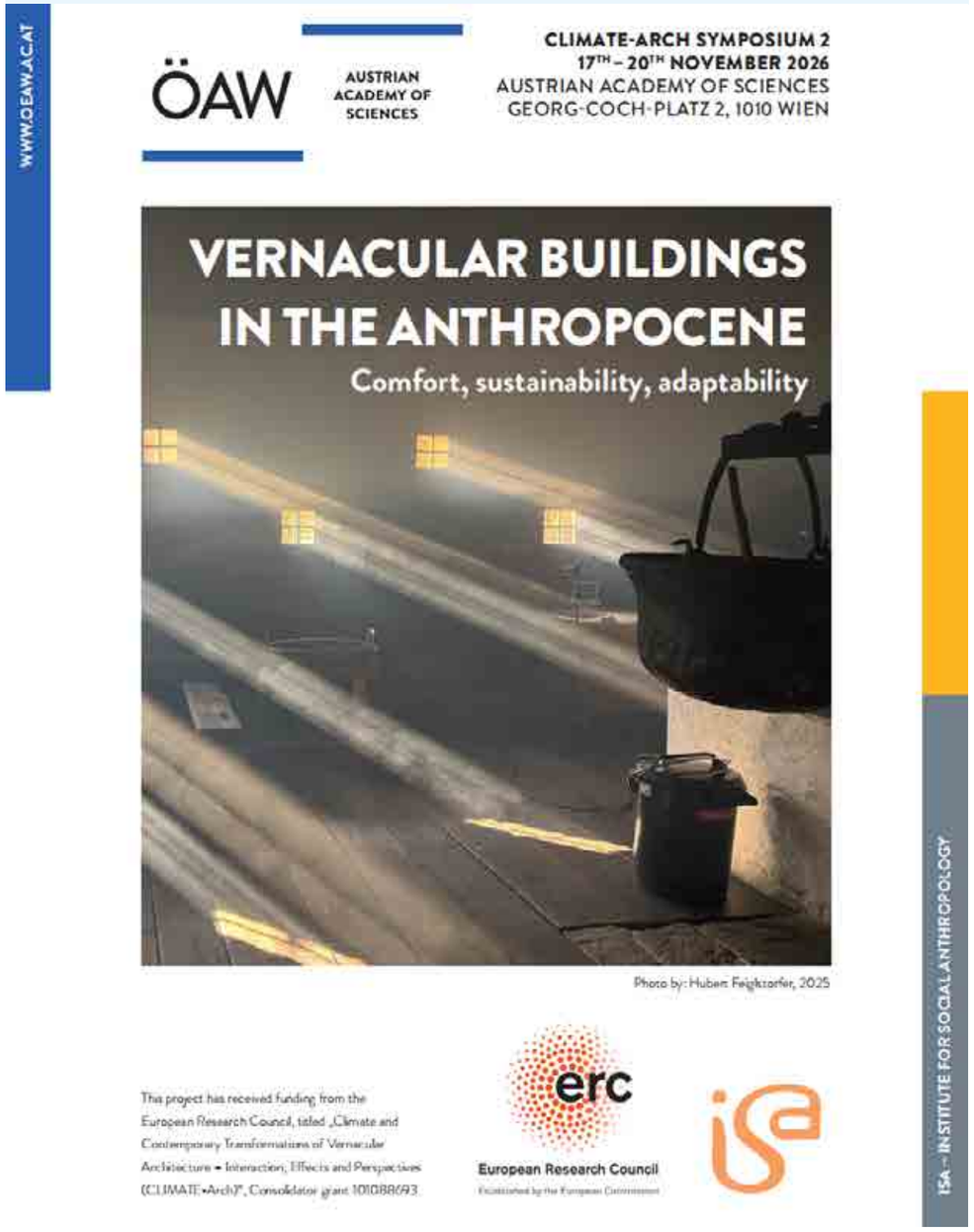
Symposium 3 | February 2027 (dates t.b.d.)

**Venue:**

Austrian Academy of Sciences, Vienna (Austria)

## Recommended Conference

# Vernacular Buildings in the Anthropocene: Comfort, Sustainability, Adaptability




## OUTLINE

This symposium asks what comfort, sustainability and adaptability mean for locally specific and culturally embedded forms of architecture as climate change pushes our planet into a period of major transformation. This first session will explore various ways of defining, understanding, measuring, modelling and influencing thermal comfort in vernacular architectural contexts. It will include analyses of heating, cooling and ventilation methods across various ecological, social, temporal and spatial locations, as well as discussing the adaptation of vernacular buildings in response to climate change. The second part of the symposium will examine concepts of ecological sustainability and innovation in relation to contemporary vernacular architecture. This will include discussion of ecologically oriented approaches and smart construction techniques, as well as innovative material and structural adaptations taking place in response to climate change. Questions of access, regulation and sustainability in relation to natural construction materials will also be addressed, as will issues relating to maintenance, adaptive reuse, life cycle analysis and the use of hi-tech research methods such as thermal simulation and 3D modelling.

Bringing experts from natural science, social science and technical backgrounds together to reflect on these topics allows for situated, discipline-specific analyses while also opening space for the generation of interdisciplinary and comparative insights into the status and prospects of vernacular architecture in the Anthropocene. The event will focus primarily on the Alps and the Himalayas, but research from other mountainous regions and different bioclimatic zones will provide vital comparative scope. Similarly, while the temporal focus looks from the present day towards the future, historical perspectives are also welcome.

## SESSION A: DWELLING IN COMFORT

### Social, economic and technical dimensions of thermal regulation

**A1: Thermal comfort zone.**

**A2: Thermal regulation and adaptation.**

**A3: Household heating and cooling across time and space.**

## SESSION B: SUSTAINABILITY, CIRCULARITY, HYBRIDITY AND INNOVATION

**B1: Smarter construction? Innovation, hybridity and sustainability.**

**B2: Life cycle assessment and circularity: Maintenance, demolition, reuse and disposal.**

**B3: Natural building materials in the 21st century.**

**B4: New technologies in the study of vernacular architecture.**

## FURTHER DETAILS AND NEXT STEPS

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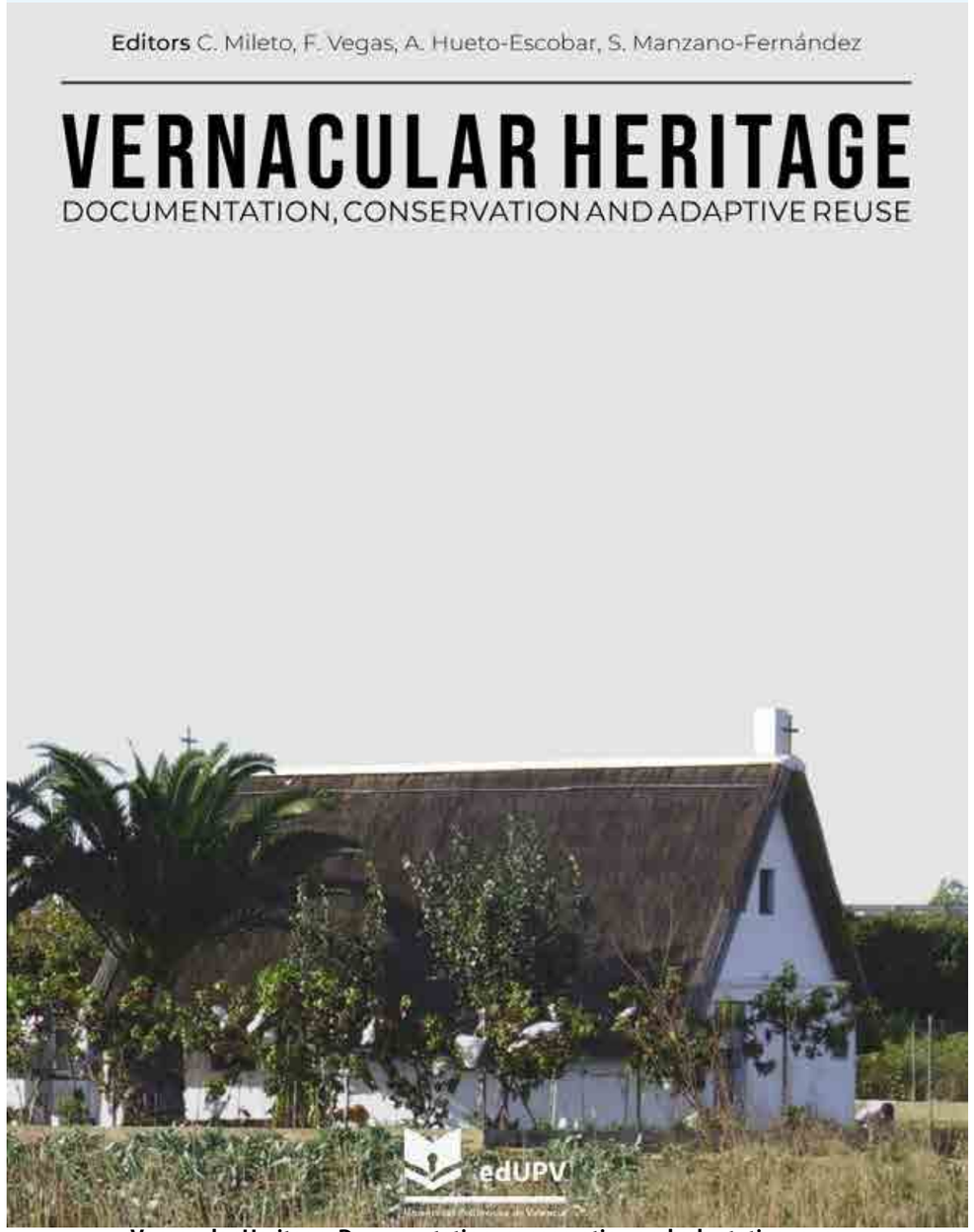
**Venue:**

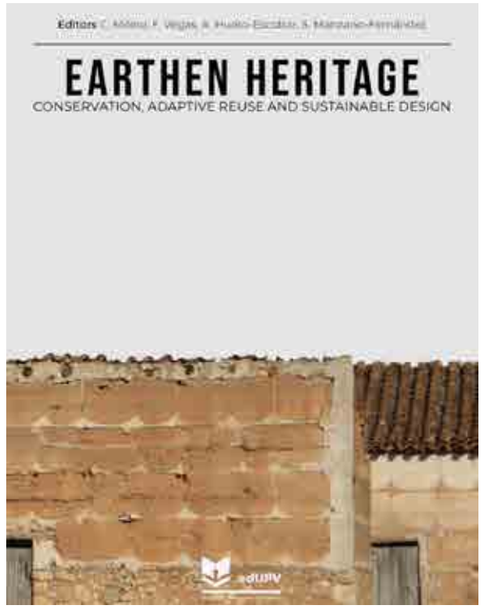
Austrian Academy of Sciences, Vienna (Austria)

**Recommended Publication**

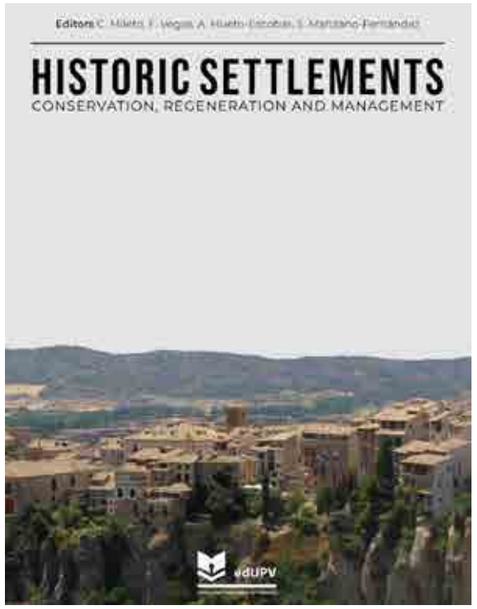
# REVIEW OF THE PROCEEDINGS OF HERITAGE 2025 CONFERENCE




**Vernacular Heritage. Documentation, conservation and adaptative reuse**
**ISBN: 978-84-1396-361-7**




**Earthen heritage. Conservation, adaptative reuse and sustainable design**
**ISBN: 978-84-1396-362-4**




**Historic settlements. Conservation, regeneration and management**
**ISBN: 978-84-1396-363-1**

**Authors: C. Mileto, F. Vegas, A. Hueto-Escobar y S. Manzano-Fernández (eds.)**

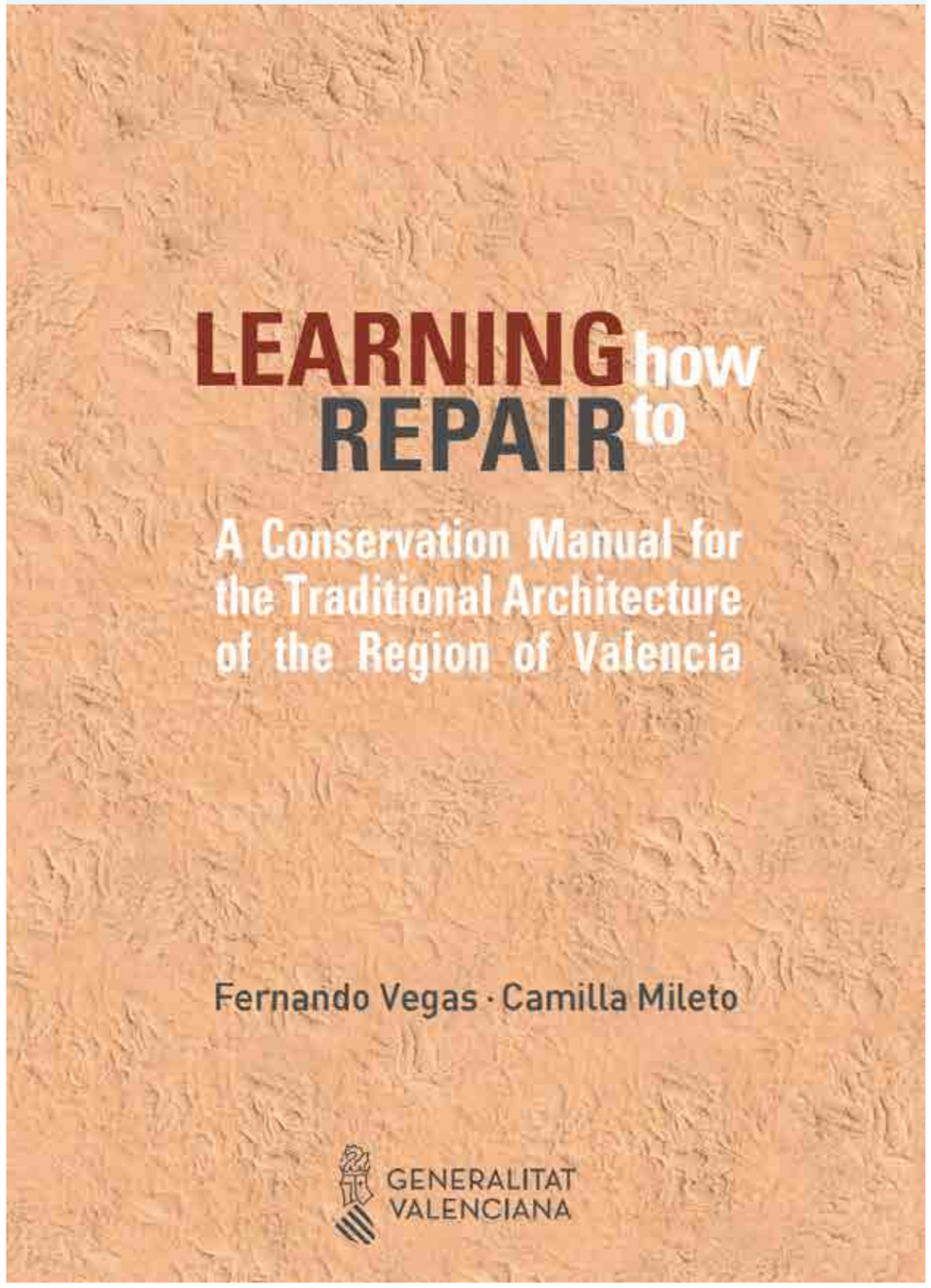
Ed UPV (Universitat Politècnica de València), Valencia 2025The work corresponds to the proceedings of the Heritage 2025 international conference, held at the Universitat Politècnica de València between September 10th and 12th this year. Organized by Camilla Mileto and Fernando Vegas, it is a continuation of the Versus conferences, focused on vernacular heritage and sustainability, held since 2014. This edition featured three different themes, presented in separate volumes. The first is dedicated to vernacular architecture, a tangible and intangible heritage of great importance which, based on local materials and traditional techniques, reflects a deep cultural and environmental awareness, as well as the social dynamics of communities. The second focuses on earthen architecture, among the oldest and most widespread building traditions in the world, the study of which provides valuable insights into passive design, material circularity, and climate resilience. Finally, the third volume deals with historical settlements, living testimonies to the sociocultural, economic, and spatial evolution of communities throughout history. All of them address topics such as survey and cataloging, the study of traditional materials, as well as construction techniques and trades, sustainability mechanisms, restoration and conservation, new sustainability and energy efficiency projects, and management and maintenance. The third volume also addresses other issues, such as the opportunities and problems arising from tourism, infrastructure, and the issue of identity, as well as trade and the local economy linked to these traditional places. This contemporary approach, which goes beyond a simple documentary study, is important as it addresses the future of this heritage and the lessons it can provide for new projects at a time when sustainability and energy efficiency are the focus of attention in the profession. It should be added that, unlike previous conferences on this subject, the texts of all the papers are freely available on the UPV publishing house website:

https://ocs.editorial.upv.es/index.php/HERITAGE/HERITAGE2025/schedConf/presentations

Federico Iborra Bernad
Universitat Politècnica de València, Spain

## Recommended Publication

# Learning How to Repair




**Authors: Fernando Vegas and Camilla Mileto**
**Valencia: Generalitat Valenciana, 2025**
**ISBN: 978-84-482-7054-4**

This is the fourth edition of the book, first published in 2011 and reissued in 2014 and 2017, all in Spanish. Now, Valencian and English versions have been added, in addition to the Spanish reissue. It is a practical conservation manual that compiles up to ninety different construction techniques and their variants, as well as a casuistry of fifty types of material and structural degradation. In addition, it offers a wide range of technical repair solutions, backed by the authors' solid experience in this field. The book includes an index of names at the end, allowing for quick search and location of materials, techniques, and solutions. Although initially conceived for application in the context of the Valencian Community —to which the first pages are dedicated— its content is useful as a guide for other geographical areas. It is precisely this versatility that has led to its translation into English.

As explained in the book's prologue, written by Francesco Doglioni: "Indeed, the authors of this book clearly remind us of the fundamental objective: to ensure, through interventions of repair, juxtaposition, and partial replacement – that is, of specific parts – that the construction as a whole, along with the broader urban and territorial systems it forms part of, can continue to exist and be used, without falling into a crisis of abandonment and neglect that would undermine the effectiveness of the whole and lead to its eventual loss. In today's consumer-driven world, simple repair - a widespread practice in the past - is, in itself, something innovative and revolutionary. Learning to look closely at the details of a wall is a way of rescuing these testimonies from the margins. These architectures without architects are just as meaningful, if we take the time to read them. Moreover, the proposed solutions, illustrated with drawings and exemplified by photographs of real works, reveal to what extent there is still room, through the measured use of new materials combined with traditional ones, for improvements that enhance functional, structural, and energy-efficiency performance, without in any way compromising the character of the building."

José Luis Baró
Universitat Politècnica de València, Spain


CIAV-ISCEAH Meeting in Heritage 2025 © Heritage2025 Committee

# The Human Component in Heritage – An Essay on the Built Vernacular

**Ivan Enev**

**Ivan Enev**

Architect, Specialist in Cultural and World Heritage,
ISC ICOMOS CIAV Expert Member and Secretary-General 2018-2026

iee.arh@gmail.com

## 1 Heritage as a Bond to the Living Environment

A profound intimacy binds each of us to our living environments. For some, that bond lingers at the periphery of awareness — akin to the monotonous riverbanks along which the current of life rushes past. For others, it is immediate and dynamic, ever-changing and alive — like the waters themselves, an organic continuum that evolves with us and, in turn, shapes our identities.

Our living environments are composed of innumerable tangible and intangible dimensions — spatial, material, social, and affective. They transform through time as we explore, interpret, and redefine them, gradually infusing them with our own values, meanings, and aspirations. This evolving milieu constitutes the very fabric of what we seek to preserve and transmit. In essence, the safeguarding of heritage is inseparable from this process. It reflects our conscious and unconscious endeavour to sustain the continuity of place, and to pass down our accumulated attachments, perceptions, and readings of the world we inhabit.

No wonder then, why the term "heritage" is so heavily charged with meanings. Yet, the thought readily turns to the majestic material traces of human civilisation — to the quintessence of the built environment: the Wonders of the World, palaces of the past, temples, grand gardens and cityscapes, works of engineering genius, and the like.

Fig. 1 and 2: The facades of the Mehrangarh Fort use much of the elements and architectonic principles, characteristic of the local vernacular style, such as the Jharokha and Jali (hanging windows and perforated screens), Jodhpur, India © Gayathri Hegde 2013

Fortunately, the notion of heritage has been growing more complex over the last few decades, drawing in ever more diverse aspects of culture, human relations, and life — both tangible and intangible, both visible and abstract, both representative and ordinary. The contemporary understanding of heritage has long transcended the classical canons of beauty and proportion. It now embraces a far wider spectrum of cultural expression, in which social and human values — guided by the forces of spirituality, intellect, and emotion — stand at the very heart of humanity's cultural heritage. (UNESCO, 2001 and 2005)

## 2 A Human Dimension of Heritage and Its Cultural Significance

Within the enormous pool of cultural legacies of our civilisation, it is perhaps the vernacular heritage that stands out as the most "human". Simply because it directly reflects "ordinary" human values, spirit, and intellect. It is that apt, creative, original, enduring, and sincere component, which is often sifted out of the "quintessence" of built heritage as unpretentious and hence, unrepresentative. Whereas in fact, it reveals an intimate understanding of the living environment and the sustainable relationships between it and its creator-bearers.

In linguistics, "vernacular" means the everyday language, dialect, or jargon of the common folk, as opposed to the literary language of the gentry (Pearshall, 2003). While the term has been adopted into the field of architecture to mean '[…] the local or regional dialect, the common speech of building' (Oliver, 1997, p. xxi), the connotation of a certain degree of opposition between formal and informal has charged its contemporary use in the heritage field.

So, much in line with Paul Oliver's definition, built vernacular heritage is the architecture of and by the people, built in keeping with traditional knowledge and utilizing local materials. Vernacular heritage on the other hand encompasses a much larger field, which comprises intangible cultural heritage in the form of traditional knowledge, associated cultural practices, and ways of life, linked to the vernacular architecture. The latter is one its mediums.

This being said, the vernacular building tradition defies a single definition. It is often equated with structures built in customary ways, while its intangible essence remains forgotten. Individual buildings and modest ensembles are regarded as wistful remnants of a vanished age — charming, perhaps, yet ill-suited to the tempo of modern life. Detached from their socio-cultural and natural context, vernacular buildings begin to resemble dusty museum exhibits — hollowed out and vulnerable to ideological interpretation. Thus, vernacular heritage remains heavily misunderstood and undervalued.

The challenges to recognising and retaining the significance of vernacular heritage are above all linked to the pressure of globalised economy (markets determine both building and dwelling), the common psychological misconceptions about its potential and a low living standard that often goes with it, along with the methodological difficulties with encompassing both its tangible and intangible aspects within a single conservation framework. In the context of the World Heritage System of UNESCO for instance, these challenges translate into common prejudice about the significance of vernacular heritage, about the non-material aspects of its authenticity, and about its transnational and people-based character.

Fig. 3 and 4: Asante Traditional Buildings © 2015 Life Beyond Tourism S.r.l.

A fleeting glimpse at the "vernacular" dossiers on UNESCO's World Heritage List proves this point. In properties such as Kathmandu Valley, Medina of Tunis, Ancient City of Damascus, Historical Complex of Spit, Ancient City of Nessebar, Historic Areas of Istanbul, Bursa and Cumalikizik, Old City of Dubrovnik, City of Valetta and Historic Cairo the vernacular is rendered a subtle background for the main attributes of the nominations — archaeological structures, fortifications, grand religious and public buildings. It homogenizes the urban fabric or the buffer zone and seals the heritage package of the nomination in terms of historical integrity. The vernacular is thus structurally applied but conceptually invisible within most statements of Outstanding Universal Value. Only in exceptional cases, the built vernacular is perceived to carry a significance of its own, such as in the nomination of Bryggen, Asante Traditional Buildings, and the City of Safranbolu. (UNESCO, 2025)

Aside from the academia, the image of the urban "slums" in many metropolitan cities of the 20th and 21st century, where the population lives in "vernacular" dwellings, has further reinforced the understanding —albeit very wrong— that this is all that the vernacular has to offer. But in such cases the vernacular form had already been detached from its natural context and deprived from its intangible content, and had lost much of its true value. It is altogether a different question, whether such structures should be generalized as vernacular. In any case, the "vernacular" of urban slums is indicative of social problems and governmental policies at work, rather than of the feasibility of its own tradition.

Even today, there is a dominant understanding that the "agricultural" and "technological" societies are antithetical, much like "tradition" and "technology". The vernacular, being characteristic of the former, is often thought to be backward and unsophisticated. But this cannot be further from the truth. The sustainability of vernacular architecture is a case in point. In fact, technology and ingenious "Lo-TEK" solutions, have always been an integral part of tradition, and of vernacular heritage. (Watson, 2019) However, such attitudes pose a serious challenge to retaining both the significance and the values of vernacular heritage, as they are a direct function of the social engagement and appreciation.

In reality, vernacular heritage far exceeds such stereotypes. Around the world, traditional building practices form complex, organically evolved socio-cultural systems, which transcend national boundaries and hold great cultural significance and potential. The latter being rooted in the rich empirical knowledge, drawing on the experience of countless generations. To recognise and apply this knowledge, we must break down our prejudices toward the vernacular and rethink our approach to dealing with it.

## 3 An Intangible Core

Traditional architecture often serves many functions beyond the residential. In many parts of the world, sacred and secular, personal and public spaces are built in keeping with the principles of local vernacular building — by and within the community, according to traditional organisation of social relations. This kind of construction is a socio-cultural product whose significance can be traced down to human values — and ultimately to people themselves, their associations, and their traditions.

Vernacular architecture unfolds from and around an intangible core — traditional building techniques, crafts, rituals, beliefs, functional relations with the immediate setting (the adjoining cultural landscape or historic urban fabric, for example), ways of life, and the management of natural resources. This intangible content of the historic substance is in constant change and evolution. Precisely in this mutability lies both the cultural significance of the vernacular and its vulnerability and susceptibility to socio-cultural change. (ICOMOS, 1999 and UNESCO, 2003)

Fig. 5: An Intangible Core © Varvara Valchanova 2013

## 4 The Study and Recognition of Vernacular Architecture

The study of traditional architecture has its origins in disciplines examining the cultures and traditions of Indigenous peoples worldwide. As the most salient material trace of cultural communities, vernacular architecture attracted the attention of professionals and enthusiasts from the late 19th century onward —travelers, adventurers, artists, archaeologists, architects, historians, and anthropologists. The first synthesized academic works that clearly linked traditional architecture to the societies that created it appeared by the mid-20th century. (Oliver, 2006).

Focused interest in the topic arose in close connection with Western Europe's expansionist policy and the history of colonisation. Perhaps for this reason, in its earliest stages the study of vernacular architecture was often used to serve nationalist agendas. Unfortunately, this is still true in many political contexts of our world.

It is only in the mid-1970s that the study of vernacular architecture gained broad popularity among the international academic community. The founding of the ICOMOS International Scientific Committee on Vernacular Architecture (CIAV) in 1975, in Plovdiv, Bulgaria, was perhaps the first clear sign of a concerted international interest in vernacular architecture as a distinct type of tangible cultural heritage.

Our Committee's initial mission was to initiate and synchronize international academic work on defining and identifying vernacular architecture — a process that began in the 1980s and crystallised in 1999 with the adoption of the ICOMOS "Charter on the Built Vernacular Heritage." Yet, this fundamental document deliberately refrains from a rigid definition. Instead, it emphasizes the intrinsically local

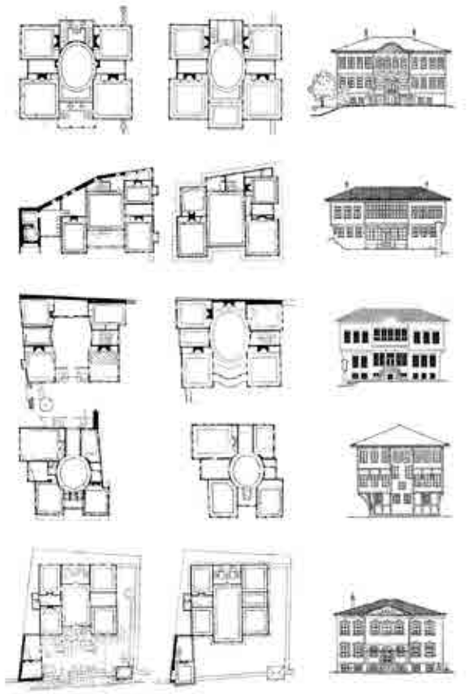


Fig. 7: The Plovdiv Vernacular © Todor Krestev 2005


Fig. 6: The Plovdiv Vernacular © Nokola Totuhov 2016


Fig. 8: A Vernacular Environment © Konstantinos Valsilakis 2015

character and extraordinary variety of forms and functions of this heritage (ICOMOS, 1999). In doing so, the Charter showcases a conceptual leap, asserting that vernacular architecture is "the way societies live"— a continuous process, involving necessary changes and unceasing adaptation to context, which corresponds with the ideas of later UNESCO Conventions — Intangible Heritage Convention (2003) and the Convention on the Protection and Promotion of the Diversity of Cultural Expressions (2005).

The Charter unequivocally stresses the organic relationship between individual buildings and the cultural landscape — that is, the importance of the interrelations between structures and their surroundings. In a broader view, a single dwelling is the functional nucleus of habitation and at the same time an inseparable part of a more complex organism of functionally interlinked ancillary structures, both the typology and purpose of which vary with livelihood, social life, and natural conditions. These ancillary structures (e. g. barns, byres, drying houses, and the like) form a material "threshold" between the intimate sphere of family life and the wider notion of the cultural landscape — that is, the anthropogenic transformation of the natural environment bearing the cultural-historical characteristics of a given ethnicity, community, and/or region.

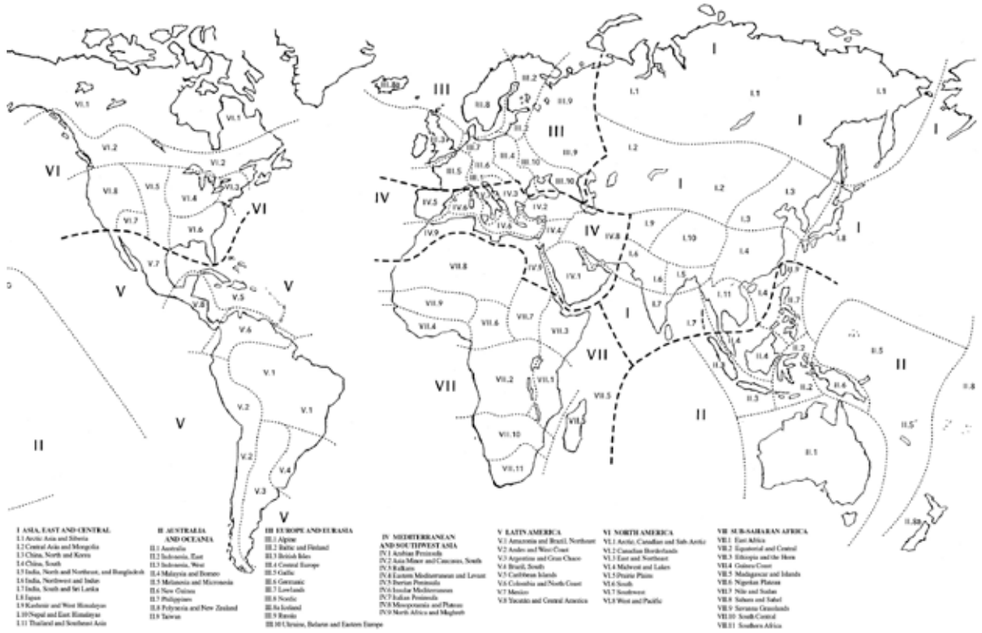



Fig. 9: A map of global culture regions and areas, Encyclopedia of Vernacular Architecture of the World © Paul Oliver 1997

For precisely this reason, isolating individual objects from the overall landscape/system leads to an incomplete understanding of vernacular tradition. (UNESCO, 2025)

While discussing the genealogy of vernacular heritage, it is worth mentioning that any vernacular building tradition is part of an even larger cultural system with transnational character. A vernacular tradition is in fact a cultural phenomenon, characterized by open cultural exchange and manifested in manyfold regional culminations. The Encyclopedia of Vernacular Architecture of the World has roughly mapped out the lines of this exchange of common values and ideas between neighboring vernacular building traditions (Oliver, 1997). The most striking part of this graphical analysis is its complete disengagement with national boundaries. The ICOMOS Gaps Analysis of 2004 further confirmed that vernacular heritage does transcend the concept of nationality, as it '[…] relates to cultural regions rather than political regions' (ICOMOS 2004, pp. 23, 28). This trait corresponds directly to the principles of World Heritage as it literally 'transcends national boundaries' (UNESCO, 2025, para. 49).

In light of this, a vernacular tradition is usually much older than the national context(s), in which it occurs, and the full richness of its morphology can be grasped only in consideration of multiple variations of similar typologies and forms in different locations. The serial or transboundary nominations for the World Heritage List are a great instrument for capturing and promoting the complexity of such vernacular phenomena.

## 5 Vernacular Sustainability

Since the early decades of the 20th century, the relationship between vernacular architecture and one of the principal notions shaping contemporary discourse —sustainability— has drawn growing scholarly attention. At the Paraty Meeting in 2010, UNESCO formally embedded the concept of sustainability within the interpretative framework of the World Heritage Convention and, by extension, within the broader field of cultural heritage (UNESCO, 2010). UNESCO did not, of course, originate the idea, nor was it the first to highlight its relevance; rather, it positioned sustainability at the forefront of the global cultural debate.

A review of the World Heritage List shows that natural heritage sites, cultural landscapes, and vernacular heritage most vividly embody UNESCO's evolving understanding of the interrelation between culture and sustainable development. "Vernacular sustainability" emerges as an expression of enduring patterns of life and the balanced use of natural and cultural resources, refined over generations and intrinsically adapted to local conditions.

In practical terms, vernacular heritage is sustainable because it encapsulates cumulative, empirically grounded knowledge — encompassing the use and management of (local) materials and resources; the minimisation of transport and production costs; the integration of built forms within their (natural) settings; the optimisation of climatic performance and spatial functionality; and the maintenance of built fabric, or rather – the maintenance of change. Beyond its material and economic dimensions, the vernacular is equally sustainable in socio-cultural terms: it preserves, transmits, and continually reintegrates traditional knowledge, customary practices, and collective identity.

Within the context of the World Heritage system, and in light of the deliberations at Paraty, sustainability may thus be understood as a corollary of exceptionality and universality. The vernacular exemplifies this synthesis through its ingenuity, adaptability, and the seamless integration of environmental and socio-cultural wisdom — a living testimony to the equilibrium between human creativity and ecological continuity.

## 6 Authenticity as Process

The notion of authenticity in heritage possesses a complex intellectual and institutional genealogy, shaped by intersecting cultural, philosophical, and professional traditions. Its evolution spans from the aesthetic and moral sensibilities of the European Romanticism in the 18th century, through the early codifications of heritage ethics in the Athens (1931) and the Venice (1964) Charters, both emerging from humanity's attempt to reaffirm cultural dignity in the wake of war. It continues through UNESCO's adoption of the 1972 World Heritage Convention, which embedded authenticity within a global operational framework, and advances with the Nara Document on Authenticity (1994), which re-contextualised the concept by acknowledging cultural diversity and situational truth.

Subsequent milestones, including the Burra Charter (1979–2013) and the 2003 Intangible Cultural Heritage Convention further expanded the interpretive scope of authenticity — shifting the focus from fabric to values, from material permanence to cultural continuity, from objects to meaning. In contemporary Heritage Studies, authenticity is thus no longer conceived as an intrinsic property of the material artefact, but as a socially mediated construct — negotiated through community participation, lived experience, and the sustaining of narrative truth.

Thus refined, authenticity remains a cornerstone of heritage discourse — not confined to the pursuit of material evidence, but expressive of the dynamic relationship between people, place, and meaning.

Even though the academic construct of vernacular heritage crystallised at the end of the 20th century, the definition of its authenticity was already ahead of its time. In line with the Charter on the Built Vernacular Heritage, authenticity of the vernacular must be understood as a process rather than a fixed state. What matters for its conservation is not so much the "patina" of time —that is, a certain stage of decay— but the authenticity of renewal, rebuilding, and the continual infusion with meaning, cultural symbolism, and ritual. (ICOMOS, 1999)

In other words, the conservation, or rather safeguarding efforts regarding vernacular heritage need to be directed at continuing the traditional knowledge systems, the material expression of which is the vernacular heritage in question. Such systems pass down both a "common sense" and a sober understanding about the complexity of our living environment, vesting a sense for active protection, management, and guidance toward sustainable development.

For all these reasons, vernacular building traditions and the traditional knowledge associated with them hold vast potential for a paradigm shift in how we build and manage our living environments — a potential to challenge the dominance of globalised markets, and to resolve pressing social and ecological problems through re-implementation of sustainable alternatives, proven effective over millennia. Culturally, the built vernacular heritage combines both tangible and intangible assets in equal measure. Its human relationship with the natural environment, with the cultural context, and with the local population (its creator-bearers) determines its great cultural significance.

## 7 A Note on the Charter on the Built Vernacular Heritage

The Charter on the Built Vernacular Heritage (ICOMOS, 1999) remains a cornerstone in recognising the cultural value of vernacular buildings, yet it lacks the operational guidance necessary to capture and safeguard both tangible and intangible content that sustains vernacular continuity. To meet contemporary challenges of globalisation, social transformation, and climate change, the Charter should evolve into a process-centred framework capable of managing continuity and sustainable change. This calls for a revision that could rest on three interdependent pillars:

**-Knowledge systems** — recognising vernacular architecture as a repository of traditional know-how and collective intelligence;

**-Social values** — affirming the significance of customary practices, cooperation, and local identity; and

**-Sustainability** — acknowledging ecological adaptation as an intrinsic attribute of heritage value and method.

New operational guidelines —with the "Guidelines in Practice" at their core and modelled on the procedural clarity of the Burra Charter, for instance— could define practical steps for assessing significance through participatory mapping, documenting craftsmanship and oral traditions, integrating community-based management agreements, supporting master–apprentice transmission of skills, and monitoring both material condition and social vitality. A revised Charter should explicitly state that authenticity resides in the living relationship between people, place, and practice, not solely in fabric, and that sustaining this relationship is the ultimate goal of conservation.

Such an approach could transform the Charter from a normative declaration into a living instrument—one that empowers communities, guides practitioners, and positions vernacular heritage as a key resource for cultural resilience, social cohesion, and sustainable development.

## 8 Conclusion

The vernacular reminds us that culture does not reside only in monuments, museums, and masterpieces—it also breathes through the modest intelligence of everyday making. Each wall of earth, each hand-hewn beam, each reed roof is both an act of survival and an act of meaning. These channel continuity, built by people around the world—a quiet rhythm between necessity and imagination, between nature and culture, fed by an organic exchange of knowledge and values. To understand vernacular architecture is to listen to this rhythm; to recognise that our shared heritage is woven not only of masterpieces but of millions of humble human gestures—accumulated, adapted, and handed down. There, in those gestures, the essence of sustainability shines through— a living tradition of balance, sufficiency, and belonging. As contemporary society confronts ecological and cultural dislocation, the wisdom embedded in vernacular heritage offers not nostalgia, but guidance. It invites us to rebuild our relationship with the environment and with one another — to see building again as a cultural act of empathy. In the end, the human component in heritage is anything but ordinary.

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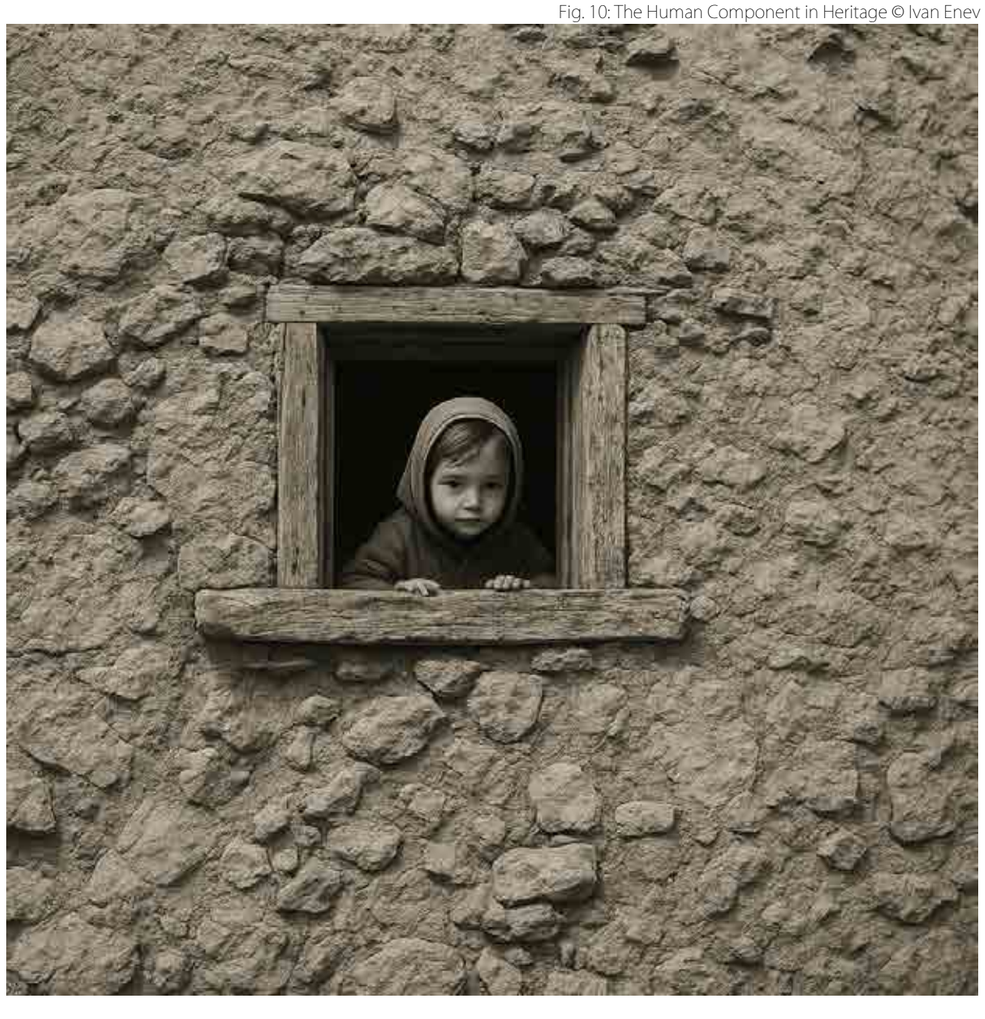
Fig. 10: The Human Component in Heritage © Ivan Enev



# Vernacular Architecture in Macedonia: Historical Trajectories, Case Studies, and Current Challenges

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Macedonian vernacular architecture embodies a complex interplay of geography, culture, and history. From the figurative "vernacular skyscrapers" reflecting vertical experimentation to traditional houses in Ohrid and recent fabrications such as the Macedonian Village on Vodno, these structures reveal both local ingenuity and the risks of misrepresentation. Drawing on previous research—including Aiming Towards the Sky: The Vernacular Skyscrapers (ISVS 2019), The Ottoman Era Town House in Ohrid (ISVS 2020), and Reinventing Vernacular Traditions: The Macedonian Village (TDSR 2016)—this article examines typologies, materials, and spatial logics, while highlighting the preservation challenges Macedonia faces today. Comparative examples from neighboring Balkan countries illustrate divergent approaches to vernacular heritage. This synthesis provides a critical overview of Macedonian vernacular architecture, its cultural significance, and the dangers posed by state-manufactured replicas.

## 1 Introduction

Vernacular architecture in Macedonia represents a vital expression of local culture, shaped by geography, climate, and long histories of coexistence. These forms range from the "vernacular skyscrapers," which embody vertical ingenuity, to urban houses in Ohrid, and contemporary reinterpretations such as the Macedonian Village on Vodno/Nerezi. Unlike monumental or formally designed architecture, vernacular forms emerge organically, rooted in practical necessity, local materials, and lived traditions.

The so-called skyscrapers illustrate vertical experimentation within vernacular forms, demonstrating modularity and spatial hierarchy without recourse to literal multi-story urban construction. Ohrid's domestic houses, meanwhile, represent horizontal adaptation to slope and climate, balancing private family life with communal visibility. Contemporary interventions, however, complicate this continuum: while authentic settlements continue to embody cultural practices, fabricated projects like Macedonian Village repackage tradition as spectacle.

Methodologically, this article integrates comparative visual analysis, historical documentation, and field surveys. It builds on three published studies by the author—Aiming Towards the Sky (ISVS 2019), The Ottoman Era Town House in Ohrid (ISVS 2020), and Macedonian Village and Ohrid Architecture (TDSR 2016)—to examine typological evolution, spatial logic, and preservation challenges in Macedonia's vernacular heritage.

## 2 Vernacular Skyscrapers: Innovations in Macedonian Vernacular

House from village of Galicnik © Author

### 2.1 Concept and Historical Context

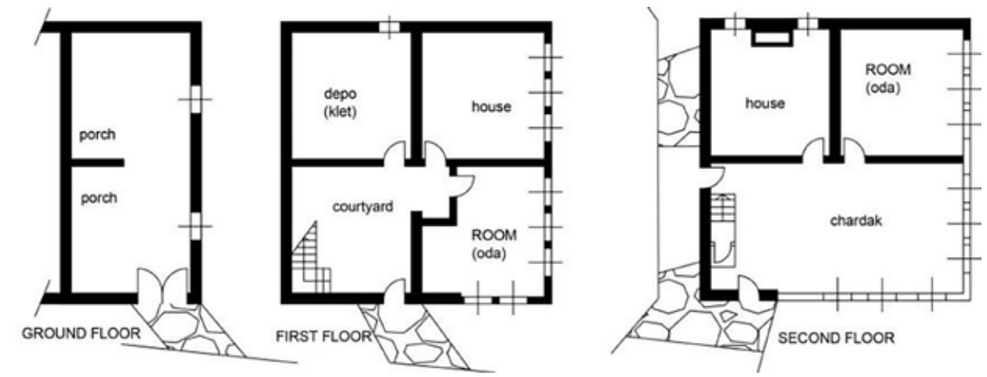
The term "vernacular skyscrapers," as elaborated in Aiming Towards the Sky (ISVS), is figurative rather than literal. It refers to a group of vernacular structures in Macedonia that embody vertical experimentation and volumetric innovation within traditional architectural practice. Although modest in scale, these buildings reveal a remarkable engagement with height, modularity, and spatial hierarchy, metaphorically "reaching upwards" both in their architectural design and in their social significance.

This typology arose from practical and cultural needs. On one level, the houses reflect the necessity of accommodating extended families within compact plots, often on challenging topographies and in seismic regions. Their multi-level construction provided pragmatic solutions for limited land, while also offering resilience against climatic conditions. On another level, they carried symbolic weight: their upward thrust expressed social status, aesthetic aspiration, and the desire to mark identity within the local community.

The skyscraper concept thus highlights the ingenuity of Macedonian builders, who negotiated environmental and cultural constraints through creative adaptation. Their defining characteristics include:

- **Vertical organization:** multi-level arrangements within small footprints, with differentiated zones for public, semi-private, and private functions.
- **Materiality:** stone bases that provided durability and seismic stability, timber framing for the upper floors, and roof forms carefully adapted to local climate.
- **Spatial logic:** emphasis on light, ventilation, and flexible interior use, demonstrating how vernacular construction optimized scarce resources.
- **Visual expression:** restrained ornamentation or bay-like projections that articulated façades and signaled social standing without monumental excess.

In this sense, vernacular skyscrapers serve as a conceptual lens for understanding innovation in traditional building. They embody both functional and symbolic aspects: their verticality represents not only spatial efficiency but also social aspiration; their modular, layered interiors mirror patterns of family organization; and their external forms communicate cultural belonging and identity.




Typical floor plan of a vernacular house from the village Galicnik © Author

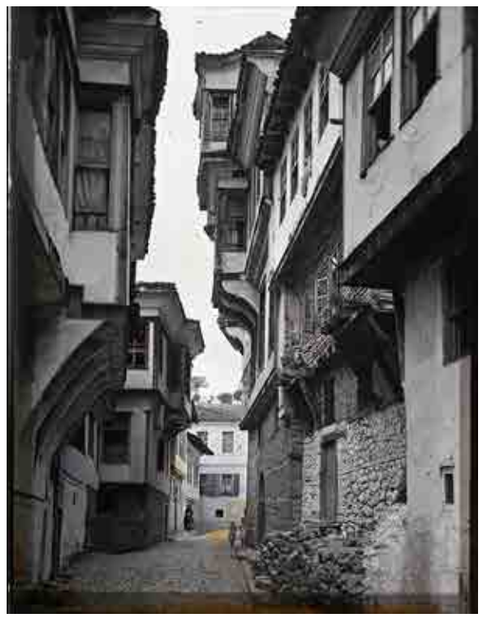
By situating these houses within a broader architectural discourse, the skyscraper concept becomes a bridge to understanding parallel vernacular innovations elsewhere in Macedonia—such as the urban houses of Ohrid—and to contemporary reinterpretations like the so-called Macedonian Village.

## 3 Ohrid's Vernacular Architecture

### 3.1 Historical and Cultural Context

The town of Ohrid, situated on the shores of Lake Ohrid, represents one of Macedonia's most significant centers of vernacular architecture. Its built environment reflects a layered history, encompassing Byzantine, Ottoman, and Balkan influences. Unlike the urban vernacular skyscrapers, Ohrid's traditional houses were predominantly horizontal in orientation, designed to adapt to the hilly topography and to harmonize with the natural landscape.

The vernacular architecture in the historical center of Ohrid emerged from both practical and symbolic considerations. The region's harsh winters and seismic activity necessitated buildings that were resilient, thermally efficient, and structurally adaptable. At the same time, architectural elements served social functions, signaling family status, trade identity, and communal affiliation.



Ohrid as seen in photographs © Auguste Léon 1913

### 3.2 Architectural Typologies

Ohrid's traditional houses exhibit several distinctive typologies, with common features including stone ground floors, timber-framed upper stories, and overhanging bay windows. The ground floors typically housed storage, service areas, or small workshops, while the upper floors contained the main living spaces. Roofs were covered with locally sourced stone slabs or tiles, depending on the availability of materials.

A defining characteristic of traditional Ohrid houses is their orientation and integration into the landscape. Buildings were often terraced along slopes, creating cascading spatial arrangements that provided both privacy and views over the lake. The use of local materials—such as limestone, oak, and chestnut timber—not only ensured structural stability but also embedded the architecture within its immediate environmental context.

### 3.3 Spatial Organization and Interiors

Internally, Ohrid's vernacular houses were organized around multifunctional living spaces. Reception rooms, or "salons," served for both domestic and ceremonial purposes, while private family areas were often elevated or separated to ensure seclusion. Staircases were narrow and steep, reflecting both spatial constraints and social customs that regulated circulation within the house.

Plans were centered on the chardak (sofa, hayat), a hall linking multifunctional rooms. Seasonal divisions separated summer and winter apartments, while mezzanines often housed kitchens. Interiors featured carved wooden ceilings, painted ornament, and artisanal joinery, expressing local craftsmanship.

Decorative elements were significant in reflecting cultural identity. Wooden ceilings with carved motifs, painted geometric patterns, and intricately detailed window frames exemplified the artisanal heritage of the region. In many cases, the interior organization was complemented by courtyards or small gardens, creating micro-environments that connected domestic life with the natural setting.

### 3.4 Relationship to Landscape and Urban Fabric

Left：Achrida (current Ohrid), Macedonian view of the old town with the Church of Saint Clément at the top , © 1913 - Balkans - Jean Brunhes and Auguste Léon
Right：Replacement of traditional materials and construction techniques with modern alternatives- Ohrid in the 60s © Internet

Ohrid's vernacular architecture demonstrates a profound understanding of landscape integration. Buildings were oriented to maximize sunlight exposure and lake views, while narrow streets and staircases facilitated pedestrian circulation in a dense topography. The irregular urban fabric, characterized by winding alleys and terraces, reflects centuries of incremental growth and adaptation.

This spatial logic, deeply embedded in local tradition, illustrates the balance between environmental responsiveness and social functionality. Unlike standardized urban planning, Ohrid's vernacular settlements evolved organically, responding to both natural conditions and communal needs. The houses are terraced along steep streets, oriented for lake views and sunlight. Courtyards and gardens connect domestic life to the outdoors, while irregular alleys create dynamic urban perspectives. This organic growth contrasts with rigid planned settlements, embodying incremental adaptation.

### 3.5 Preservation and Contemporary Challenges

Ohrid's inscription on the UNESCO World Heritage List has provided an important framework for safeguarding its vernacular architecture, yet designation alone has not been sufficient to halt the pressures of contemporary development. Tourism, economic shifts, and weak regulatory enforcement have accelerated a process of transformation that increasingly threatens the authenticity of the town's historic fabric.

One of the most pervasive problems is the replacement of traditional materials and construction techniques with modern alternatives. Timber frames, lime-based plasters, and stone roofing tiles are often substituted with concrete, synthetic plasters, and industrial tiles, creating visual and structural dissonance within the historic ensemble. While these interventions may offer short-term durability or lower costs, they disrupt the delicate material logic of vernacular houses and diminish their cultural integrity.

Equally problematic is the adaptation of houses to commercial functions. Many dwellings, especially those in prime locations near the lake or the bazaar, have been converted into hotels, restaurants, or retail shops. In such cases, interiors are stripped of their multifunctional layouts, wooden ceilings, and fine detailing in order to create standardized, tourist-friendly spaces. What remains is a façade of "tradition", masking a loss of the social and spatial practices that once gave meaning to the architecture.

At the same time, a significant number of houses suffer from neglect and abandonment. Families often lack the financial resources to maintain traditional structures, and state support for conservation is limited and inconsistently applied. The consequence is visible deterioration: collapsing roofs, rotting timbers, and eroding stone foundations. This neglect further accelerates calls for demolition or radical

intervention, creating a cycle of loss.

The tourism industry presents both opportunities and dangers. On the one hand, tourism generates revenue and international attention that can support preservation. On the other, the demand for easily consumable heritage encourages cosmetic renovations, generic reconstructions, and inappropriate new construction that overwhelms the historic scale of the old town. In this sense, Ohrid risks being transformed into a picturesque backdrop for visitors rather than a living community sustained by its own inhabitants.

Preservation in Ohrid therefore requires a delicate balance: maintaining authenticity while allowing for the functional continuity of houses as lived-in homes. Successful strategies must integrate both tangible and intangible heritage, acknowledging not only the architectural forms but also the practices of daily life that they embody. Scholars and conservationists increasingly argue for community-based approaches, in which residents are empowered and supported to maintain their houses according to traditional methods. Without such engagement, preservation risks producing empty monuments — shells of former homes stripped of cultural vitality.

In sum, the preservation challenges in Ohrid underscore the broader tensions facing vernacular heritage across the Balkans: how to reconcile tourism-driven economies with the everyday needs of communities, and how to protect authenticity in the face of modernization. The task is not only technical but deeply cultural, demanding policies that view vernacular houses as living heritage rather than static artifacts.

## 4. Macedonian Village: A Fabricated Vernacular Near Skopje

### 4.1 Project Overview

"Macedonian Village" complex built on the slopes of Mount Vodno in village of Nerezi, represents not an authentic settlement but a government-sponsored fabrication. Conceived within the framework of the Skopje 2014 project, it is a themed environment that mimics the appearance of Macedonian vernacular houses while stripping them of their lived cultural and spatial meaning. Unlike Ohrid or Krushevo — where vernacular forms have grown organically over centuries — this site is an artificial collage of "heritage", designed to package national identity for tourist consumption.

Marketed as a cultural initiative, the project presents stone bases, timber upper stories, and tiled roofs as visual clichés of "tradition". Yet behind this superficial display lies a reduction of heritage to façade: a cosmetic performance of identity rather than its lived substance.

### 4.2 Architectural Characteristics

The houses of Macedonian Village reproduce, in caricature form, key motifs of traditional architecture: stone ground floors, timber-framed upper stories, projecting bay windows, and steeply pitched roofs. However, these elements are decontextualized, often proportionally distorted, and forced onto artificially prepared terrain. What in genuine villages emerged from climate, topography, and social organization is here imposed mechanically, creating a lifeless stage set.

"Macedonian Village" under construction. © Author

House in village of Galicnik © Author

Facade of "Galichka" house in the Macedonian Village © Author

Pathways and courtyards, instead of reflecting organic settlement growth, follow a rigid masterplan dictated by tourist accessibility. The "vernacular" is reduced to a scenography where authenticity is sacrificed to convenience and marketability.

### 4.3 Interiors and Functionality

Inside the Macedonian Village, the rupture between image and reality becomes especially apparent. While the exterior façades attempt to mimic vernacular forms through stone bases, timber-framed projections, and pitched roofs, the interiors betray their superficiality. The adaptive and multifunctional rooms characteristic of traditional Macedonian houses — spaces that could shift between family life, hospitality, and seasonal use — have been erased. In their place are standardized hotel-like layouts designed for short-term occupancy: open-plan lounges, uniform bedrooms, modern kitchens, and generic bathrooms that bear no relation to the layered spatial logic of vernacular design.

The seasonal divisions that once defined traditional domestic space — summer rooms with wide openings to catch the breeze, winter quarters with thick walls and fireplaces for warmth — are entirely absent. Similarly, the social hierarchies embedded in spatial organization, such as the separation of public reception areas from private family rooms, have been lost to a flattened, standardized program of tourist accommodation.

The few remaining gestures toward tradition, such as token wooden ceilings, carved window frames, or decorative beams, operate only as surface ornament. They perform "heritage" visually while hollowing out its lived content. These decorative traces cannot substitute for the spatial intelligence, ritual use, and daily adaptability of authentic houses.

Ultimately, the interiors reveal the project's underlying orientation: they are designed not for families or communities but for transient consumers. Their functionality is dictated by the logic of the tourist economy — maximizing comfort, accessibility, and marketability — rather than by the rhythms of vernacular life. In this way, the Macedonian Village demonstrates how the material shell of tradition can be preserved while its cultural and social logic is erased.

### 4.4 Cultural and Educational Significance

Marketed as a cultural and educational attraction, the Macedonian Village claims to offer visitors an accessible encounter with traditional life. In practice, however, it exemplifies the commodification of tradition. Heritage here is staged as a consumable product, detached from the intangible practices — craftsmanship, seasonal rituals, kinship-based habitation — that give vernacular architecture its meaning.

Educational value is undermined by the project's superficiality. Visitors are presented with an "instant" version of Macedonian identity, one that privileges visual clichés over historical accuracy.

Instead of learning about the ways houses were built to adapt to climate, terrain, and extended family structures, tourists encounter a homogenized environment of identical accommodations and decorative façades. The result is a didactic distortion: what is taught is not how vernacular traditions functioned, but how they can be repackaged for consumption.

This risks significant cultural consequences. By staging replicas as heritage, the Macedonian Village may displace attention from genuine sites of preservation, such as Ohrid, Krushevo, or Mariovo, where authentic vernacular houses and settlements still survive, albeit in fragile condition. The substitution of replicas for originals weakens the case for protecting real heritage, since the "experience" of tradition can be supplied more cheaply and conveniently in fabricated environments.

Thus, while presented as an educational initiative, the project paradoxically undermines public understanding of vernacular architecture. Instead of transmitting cultural knowledge, it transmits a mythologized, sanitized version of identity — one that risks erasing the complexity of lived traditions in favor of simplified spectacle.

### 4.5 Critique and Reflection

The Macedonian Village epitomizes the dangers of reinventing tradition as spectacle. By amalgamating regional motifs into distorted forms and overlaying them with tourist-driven interiors, it produces an image of Macedonian identity that is both homogenized and politically instrumental. Its architecture communicates not continuity of heritage but the state's use of built form to construct a consumable narrative of national tradition.

In this sense, the project reflects broader politics of image associated with the Skopje 2014 initiative, where architectural forms were mobilized to craft a state-sponsored vision of identity. The Macedonian Village aligns with this trend, reducing vernacular culture to a set of visual signifiers detached from lived practice. Its buildings are not homes but stage sets, devoid of the social and environmental intelligence that shaped authentic settlements.

By ignoring the intangible dimensions of vernacular culture — kinship-based inhabitation, seasonal rhythms, climate adaptation, and everyday rituals — the project produces a hollow representation. Instead of reinforcing heritage, it trivializes it, presenting tourists with a façade of authenticity while displacing attention from real villages where vernacular life still endures.

The danger is not merely symbolic. Such projects risk redirecting resources and public imagination away from authentic preservation, creating a cycle where replicas thrive while genuine heritage deteriorates. The Macedonian Village thus stands less as an act of cultural safeguarding than as an act of cultural misrepresentation, one that prioritizes marketable imagery over the continuity of tradition.

As such, it serves as a cautionary example: a reminder that the protection of vernacular architecture requires more than the replication of forms. It demands respect for the intangible, lived practices that give those forms meaning, and it demands policies that protect authentic settlements rather than their commodified substitutes.

## 5 Current Condition and Challenges

### 5.1 Vernacular Skyscrapers and Traditional Houses

The vernacular skyscrapers of Macedonia — once celebrated for their vertical ingenuity, modular organization, and adaptation to complex terrain — today remain largely absent from effective preservation policies. In principle, these houses are covered by state protection laws, yet in practice their survival depends almost entirely on the choices of their current users. With limited financial support or technical guidance, many residents resort to inexpensive modern solutions that undermine authenticity. Stone slab roofs are replaced with corrugated metal panels, timber balconies with aluminum frames, and lime-based plaster with cement renders. While these interventions are often motivated by practical necessity, they fundamentally alter the character of the buildings and disrupt their structural logic.

At the same time, examples of outright neglect are widespread. Some houses stand abandoned, their roofs collapsing, their timber frames rotting, and their stone walls eroding. Even under nominal state protection, enforcement of conservation standards is weak, and heritage laws are rarely applied beyond symbolic listing. As a result, these unique structures survive not because of coordinated preservation efforts, but in spite of their absence — preserved unevenly,

User driven "preservations" and neglected houses- laws vs. practice.© Author

improvised by users in ways that often accelerate long-term deterioration.

Traditional houses in Ohrid face similar contradictions. Although UNESCO designation has brought heightened visibility and limited protection, invasive tourism-driven modifications prevail. Concrete slabs, synthetic finishes, and standardized renovations distort the integrity of the historic townscape. In both cases — the skyscraper houses of the interior and the lakeside dwellings of Ohrid — the gap between legislation and practice is stark. Legal protection exists on paper, but without material support, enforcement, and community engagement, preservation is reduced to façade-level maintenance or left entirely to individual improvisation, often at the cost of authenticity.

### 5.2 Contemporary Reinterpretations

In recent decades, several state-driven projects have attempted to reinterpret vernacular traditions for modern cultural and touristic purposes. The most prominent of these is the "Macedonian Village" near Vodno/Nerezi, a manufactured complex that mimics the appearance of traditional houses while stripping them of their social and spatial logic. Marketed as an educational and cultural initiative, the project commodifies tradition, reducing heritage to a visual façade designed for consumption rather than for lived continuity.

Instead of preserving vernacular principles, such projects stage a sanitized, "ready-made" version of identity. Stone bases, timber façades, and pitched roofs are assembled in decontextualized and distorted proportions, imposed on an artificial terrain rather than emerging organically from topography and community needs. The interiors, rather than accommodating multifunctional family life, are standardized into hotel rooms and tourist lounges, various restaurants and souvenir shops, erasing the adaptability that defined the vernacular house.

The risk lies not only in misrepresentation but in substitution: fabricated "heritage" sites risk diverting resources, attention, and tourist flows away from authentic settlements such as Ohrid, Krushevo, or Mariovo, where genuine vernacular traditions survive, albeit in fragile condition. These reinterpretations thus blur the line between preservation and invention, creating confusion about what constitutes real heritage. They illustrate how heritage policy, when driven by spectacle and tourism, can undermine the very cultural continuity it claims to protect.

### 5.3 Key Threats

The threats facing Macedonian vernacular architecture are multiple and interrelated:

•**Material decay**: Timber rot, roof deterioration, and stone erosion weaken structural stability.

Without routine maintenance, vernacular houses gradually collapse.

•**Modern interventions**: The introduction of concrete floors, prefabricated doors and windows, or synthetic materials undermines the coherence of traditional systems and aesthetics.

•**Urbanization and tourism pressures**: Vernacular houses are often adapted into shops, cafés, or hotels, leading to radical alterations of façades, interiors, and spatial organization. In other cases, they are demolished to make way for modern construction.

•**Policy gaps**: The case of Ohrid—despite its designation as a UNESCO World Heritage Site—reveals the alarming state of heritage protection in North Macedonia. Rampant neglect, unchecked modern interventions, and poorly enforced legislation persist even within this internationally recognized area. If such degradation is tolerated in a site of global importance, it raises serious concerns about the fate of countless other vernacular settlements that lack any formal protection and are left entirely exposed to unregulated transformation or destruction.

•**Limited public awareness**: Communities often lack incentives or resources to maintain vernacular houses. Without recognition of their cultural value, preservation is subordinated to immediate economic needs.

Together, these threats reveal a systemic failure: the erosion of both material authenticity and intangible cultural practices. Unless addressed through coordinated preservation strategies, North Macedonia risks losing an irreplaceable layer of its cultural identity.

### 5.4 Lessons from the Region

Comparative cases across the Balkans, particularly in Greece, demonstrate that vernacular preservation is possible when legal, financial, and community mechanisms are aligned. Greece has invested in systematic conservation programs that prioritize not only the restoration of physical structures but also the continuation of their use. Adaptive reuse policies allow historic houses to serve contemporary needs — as residences, guesthouses, or cultural venues — without erasing their typological integrity.

Community engagement is central to these strategies. Preservation efforts succeed when local populations are active participants rather than passive recipients of state policy. Educational programs, financial incentives, and participatory planning foster a sense of ownership that encourages continuity of tradition.

North Macedonia could adopt similar approaches. By integrating the principles of the vernacular skyscrapers — verticality, modularity, adaptability — into preservation frameworks, policymakers can recognize not only the material but also the conceptual heritage of these structures. Adaptive reuse, when carefully guided, can provide sustainable futures for vernacular houses without reducing them to empty shells or tourist spectacles. Regional collaboration, particularly through comparative Balkan studies, could further reinforce a preservation ethos that is sensitive to both shared typologies and local distinctiveness.

## 6 Chalenges and Prospects for Vernacular Heritage

### 6.1 Continuity and Transformation

Macedonian vernacular architecture demonstrates both remarkable continuity in its design logic and troubling ruptures in its contemporary treatment. Across centuries, vernacular skyscrapers, town houses, and rural dwellings all reveal a shared reliance on vertical organization, modular layouts, and climate-responsive construction. These strategies, rooted in the need to accommodate extended families, manage limited land, and respond to seismic and climatic conditions, persist as enduring architectural principles. The careful balance between stone foundations, timber-framed upper floors, and pitched roofs exemplifies this long-term continuity, demonstrating a design intelligence embedded in the region's material and cultural landscape.

Yet this continuity is increasingly obscured by modern transformations. The vernacular skyscrapers, while conceptually innovative, are neglected and in danger of collapse. In Ohrid, the continuity of the vernacular is disrupted by invasive tourism-driven renovations that replace historic materials with concrete, substitute timber balconies with aluminum frames, and reconfigure houses for commercial uses. These interventions not only erode authenticity but also sever the link between spatial logic and cultural practice.

The Macedonian Village represents perhaps the starkest rupture. While it claims to preserve and extend vernacular continuity, it does the opposite: flattening centuries of cultural depth into a stage set of clichés. By assembling stone bases, timber façades, and pitched roofs without regard to context or lived practice, the project constructs a simulacrum of tradition that misrepresents rather than extends vernacular logic. Instead of embodying continuity, it signals cultural rupture — replacing heritage with spectacle, and lived tradition with a consumable pastiche for tourist markets.

Thus, Macedonian vernacular architecture today stands at a crossroads. On one hand, authentic forms continue to bear witness to adaptive intelligence and cultural resilience; on the other, careless modernization and state-driven fabrications threaten to sever this continuity. Preservation must therefore move beyond material repair to safeguard the adaptive practices, settlement logic, and intangible dimensions that have historically sustained vernacular architecture. Without such an integrated approach, continuity risks being replaced by contrived reinvention.

### 6.2 Shared Balkan Typologies

Across the Balkans, vernacular architecture developed within comparable geographic and environmental conditions—mountainous terrain, seismic activity, and marked seasonal variations. These factors produced a broadly shared construction logic, visible in the repeated use of stone foundations, timber-framed upper floors, steeply pitched roofs, and modular internal arrangements. Despite differences in cultural and religious traditions, the architectural responses to climate and topography reveal a striking unity across regions such as Macedonia, Albania, northern Greece, and Serbia.

In Macedonia, the so-called vernacular skyscrapers embody a vertical adaptation to steep terrain, while in Albania, particularly in Gjirokastër and Berat, stone tower houses demonstrate a parallel logic of building upward to conserve space, assert status, and provide defense. In northern Greece, towns like Kastoria and Siatista feature multi-storey houses with wide façades and projecting wooden galleries that echo similar principles of modularity and vertical layering. Serbian examples, particularly in mountainous regions, show comparable structural solutions, with heavy masonry ground levels and lighter timber construction above, adapted to seismic and climatic pressures.

These shared typologies highlight not only the physical responses to environment but also social and cultural parallels. Multi-storey dwellings across the region often accommodated extended families, with internal spatial hierarchies reflecting gender, age, and social roles. Public-facing upper floors with wide windows signaled openness and prestige, while lower levels retained defensive or service functions. The widespread presence of semi-open spaces— whether chardak, hayat, or loggia—illustrates the deep-rooted role of transitional spaces in Balkan domestic life, mediating between interior and exterior, private and communal.

Taken together, these elements suggest that Balkan vernacular houses were never isolated expressions of single communities but part of a trans-regional architectural continuum. The Macedonian vernacular skyscrapers, the Albanian kullas, the lakeside houses of Ohrid, and the urban mansions of northern Greece all demonstrate how builders across the peninsula applied common strategies to distinct local contexts. They form a conceptual link among diverse vernacular traditions, underscoring the need for comparative research that recognizes both shared logics and regional variations.

### 6.3 Divergent Preservation Approaches

The challenges facing Macedonian vernacular heritage cannot be fully understood without situating them within a broader Balkan context. Across the region, shared geographies — mountainous terrains, seismic vulnerabilities, and river valleys — produced similar vernacular solutions: stone bases, timber framing, modular spatial divisions, and roofs adapted to climate. Yet the strategies for preservation vary dramatically from one national context to another, revealing divergent cultural and political priorities.

In North Macedonia, preservation remains fragmented and weak. Even in UNESCO-protected Ohrid, vernacular heritage suffers from neglect and poor enforcement; elsewhere, towns and villages often lack formal recognition, let alone protection. Policy frameworks are narrowly focused on façades rather than on the spatial, functional, and social logics of vernacular houses.

This reductionist approach allows for cosmetic restorations or tourist conversions that maintain appearances but hollow out cultural substance. The absence of financial incentives, insufficient training in traditional building techniques, and weak enforcement mechanisms further exacerbate the decline.

In contrast, Greece has implemented systematic conservation programs that integrate legislation, funding, and community participation. Villages such as Kastoria and Metsovo have benefitted from adaptive reuse strategies that balance heritage preservation with modern needs. Rather than stripping vernacular houses of their lived character, these programs encourage sensitive transformations — allowing buildings to serve as residences, cultural venues, or sustainable guesthouses while retaining their typological integrity. The success of these programs lies not only in strong legal frameworks but also in the cultivation of public awareness and local pride in heritage.

The comparison reveals that Macedonia's greatest deficiency is not the absence of heritage — which is abundant and diverse — but the absence of coherent policy and sustained support. While neighboring countries demonstrate that vernacular preservation can be compatible with economic development and tourism, Macedonia risks allowing its heritage to be replaced either by neglect or by superficial imitations like the Macedonian Village.

For Macedonia, the lesson is clear: preservation cannot be left to symbolic gestures or cosmetic displays. It requires integrated frameworks that protect material authenticity, sustain intangible practices, and empower local communities. Without such systemic change, Macedonia will continue to lag behind its neighbors, losing not only its vernacular houses but also the cultural identity they embody.

### 6.4 Implications for Research and Policy

•**Research:** Comparative and interdisciplinary research across Balkan vernaculars is urgently needed to illuminate shared typologies, spatial logics, and adaptive strategies.

Such research should move beyond aesthetic documentation to investigate the social, environmental, and ritual practices embedded in these structures. Importantly, it must also address the risks of distortion introduced by projects like the Macedonian Village, which flatten complexity into standardized images of "tradition". Scholars should therefore distinguish carefully between authentic, lived practices and state-driven fabrications, making explicit how political agendas shape what is presented as heritage.

•**Policy:** Comprehensive legislation is required not only to protect the physical fabric of vernacular houses but also to recognize the intangible values and lived practices that give them meaning. Current Macedonian heritage policies often reduce protection to material façades, leaving interiors, spatial logic, and community use vulnerable to erasure. Stronger frameworks must prevent vernacular heritage from being replaced by manufactured sites that serve tourism while neglecting authenticity. By integrating lessons from regional examples, such as Greece's systematic conservation and adaptive reuse strategies, Macedonia could develop policies that balance preservation with contemporary needs without succumbing to cosmetic reinventions.

•**Community engagement:** Vernacular architecture cannot be preserved through legislation alone; it requires active participation of local populations who embody its intangible continuity. Too often, as in the case of the Macedonian Village, communities are excluded from decision-making while "heritage" is re-staged for external consumption. Policies must foster bottom-up involvement, supporting local initiatives to maintain, adapt, and inhabit traditional houses. Community-driven preservation strengthens cultural identity, ensures sustainable use, and resists the reduction of heritage to a tourist commodity.

•**Contemporary reinterpretation:** Projects like the Macedonian Village should not be treated as complements to preservation, but as cautionary examples. They illustrate how state-driven reinventions risk undermining authentic vernacular sites by offering superficial substitutes. Policy and research must therefore emphasize protection of real villages and houses, not their manufactured imitations.

## 7 Conclusion

Macedonian vernacular architecture embodies a rich and enduring cultural legacy, shaped by centuries of adaptation to climate, topography, and social needs. From the vertical ingenuity of the vernacular skyscrapers to the slope-integrated, horizontally organized houses of Ohrid, these structures reveal strategies of spatial hierarchy, multifunctional domesticity, and environmental responsiveness. Beyond their physical form, they encode intangible knowledge—seasonal rhythms, kinship structures, and artisanal practices—that sustain communities and transmit cultural identity across generations.

This continuum is increasingly imperiled. Modernization, tourism-driven pressures, and state-sponsored fabrications such as the Macedonian Village threaten to sever the link between material form and cultural meaning. In such projects, vernacular architecture is reduced to a surface image: interiors are standardized, multifunctional spaces erased, and social hierarchies flattened, creating an inauthentic spectacle. These interventions risk diverting attention and resources away from real settlements, giving the illusion of preservation while undermining genuine heritage.

Sustaining Macedonian vernacular architecture requires integrated strategies that protect both tangible and intangible dimensions. Effective preservation must prioritize:

**1.Holistic recognition of spatial and social logics:** Conservation should extend beyond stone, timber, and roof forms to maintain the adaptive, multifunctional, and climate-responsive practices that give these houses meaning.

**2.Community-driven engagement:** Residents are essential custodians of heritage. Participatory planning, financial incentives, and technical support enable communities to maintain and adapt vernacular houses sustainably, reinforcing continuity without sacrificing authenticity.

**3.Regional and comparative perspectives:** Cross-Balkan analysis highlights shared typologies and strategies while respecting local distinctiveness. Lessons from Greece, Albania, and Serbia show that adaptive reuse, legal enforcement, and community involvement can balance heritage preservation with contemporary economic and touristic needs.

**4.Critical scrutiny of fabricated heritage:** State-driven replicas should be understood as cautionary examples. While visually compelling, they risk trivializing lived traditions and misdirecting attention from authentic settlements. Policies must favor real communities over staged environments to safeguard the integrity of vernacular heritage.

Macedonian vernacular architecture today stands at a crossroads between continuity and rupture. Its survival depends on protecting not only material fabric but also the adaptive intelligence, social structures, and cultural practices embedded within. Preservation must ensure that houses remain living environments, inhabited and animated by their communities, rather than reduced to empty façades or tourist spectacles.

Ultimately, safeguarding this heritage is about sustaining a dialogue between past and present—honoring the ingenuity of traditional builders, enabling communities to live in continuity with their heritage, and resisting superficial reinventions that obscure the complexity of vernacular life. Macedonian vernacular architecture is not a static artifact; it is a dynamic, socially embedded practice. Its preservation requires vigilance, care, and a commitment to authenticity in both form and function, securing the continuity of cultural identity and architectural knowledge for generations to come.

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# Education Principles, Presenting Vernacular Architecture

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## 1 Introduction

Order as the use of logic exists in nature in several forms, and it is composed by symmetry, growth or repetition, simplification and harmonization. Nature is composed of living and non-living objects, all have three dimensions, but visibility can also exist in 2D only (Juvanec 2021). Blossoms are definitely spatial elements, but their typical characteristics can appear as plain patterns.

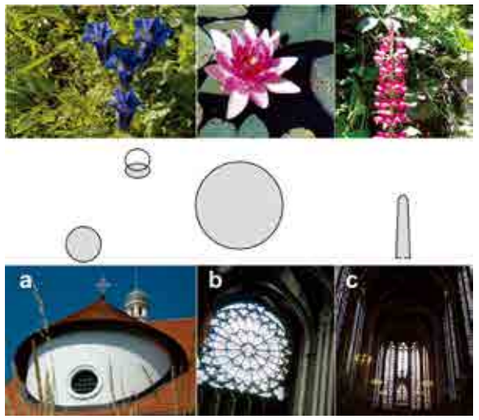


Fig. 1 From left to right: nature and mans work © Author

a Flower with 3 or 5 blossom leaves and simple window with a few elements in glass (Plecnik's church in Bogojina, Slovenia).

b Blossom with several leaves as a rose window (gothic church in France).

c Several blossoms in a complex and the walls, composed of numerous windows (Ste Chapelle, Paris).

This is not so important in single blossoms, but in the multiplication, where the blossom increases into a bigger and bigger composition, with growth, repetition or multiplication. This phenomenon can be seen in gothic architecture as 'the rose'.

Education has to be logical and is logical by definition.

## 2 Nature and natural orders

Order in nature can be physical or logical. Darwin's thesis about adaptability is only partly accurate: the main intent of all beings is survival. It can be done by mechanical ways

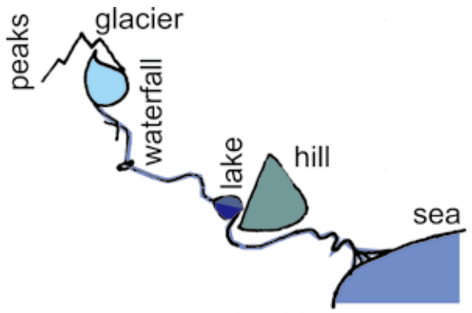


Fig. 2 Theory of water and its physical characteristics © Author

Its intent is to travel from the source to the final end as quickly as possible by the shortest possible way. Water has no form or taste and flows downwards.

Practice: a waterway adapts to find the shortest possible way, but it can rarely go through rock and never upwards. Adaptability uses possible ways to fulfil its intent.

Water's intent: the theoretical line is straight from the source at the glacier to the sea and is inclined downwards.

Water's adaptability: practically, this is this a matter of possibility: it flows quickly in a stream, falling over waterfalls, through a lake, around and between the hills to meander on the plains at the mouth.

Theory and practice are absolutely different.

(multiplication, large number of successors) or with use of sense, brain.

A man produces billions of sperms in one lifespan: only a few of them are used for dissemination of human beings.

Locusts live in big swarms. They can eat all the green plants in reach. This is not very wise: they are satisfying only the day's needs, without any thought for the future.

On the other hand, a bee lives in a very organized society, which collects food for the future at the time of fruitful nature. More important is the building culture: the hexagon in a honeycomb is the most simplified geometrical pattern between a circle and a square. A honeycomb is a composition filled with hexagonal elements. A composition of circles cannot be composed without space being left over, and squares, the most effective origins of a web, are not suitable for bees.

Multiplication in architecture can be seen in a Slovene kozolec/hayrack. This is a free standing, stable, permanent, mainly wooden, vertical, open but roofed object for drying and storing (it is the only ethnic Slovene architecture (May 2010: 57). For small needs, it is enough in a single formation, but for larger amounts of hay it can be multiplied up to 24 fields. Even in the length of more than one hundred meters it is designated in the singular: kozolec (Juvanec 2007).

Liquid is an example of dead nature, matter which has neither form nor flavour, smell. Water flows downwards, this is its intent and physical characteristic (Juvanec 2017). This can be done with more or less energy. The general intention is to use as little energy as possible on the way to the goal. This is done on the path of a glacier from the mountains to the sea.

Education by nature is a lateral product of its activity. There are several proverbs about the teaching of Mother Nature. In vernacular architecture can be seen the first step in man's use of a cave: nature protects five sides of the shelter, the sixth belongs to him (Kranjc 2012). A hut as the first architecture, made by primaeval man, has to be built and protected on all six sides. But nature – as the first teacher – succeeded (Juvanec 2021).

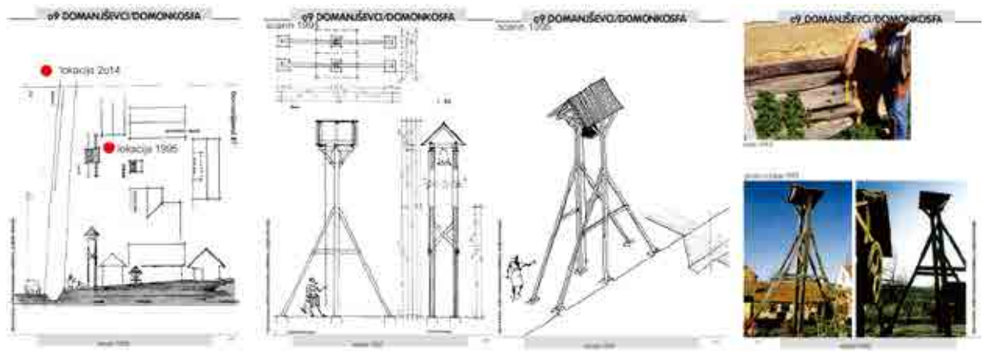


Fig. 3 Explanation and education through technical drawings and schemes: belltower: the technical drawing consists of groundplan, cross section, elevation, also axonometry, location and photos. Explanation of data is essential. © Author

Education leads from photos to details in the drawings – from whole to detail.

## 3 Logic in architecture

Vernacular architecture comes from nature, in nature and for nature – with the help of the human brain, to the measure of a body, with a logical consequence: harmonization and sustainable splendour in nature. The logic in it can be explained by needs, purpose, materials, possibilities (in the environment), construction, simplification of work, living (in, around and with the building), maintaining and lifespan, and finally with decomposition and reuse of materials. The question of beauty is essential: yes, aesthetics exists too, in simple architecture it is not just a fact, a side product, it is the final visual effect, not only of the object, but of the object set in the environment (Egenter 1992).

Need is the first attribute of architecture, because architecture without need is not bad architecture; it is not architecture at all (Juvanec 2004). The first need of primeval humans is security: against enemies (animals and other people), but also against weather conditions. Nature helped a lot, with a cave. It protects five sides – one has to be protected by primaeval man. However, wise man built a hut, with limited protection from all six sides. A hut is the first architecture (Oliver 2006).

Purpose came immediately after the hut, because the object could be used for people to live in or for animals, storing goods, primarily food (including water, for collecting, storing, cleaning, a source of power), defence architecture can be built as active or passive defence (active defence is physical defence such as a wall, passive such as visual appearance for spreading information, threatening etc.). Individual architecture consists of a single object or homestead; when needed objects are composed in groups. So villages, towns and cities appeared.

Materials are extremely important. The use of local materials is not only of economic character, it is practical because of easy availability and ecological because it contributes to the management of woods (Zwerger 2012). Materials are closely connected to the builder's ability: stone, clay and wood are certainly very different in terms of structure, use, treatment and handling, also in appearance. The form of a building depends on the choice of material and its characteristics (Juvanec 2016a).

Possibilities depend on available materials, but the characteristics of a building adapt to the environment, mainly to the terrain. The typical position of a dwelling is parallel to the terrain, but objects for other activities are perpendicular (along a ridge). In vernacular architecture it is not rare for all the floors to be accessible from the terrain – from the cellar to the attic, with ditches and ramps or simply direct from the sloping terrain. The inclination of the roof depends on the material (wood or straw need an inclination of 45 degrees), where there is a lot of snow, roofs are more sloping, but where heat insulation is needed, slopes are more gentle. Adaptation to the terrain is also the best way to connect visually to the environment (Fister 1986).

Construction depends mostly on the material: clay has very poor bearing strength, it is brittle (but it is easy to build), stone is heavy and does not support long stretches (but it can be composed into very stable drystone constructions), wood is easy to work, can carry long stretches and can be composed into three dimensional constructions. It is also usable for screening bearing constructions. Both the material and the construction of the object can be clearly recognized.

Simplification is a very important element of the

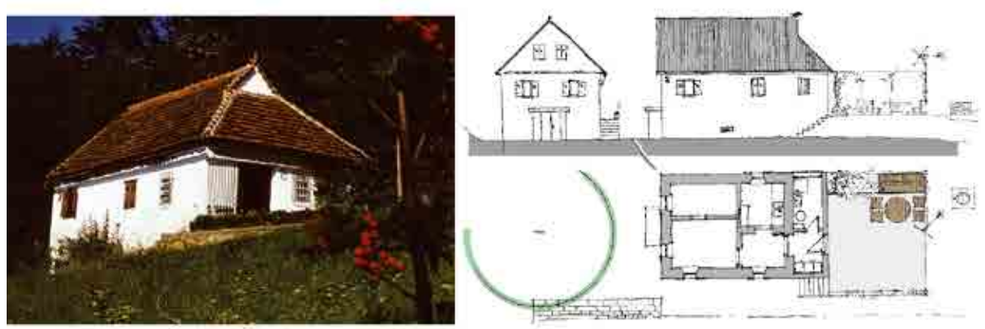

Fig. 4 Technical drawings show all the data required: form, dimensions, elevations, all in normal units. Photography is welcome, but it cannot show the real state, because of the limitations of the photographer's skills and the camera. © Author

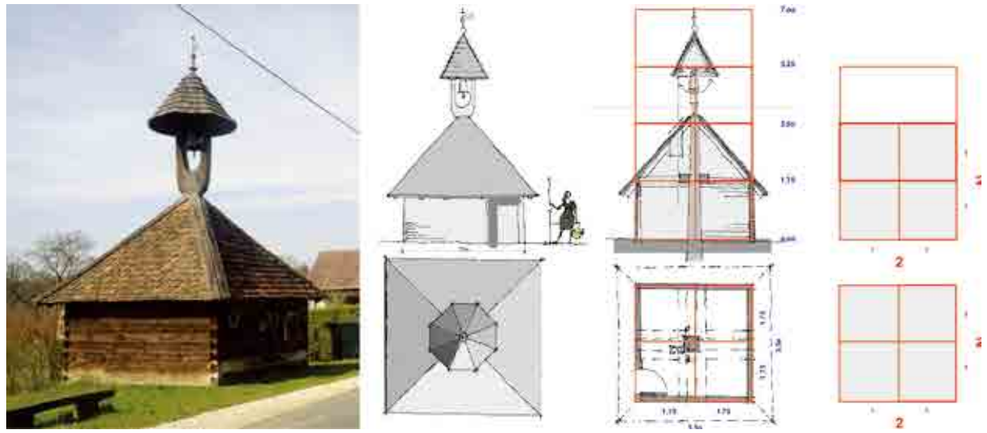

Fig. 5 A beltower as an object of vernacular architecture is harmonized in space. We can imagine it, but can only prove it after echnical drawings, with exact dimensions having been used. The body of this belltower is caught in a square (in groundplan as well as elevations), but the composition with the tower as a whole confirms the use of two squares, although the rectangle 1 : 1 ½ is also important – it shows the body with column, while the top roof is contained in half. © Author

work. Complicated compositions and joints can be composed only by highly trained workers, with exact tools, but they can spare material. Vernacular architecture is simple, because the builders had no training, tools were simple, but they had a lot of material – clay, stone and wood (Vellinga 2003). The most typical object of the type is a hayrack/kozolec, with its interweaved composition in all three dimensions. A lot of material and an over-dimensioned construction make up for lack of professional knowledge and ensure a stable, strong composition with lifespan of several hundreds of years (Juvanec 2020).

Living in objects, around them and with them represents using the objects in both technical and visual senses. Vernacular architecture is not boastful, it is fused with the environment, nature. It is not accidental that this type of architecture is 'non-visible' because it is incorporated as a natural element of the environment (Oliver 2006).

Maintenance is an important part of architecture. A poorly maintained element means the object is less maintained, it is of less use and has a shorter lifespan. Here is an interesting problem, though: the builder is a man, the person maintaining is a woman. Good architecture has to involve both building the construction and its daily use (Juvanec 2021).

Decomposition is the most neglected and forgotten element of architecture. The lifespan of architecture is far longer than the life of a builder (Lehner 2016). Architecture survives several lifespans of generations and the end of architecture is distant. All the natural materials can be used for something after the primary use. Even the wood, with its decaying ('disappearing' as a construction material) can be eaten by insects. Clay can be used anew and the same applies to stone. It can be built into new constructions.

Education in vernacular architecture in the past has been done by inheritance, mainly from father to son, within the frame of the family (Juvanec 2009). Vernacular architecture no longer exists today, but formal education is done in the schools. Elementary forms of education are logic, repetition and understanding.

## 4 Order in architecture

All objects in vernacular architecture are different, unique.

Vernacular architecture does not use recipes, but order. Rules don't mean limitation, but simplification and avoiding mistakes.

Simplification means use of exact geometrical forms, together with important ratios.

The simplest geometrical form – called 'perfect form - is a circle, with one dimension only. But a circle cannot be composed into a whole without remainder. It can stand only independent or exceptionally in plain constructions.

Form is the next most important part of

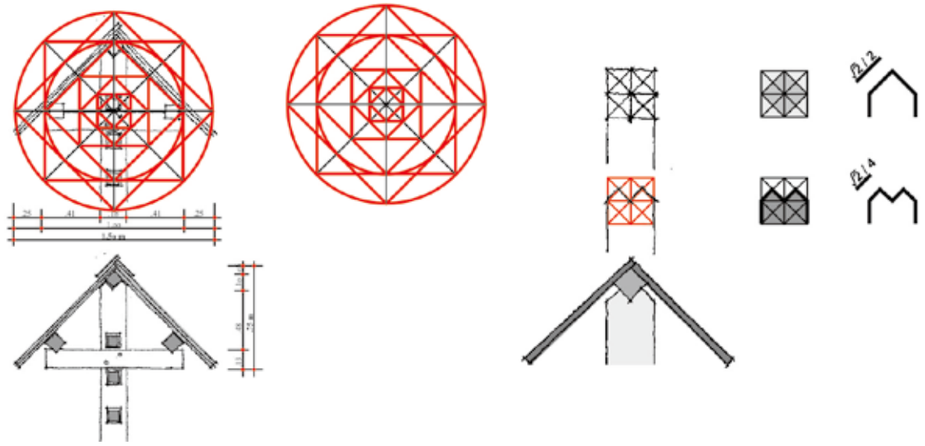

Fig. 6 The diagonal of a square is equal to the square root of two – according to Pythagoras. © Author
This is used in the top of the post in a Slovene kozolec/hayrack. The final detail is bonded with half of a right angle only, which simplifies the work. The construction is thus firmer and the composition more harmonious (Juvanec 2007).

proportion theory: a square. It has sides of the same length and four angles, each of 90 degrees, altogether 360 degrees. Its diagonal is very important, which– according to Pythagoras' theorem is the 'square root of two', if the sides are equal to 'one'.

Rectangles, using diagonals are next: the first in a ratio $\sqrt{}$ 2 : 1, then $\sqrt{}$ 3 : 1, $\sqrt{}$ 4 : 1 – but $\sqrt{}$ 4 is equal to two. Those ratios are important because of their simplicity in composition – made of the diagonals of rectangles (Juanec 2009a).

A very widely used proportion is the golden section or golden ratio, but it is a bit more complicated: its definition is as follows:

if we use two lengths a and b and side 'a' is longer, the proportion of the longer side toward the shorter is in the same proportion as the longer side toward the sum of a and b:

f1 $a : b = (a + b) : a$

The golden ratio is important because it appears in nature, including in human beings.

The graphic construction of this proportion is driven by a rectangle 2 :2 and its diagonal, which is equal to the square root of five. In this system, the longer side is equal to $1 + \sqrt{}$ 5/2, if the vertical side is '2'. If the shorter side is '1', the longer side is equal to $(1 + \sqrt{}\ 5) / 2$:

f2 $[(1 + \sqrt{}\ 5) / 2] : 1$

The length, divided by the golden ratio, can be drawn with help of a rectangle 2 : 1, with its diagonal, equal to $\sqrt{}$ 5 (Juvanec 1985).

f3 $\sqrt{}\ 5 - 1 : 2 - (\sqrt{}\ 5 - 1)$

f4 $\sqrt{}\ 5 - 1 : 3 - \sqrt{}\ 5$

f5 $(\sqrt{}\ 5 - 1) + (3 - \sqrt{}\ 5) = 2$

The most perfect form made with help of the golden ratio is a star with five sides, used almost everywhere in the world.

Where more numbers (lengths) are needed, numbers in line can be used, raw. There is of course not just one raw series, there are several different types. The most important is Fibonacci's file, in which the third mark is equal to the sum of the preceding two (Juvanec 2009a):

f6 a b c d e f g h ...

f7 $c = a + b$; $a = c - b$; $b = c - a$ ...

f8 ... $h = f + g$

The raw series is limited to the golden ratio and higher numbers that are closer to the theoretical value of the golden section:

f9 g : h is closer to golden ratio than f to g

The most important use of the golden section is Le modulor par Le Corbusier. This architect created two files: red and blue, using numbers for all the lengths of the architectural compositions (Le Corbusier 1963).

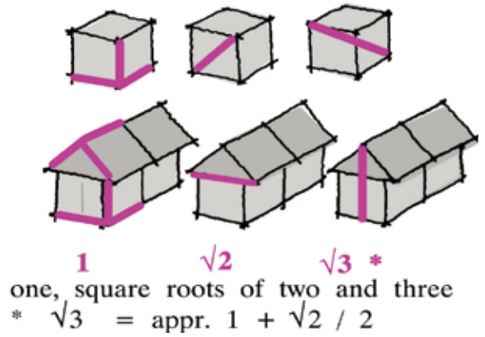


Fig. 7 The diagonal of a square is equal to the square root of two, the diagonal of a rectangle 1 : $\sqrt{}$ 2 is equal to $\sqrt{}$ 3, and a rectangle 1 : $\sqrt{}$ 3 has the length of $\sqrt{}$ 4, or two. © Author

This principle is used in a Slovene kozolec/hayrack: the two field object uses only two dimensions: 'one' and the 'square root of two', but the length $1 + \sqrt{}\ 2 / 2$ is almost the square root of three (the deviation is less than 1.5 percent, Juvanec 2007).

## 5 Simplicity

The result of logic in architecture is simplicity, it appears as construction, use and form, appearance (Juvanec 2021).

Technically, the simplest construction is made of a single piece of stone. A menhir is a stone, standing vertical, with more or less decorated faces. This is not yet architecture, but a series of menhirs, standing in lines (the purpose of which we do not understand today), can be understood as the first step in architecture (Juvanec 2016c).

Some tombs in Sardinia in the Nuraghe culture (second and the first millennium BC) and objects in classical Greek architecture can be found as a single piece of hewed stone (Juvanec 2013:17). These are very rare objects.

The next system is the construction of basic elements: walls and cover plate as 'dolmen'. Such constructions can be found mostly in Brittany, Corsica and Sardinia as tombs (Juvanec 2001).

Drystone construction means composing elements without mortar, stone by stone and stone above stone. This is possible for plain constructions, walls (Juvanec 2016b:29).

Corbelling as a construction principle requires horizontal layers of stones, which overlap each other right to the top. In groundplan, corners and the problems associated with them are avoided with a circle but, on the outside, the composition

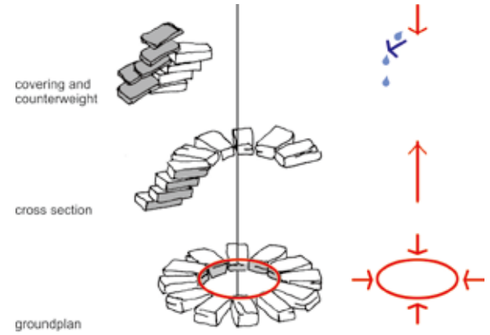


Fig. 8 Corbelling is a drystone composition of horizontal layers, whereby each layer overlaps the previous one. © Author

This construction makes an irregular dome or cupola. The composition as a whole has three characteristics:
1 it is a circle in groundplan
2 it overlapping in cross section
3 the cover material (stone roofing plate/top plate) is used as a counterweight
The most important characteristics of corbelling is building without any scaffoldings. It uses more brain than hands (Juvanec 2002).

can be completely unique: semi-circular, pointed, stepped, with a pronounced roof, with stresses or without them (Juvanec 2008). Only one shape is possible on the inside: corbelling creates an irregular cupola (Juvanec 2013: 62). The same construction can be found all over the world, but every object has its individual outer shape, the elevation. The main characteristic of corbelling is the possibility of building without any scaffolding.

The difference between classical and vernacular architecture is with the builders: classical architecture is built by educated people, vernacular is the product of simple builders without formal education, with inherited knowledge (Juvanec Benko 2016). Classical architecture can be repeated in its details or in compositions, vernacular architecture was invented anew, individually for each object.

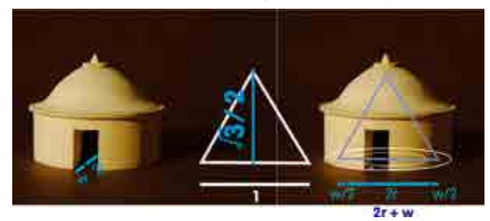


Fig. 9 The theoretical basis of a corbelled construction is the use of the square root of three, divided by two. The use of an equilateral triangle helps to define the irregular dome's height: it is $\sqrt{}$ 3 / 2. This is an extremely simple mathematical operation, but the builders of vernacular architecture – without any formal education – didn't know it. They used it, though. © Author

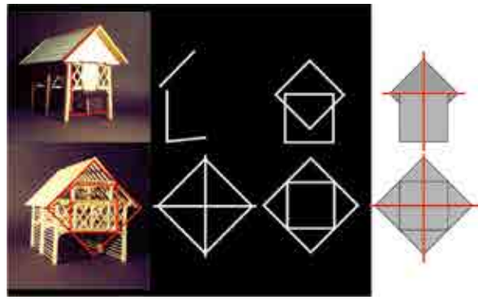

Fig. 10 There are two types of Slovene kozolec/hayrack construction of the gable. Both use a square and its diagonal. © Author

The first has its basic square and a square with the same dimensions is rotated through 45 degrees. Its height is equal to one plus the square root of two by two, which is a bit less than $\sqrt{3}$.

The second composition uses squares with decreasing diagonals, in proportion 1 : $\sqrt{2}$. All the following squares are bigger or smaller in the same proportion: the square root of two.

Connected compositions in stone or bricks (fired bricks or sun-dried adobe) use mortar in between for strengthening. Building arches needs scaffoldings, which means large secondary, temporary constructions, which is not cheap and cannot be sustainable (Lehner 2016).

Log constructions are made of wood in the natural form of a trunk. It is easily shaped with hand tools, mostly with an axe, chisel and saw (Juvanec 2009: 20). The logs can only be connected at the edges, or they are interwoven as a web. The strongest constructions can be found in a hayrack/kozolec, with which the beams compose a three-dimensional composition with extreme strength (Juvanec 2007: 15).

There are two dimensional frames and those in 3D. Plain compositions are mostly tools and devices, compositions in 3D are objects (Juvanec 2006).

Frame constructions in 3D are made of beams, composing a sort of three-dimensional web of the composition. Frame constructions need filling material: brick or wooden boards outside or inside.

Panel compositions use attached panels. The attaching material can be pins, nails, screws or glue, and the sealing of plates can be done with tongue and groove (Oliver 2006).

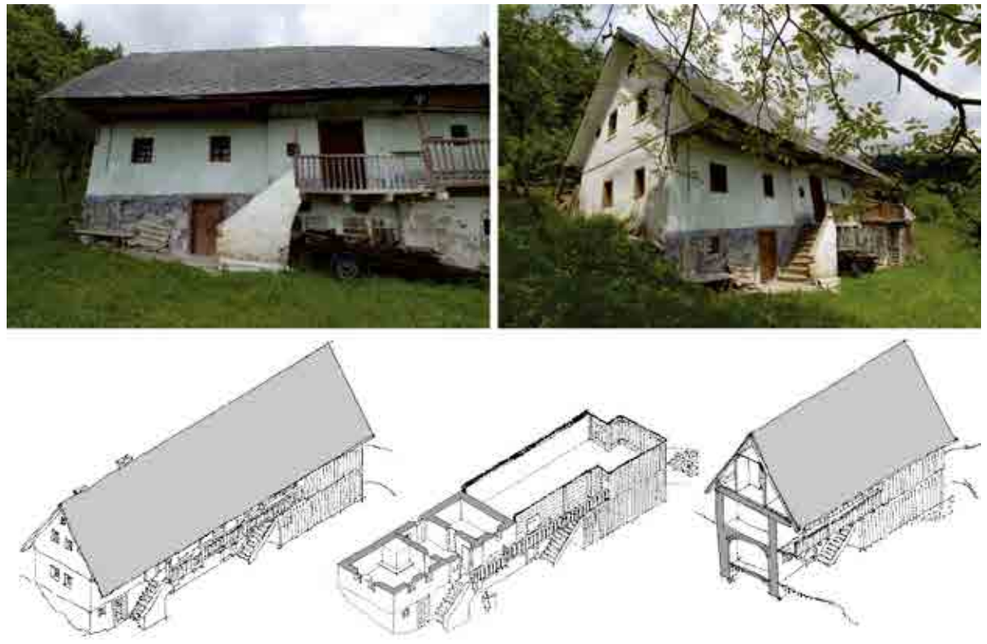

Fig. 11 A house can be presented in a photo as we see it, but only technical drawings with exact dimensions can bring the real picture. © Author
The view of the roof shows the object as it is, but eliminates a lot of data, which are hidden by the roof.
A groundplan reveals the inner organization and use of the rooms.
Construction can be presented only with help of cross section.

The compositions above are ordered by logic: from the simplest detail to complex units with numerous and complicated joints.

Simplification consists of the above-mentioned elements: order, symmetry, multiplication, expansion and, finally, harmonization of all the elements leading to the common goal.

Education can increase knowledge only logically, with logic in a logical way (Juvanec 2021).

## 6 Education: logical presentation of the problems

Practical examples can be divided into plain or two-dimensional compositions in geometry (circle, square, diagonals) and 3D in space (cube, globe). Some interesting and comprehensive examples can be shown in paper as foldouts, or in 3D bodies, for education purposes.

Presentation of objects as a whole can be explained with psychology: skyscrapers can be seen from bottom to top, but small objects of vernacular architecture can be understood from above, as in axonometry.

Details, joints and building compositions can be understood from detail to the whole, from theory to practice. This can be presented with simplification for handwork, the use of simple tools on available materials, for stronger construction, for better use or prolonging lifespan. Understanding theory is crucial, the effect of detail is its proof (Oliver 2006).

Education: there is no need to be dull and complicated. All problems can be introduced in their elementary forms, even with computer games. Education, too, starts at the beginning.

The simplest presentation of problems can be done in paper, with drawings and separating problems with foldouts. Two dimensions can also be seen in space.

In architecture, there are two types of models: theoretical and practical. The first mentioned models show theoretical problems and need some explanation, while practical models present the real state in nature. A brain is needed for the first type, but not the second, although there is the problem of too exuberant an imagination, finally in romanticism.

Theory is matter for professionals, practical examples can be seen in everyday life. Connecting theory and practice is extremely important for the education of children. Logic helps a lot, even the most complex things can be understood with this science.

Simplification means removing all the unnecessary problems in the field. The difficulty

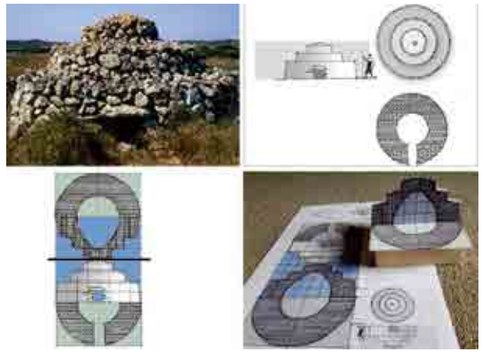

Fig. 12 Pont de bestiar is a drystone herdsman's shelter in Minorca.The photo shows only the view from one side. © Author
Technical drawings: entrance elevation, view to the top, groundplan tell us more, but the cross section is essential for understanding the construction.
A paper foldout shows a lot: groundplan, cross section and view onto the roof, entrance elevation.
More data can be given with foldouts, by which groundplan and cross section can be seen, and on the other side the view from above and entrance elevation.

Fig.13 Reality, typical features and characteristics can be shown with a smart model only. © Author

Photos of two stone shelters: the first has a rectangle groundplan outside, and the other is circular. At the first sigh,: two absolutely different objects.
The cross section shows the corbelled construction – but constructed in cross section only.
A smart model reveals the inner room – as the object. This virtual object shows the common feature – two different objects have the same inner space, the same use and the same size.

of this is that simplification simplifies the problems on the highest level (Juvanec 2021).

In vernacular architecture, high science can be presented as simply as possible; it can be understood in its elementary form (Juvanec 2011).

This has also a more problematic side: simplification of complex theoretical problems can make them become too simple. The problem appears for scientific researchers, too: theory seems to be too simple because their works can be widely understood, but cannot be scientific evaluated.

Education on practical models and schemes raises awareness of the problems, but it has to start from simple to complex examples, on the flat and spatially.

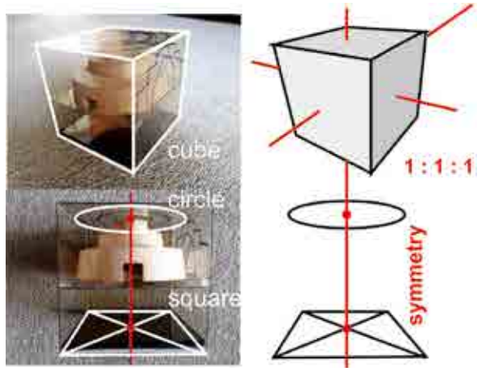


Fig.14 Pont de bestiar in Minorca can be put into half of a cube (1 x 1 in groundplan, 1 x ½ in cross section). The cube has three symmetrical axes, the circle one, with one dimension 'r', and the square of three in one face. © Author

## 7 Problems

Theory is understood by the general public to be something strange, complicated and difficult to understand, but it is not (Juvanec 2021).

Practice – on the other hand – is functional, simple and clearly understood. Nevertheless, it can be explained with theory, which interprets several elements of origin, work, use, even psychological elements of receiving compositions – beauty. Construction is a matter of materials, their use, treatment – it is a technical problem. Composition with its visibility is connected to a reasonable sensitivity of brain (Egenter 1992).

The use of typical elements in vernacular architecture is not a recipe but order. Order represents tradition, rule, which brings about a specific result (Juvanec 2009: 20).

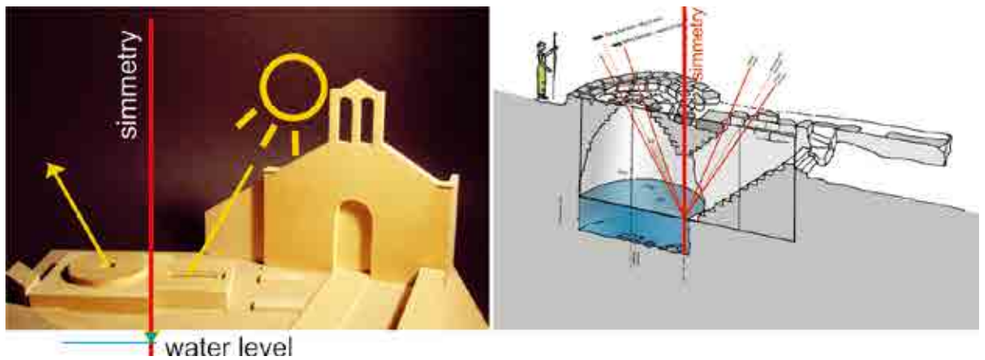


Fig. 15 Geometry, water reflex and time: where is the common point? © Author
The sacred well or Pozzo sacro Sant'Anastasia in Sardinia (12th century BC) is composed of two cubes. In the centre of the first can be found a circular construction of a corbelled false dome. In the second cube lies only a staircase, leading to the well.
Twice a year, the sun's beam enters through the staircase to the water surface and its reflection appears again out of the hole at the top of the well. This is a miracle.
It is a physical phenomenon: the incoming sun beam has the same angle as the outgoing beam – in relation to the vertical axis. This is perfect symmetry.
It happens on 21st April and again in August.
The first date is the name day of Saint Anastasia.
Finally, the name Anastasia comes from old Greek 'anastasos': to dig it out, also 'resurrection' (Juvanec 2014).

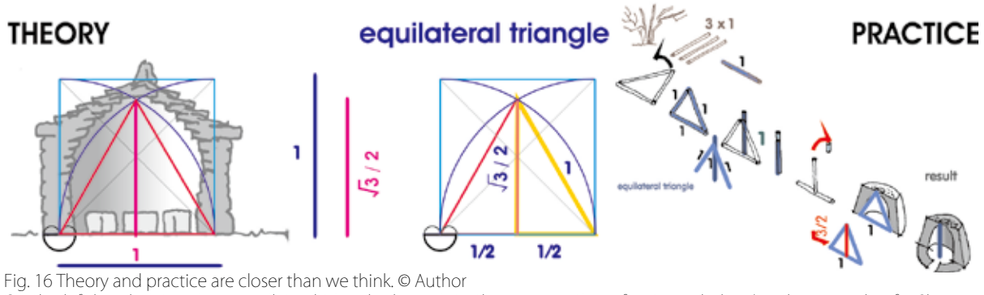


Fig. 16 Theory and practice are closer than we think. © Author
On the left-hand picture is an equilateral triangle drawn into the cross section of a stone shelter (on the example of a Slovene 'hiska'). The height of the triangle is √ 3 / 2, if the baseline is equal to 1.
The righthand picture shows a simplification of this geometric theory: an equilateral triangle can be composed of three sticks of the same length. If the sticks' length is equal to one, the triangle's height is √ 3 / 2. This is the height of a corbelled construction of a false dome.
Theory can also be constructed without theoretical knowledge. The evidence of this can be found in drystone shelters from Iceland to Yemen and from the Canaries to Palestine (Juvanec 2013).

Education in architecture can be understood in time: theoretical rules can be observed in action in real time, the real values of fixed constructions (edges, walls, spans) can be seen over decades or even hundreds of years. Experience and confidence in professionals are needed here.

## 8 Conclusions

The positions of education and logic are thus equal. The presentation consists of educational tools as lectures, presentations, models, analyses, schemes, simulations (books, articles, handbooks, computer simulations, educational games), or with practical work, which helps with understanding theory in practice, not only in schools. Logic is included in both theory and practice.

It is hard to explain beauty, because it is connected to human feelings. This can be partly interpreted with the help of order, which exists in nature and in buildings. The essence can be understood with logic, and the outer view with the use of proportion. The final impact, though, can be felt only in a harmony of all these elements.

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# Bureau Member

## Ivan Enchev ENEV

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**Nationality** Bulgarian

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**Langues** Bulgarian, English, German

## Education Background

M. Arch. (university, Bulgaria), Preservation of Architectural Heritage

M. A. Cultural Heritage (Australia)

M. A. World Heritage Studies (Germany)

## Working Experience

2020-onwards – Project Architect, Project Lead at PMS AG Berlin, Germany – conservation of built heritage, adaptive re-use and refurbishment of heritage-listed public buildings

2017-2020 – Project Architect Berlin, Germany – adaptive re-use of public buildings

2015 – Intern Port Arthur Historic Sites MA, Australia

2013-2015 – Project Architect, Bulgaria – planning, consulting, supervision on both architectural and heritage-related projects

2014 – Part-Time University Teacher, Bulgaria – Built Heritage Conservation and Interpretation

2011 – Junior Expert, Ministry of Culture, Bulgaria – identification, assessment, study, legislation of heritage sites; consultant for private developers on statutory protection matters.

2009-2013 – Architect, Bulgaria – restoration, conservation, adaptive re-use of heritage-listed buildings, archaeological sites and historic urban cores

## Projects

**Theatre at the Parkaue, Berlin (2020-ongoing)**

(Architect, PMS AG)

"The Theatre at the Parkaue" is the largest youth theatre in Germany, built between 1948-1950, and heritage listed in the 1990s. The building was subject to multiple major refurbishments and adaptive re-uses during the changing regimes in Germany after WW II, showcasing diverse building phases and typologies, the last of which took place in the 1970s. The project is being executed during ongoing operations and deals with complete refurbishment, restoration, functional and spatial re-organization, and renewal of the whole technical infrastructure and stage machinery of the theatre. The building belongs to the state of Berlin and hosts multiple public users (institutions).


Project 1 - Stage Tower and the Puppet Theatre
© 2024 Martin Tervoort

**The Old City of Karlovo, Bulgaria (2010-2012)**

(Conservation Architect, Architecture & Heritage Ltd)

The architectural reserve "Old Karlovo" lies at the heart of the historic city Karlovo in the southern part of Bulgaria and is one of the most significant cultural centres of the so-called Revival of the Bulgarian culture, folklore, and building traditions during the 2nd part of the 19th century. The project includes the restoration and adaptive re-use of five heritage-listed vernacular buildings, dating back to the beginning of the 19th century, built as timber structures with adobe infills and/or stone masonry. Furthermore, a strategic plan for the revitalization of the local historic urban core of the city is developed around the new touristic and educational functions of these 5 buildings.

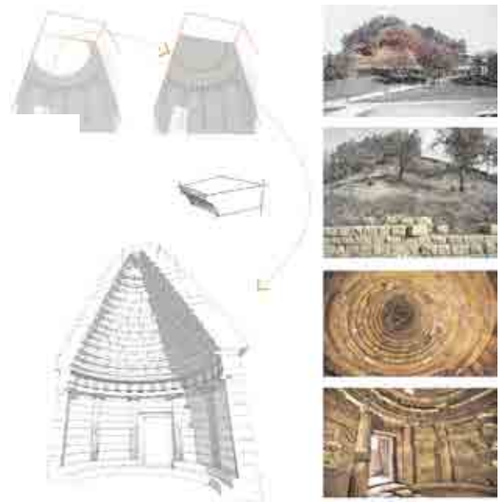
Project 2 - Facade and Ceiling Details, Buhalv Inn
© 2013 Ivan Enev

**The Starossel Temple, Bulgaria (2011-2012)**

(Conservation Architect, Architecture & Heritage Ltd)

The archaeological site of Starossel, Bulgaria, dates back to 5.000 B. C. and is by far the largest

and most important Thracian tumulus, housing a mausoleum temple. The latter is constructed in huge monolithic tuff stone blocks, and is equipped with unceilinged dromus, a rectangular and a round chamber. A conic cupola of carved stone blocks was originally built over the round chamber and deliberately destroyed towards the end of the Thracian Era by its creators, in an attempt to prevent any future sacrilege. The main objective of the project is the anastylosis of the caved-in structure of the dome above the round chamber, as this is closely linked to the structural stability of the whole temple on the one hand, and to both the accessibility and interpretation system for visitors on the other. The project employs approaches to in-situ conservation and treatment of all tuff elements — both reactionary and preventive.



Project 3 - Starossel Temple, Anastylosis of the Cupola
© 2018 Ivan Enev, Evgeni Dinev

# New Member

## Velika Ivkovska

**Name** Velika Ivkovska, PhD

**Nationality** The Republic of North Macedonia

**Occupation** Assistant Professor, Engineer Architect, Independent researcher

**Major** Architecture, Design and History of Architecture

**Affiliation** ICOMOS Macedonia

**Address** Atinska 23/39 Skopje. N. Macedonia

**Email** velikaivkovska@gmail.com

**Langues** English, Italian, Turkish, Serbo-Croatian, Greek, German, Slovenian

## Education Background

Velika Ivkovska holds a PhD in History of Architecture from Istanbul Technical University (2018), an MSc in Architecture and Design from University American College Skopje (2013), and a Bachelor's in Architecture from Ss. Cyril and Methodius University, Skopje (2004). Trained as both a scholar and a licensed practicing architect, her academic path bridges architectural history, cultural heritage, and design practice, with a focus on Ottoman and Balkan urban environments.

## Working Experience

Ivkovska served as Assistant Professor at International Balkan University (2021–2023) and Bahçeşehir University, Istanbul (2017–2021). She has extensive teaching experience in architectural history, theory, and conservation and preservation, alongside professional practice in Macedonia and abroad. Licensed as an architect, she has led architectural design and conservation projects, including public buildings, cultural centers, and residential developments. Her professional and scholarly contributions encompass site management, design coordination, and editorial work, with recognized publications, exhibitions, and awards in architectural history and heritage studies.

## Projects

**SAT Survey, Venice, Italy (2005)**

Worked under Alberto Torsello on the documentation for restoration of historic Venetian buildings protected by the Municipality of Venice. Produced ortho-photoplans and digital drawings supporting conservation planning and reconstruction. Responsibilities preparation of materials for restoration of culturally significant structures.

Municipality of Karpos, Skopje (2012) © Velika Ivkovska

**Administrative Building for the Municipality of Karpoš, Skopje (2012)**

Selected project for the Biennial of Macedonian Architecture.

**Yunus Emre Turkish Cultural Center Library, Skopje, Macedonia (2012)**

Interior design and project development for the Turkish Cultural Center Library in Skopje. Created functional and culturally resonant spaces for education and cultural exchange. Responsibilities included concept development, material selection, and site coordination.

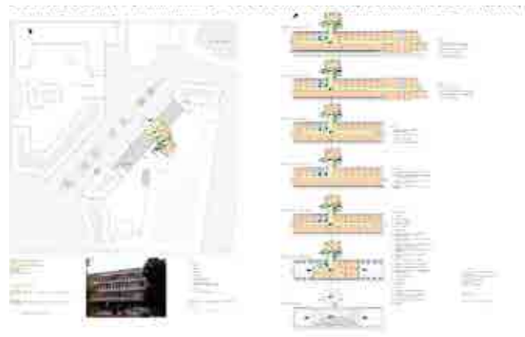
Yunus Emre Turkish Cultural Center Library (Skopje, 2012), Interior design and project development. © Velika Ivkovska

**Ministry of Transport & Communication, Skopje (2010, 3rd National Prize)**

Awarded 3rd National Prize in the competition for the reconstruction of a modernist state building. The proposal balanced conservation principles with contemporary interventions, reactivating a key piece of Skopje's modernist heritage for new institutional use.

**Ramada Plaza Hotel & Casino, Gevgelija, Macedonia (2006)**

Led project development for the Ramada Plaza Casino and Hotel. Work included floor plans, sections, façades, and interior design. The project integrated international hospitality standards with regional architectural expression, establishing a landmark building in the cross-border area.



Administrative Building for Ministry of Transport in Skopje, North Macedonia (2010) © Velika Ivkovska

World heritage: Matera, Italy ©Weizhen SHEN