From Vernacular to World Heritage

edited by
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UNDERSTANDING THE DIMENSION OF HISTORICAL EVOLUTION

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Historic settlements are like palimpsests that, in many ways, have become stratified over centuries in urban, architectural and constructive terms. The current appearance of a given historic centre or vernacular nucleus is the result of multiple layers and phases of its life, which have been superimposed. These include the direct interventions of construction, transformation or retrofitting, as well as the degradation of materials, structural lesions or incidents suffered. Unwritten and undocumented history is often reflected in the built substance of the buildings that make up these towns and cities (Mileto, Vegas, 2015). Understanding the dimension of the historical evolution of their urbanism, architecture and construction allows us to consciously respect their values, introducing the necessary changes and transformations to suitably adapt them to contemporary life, and to write this palimpsest without having to completely erase or cancel the fragments written in the past.

opposite page
Passage at Biertan, Romania
The current appearance of an ancient building is the result of multiple superimposed phases of its life, to understand and respect while adapting it to contemporaneous standards
(© F. Vegas, C. Mileto, 2017)

The urban dimension

The layout of urban or rural settlements is born of different factors: defensive, in search of higher up areas; topographical, such as curves in the ground; commercial, with the existence of communications between paths, rivers or canals; or pragmatic, such as individual access of each plot to the respective properties or crops. Some are vital, such as water supply, the existence of hunting or fertile countryside; climatic, searching for optimum ventilation, sunlight or shade, while social factors aim to distinguish between public and private spaces and their use. These locations are never haphazard, but rather the result of centuries of trial and error, which have established the best location and layout for surrounding conditioning factors.

Rural nuclei are often clustered on the southern slopes of a mountain, so as not to occupy arable land in the valley, while ensuring as much sunlight as possible, and avoiding possible floods. They thus find the most sheltered corners from the dominant winds, and thus spared from avalanches or landslides. In seismic or volcanic areas popular experience makes it possible to avoid settlements in the more conflictive cracks and faults, or arranges them in streets or avenues to minimise disruption (Vegas, 1999). There is wisdom in a non-haphazard placement of settlements, often forgotten until natural disasters act as a reminder of the initial reason for these locations.

In other cases, the location of these settlements has created its own physical or even orographic conditions for their survival and quality of life. Thus, for example, the old prehistoric nuclei of the plains

The city of Sibiu (Romania) is a good example of a built palimpsest that has managed to adapt to contemporary life without damaging its historical architecture
(© F. Vegas, C. Mileto, 2017)

The addition of new built volumes or the introduction of modern materials, precast elements or pre-dosed mortars in well-preserved pristine settings, such as this complex of the village of Archita (Romania), would seriously affect its vernacular character
(© F. Vegas, C. Mileto, 2018)

were built successively over the remains and rubble of earlier ruins or torched or looted constructions, successively elevating the ground to create *tells*, which become useful defensive vantage points. It is also common to find that the unhealthiest and most foul-smelling activities were located where the wind could blow the effluvium away from the population rather than towards it. Sometimes, screens were built to protect from the most insidious wind by strategically locating secondary buildings, such as grain stores or warehouses, which receive the initial impact of the wind, protecting the main nucleus of population.

Towns and cities have gradually grown or been transformed on themselves, even unconsciously respecting these tacit rules for a logical urbanism, on which their defence, support or survival depended. Breaking such rules, implicit in the urban layout, entails negative consequences from floods or catastrophes on a never-before-seen scale, to higher energy costs, or worse quality and conditions of life.

The architectural dimension

Architecture is also the result of the combination of available materials, climatic conditions, and local idiosyncrasy and culture. Like urbanism, it is not completely static but has traditionally been subject to modifications and transformations on itself, rather than to complete demolition and new constructions. Therefore, in a single facade or especially in an interior, it is easy to find structures, walls, elements belonging to past times, to past phases of the building. That is why it does not make sense to only protect facades as urban scenarios of buildings void of content, as the buildings are likely to incorporate elements that are older and possibly even more valuable than the facades themselves.

Over the centuries, buildings have undergone a gradual transformation deriving from the technological advances that improved the quality of life of their residents, who arrived in each individual location at a specific point in time linked to specific circumstances. Not all these evolutions have taken or will take place in the future, as they all depend on local conditions, although many reflect a common trend.

The evolution of roofs and floors often attests to the progressive scarcity of wood in some places and the search for solutions that are less reliant on it, incorporating specific flooring and progressive insulation

from the lower floors. There is a transition from exclusively wooden floors and roofs to those combined with other materials, a shift from floorboards laid directly on joists, to layers of anhydrite or lime and brick dust terrazzo flooring, or from gypsum paving to terracotta, glazed or cement tiles; all types of flooring, often found superimposed.

In the distribution, this evolution saw stables smelling of hay and manure transformed into garages smelling of fuel; attics became part of the dwellings; spaces which were traditionally for servants were used to expand the dwellings; workshops and work spaces on the ground floor became commercial premises. Smaller dwellings were grouped to increase their size or divide mansions and single-family buildings into apartments.

Balconies were added to facades with full length windows, while wooden railings were replaced with wrought or forged iron ones (Privitera, 2015). Small windows, scattered around the facade to provide daylight and ventilation, were transformed into academically ordered facades with large openings. Decorations were added to facades and systems to filter sun and shade evolved.

Glazing was added to window carpentry, replacing the oiled linen screens and other materials, which let light in, while the size of the windows increased, as the manufacturing processes produced larger glass panes. The transition from the original wooden shutters, as the only carpentry, to blinds took place; hinges evolved from hinge hooks and wrought iron hinges to butt hinges; and the invention of the *cremone* and *espagnolette* bolts made it possible to eliminate the central mullion of double windows.

In terms of installations, running water, electricity and gas were added to interiors; candles were replaced with candlesticks, Argand lamps, oil lamps and electric lighting. Traditional heating systems such as *gloria* heaters (Vegas, Mileto, 2014), braziers or ceramic stoves evolved to be replaced with hot water radiators. Plumbing made it possible to add lavatories in dwellings, while there was a transition from the kitchen hearth to the ceramic stove, metal stove, and gas or thermal induction stoves.

The building is also a built palimpsest of the history of the city, often showing how it has lived by transforming and adapting to the needs that have arisen over time. These modifications were often carried out by taking advantage of the existing building, thus leaving the traces of its previous life. In the past, this philosophy was a response to saving on resources. Now, we simply know it as sustainability, since experience has shown us that, with the odd exception, the greenest building is the one already built (Elefante, 2014). It saves on resources and use of existing structures, without generating rubble from a demolition. This sustainability, which is becoming increasingly clear, together with the preservation of the cultural identity reflected in the built palimpsest of the building, should be reason enough for us to intervene and conserve, restore, retrofit or adapt to contemporary habitability standards. It is necessary to proceed with the utmost caution and to respect the previous phases of the building, seeking a middle ground for their conservation.

The excellent conservation of the village of Viscri (Romania) requires not introducing at all or inserting only those changes that are strictly necessary so as not to affect the harmony of the complex
(© F. Vegas, C. Mileto, 2017)

The constructive dimension

The material substance and constructive essence reflected in the architecture of a given settlement is the result of centuries of local tradition deposited in it. The availability of different materials, usually sourced nearby, generates logical combinations of these to make up local architecture. Taking into consideration the existing limitations, these are the best solutions in response to climatic conditions, sunlight and ventilation needs, seismic activity, etc., as they distil the wisdom accrued from similar circumstances in the past.

In some cases, the presence of rivers, along which wooden logs could be transported, or seas, where cargo ships sailed, increased availability to hundreds or thousands of kilometres, even in a seemingly non-globalised past. River or maritime transport of wood (Diodato, 2015), the sale of iron bars from enclaves other than those of local foundries (Privitera, 2015), a trade in brick, perhaps used as ballast on return voyages (Mitchell,1997), and glass transported from production centres, are just some examples of the raw materials that used to be supplied for construction, and which were not always gathered from the immediate surroundings of the buildings.

The idea of local materials has long been much broader thanks to water communications, which were extremely cost-efficient in terms of energy as they mostly used wind or currents. From the 19th century on, improved communications by land further increased the potential to acquire materials from elsewhere, even defying logic, economy or traditional aesthetics.

In particular, the addition of industrially manufactured materials, especially predosed or prefabricated ones, burst into well-conserved artisanal surroundings, homogenizing constructive solutions and erasing the cultural wealth and diversity, which is characteristic of vernacular architecture. Although the

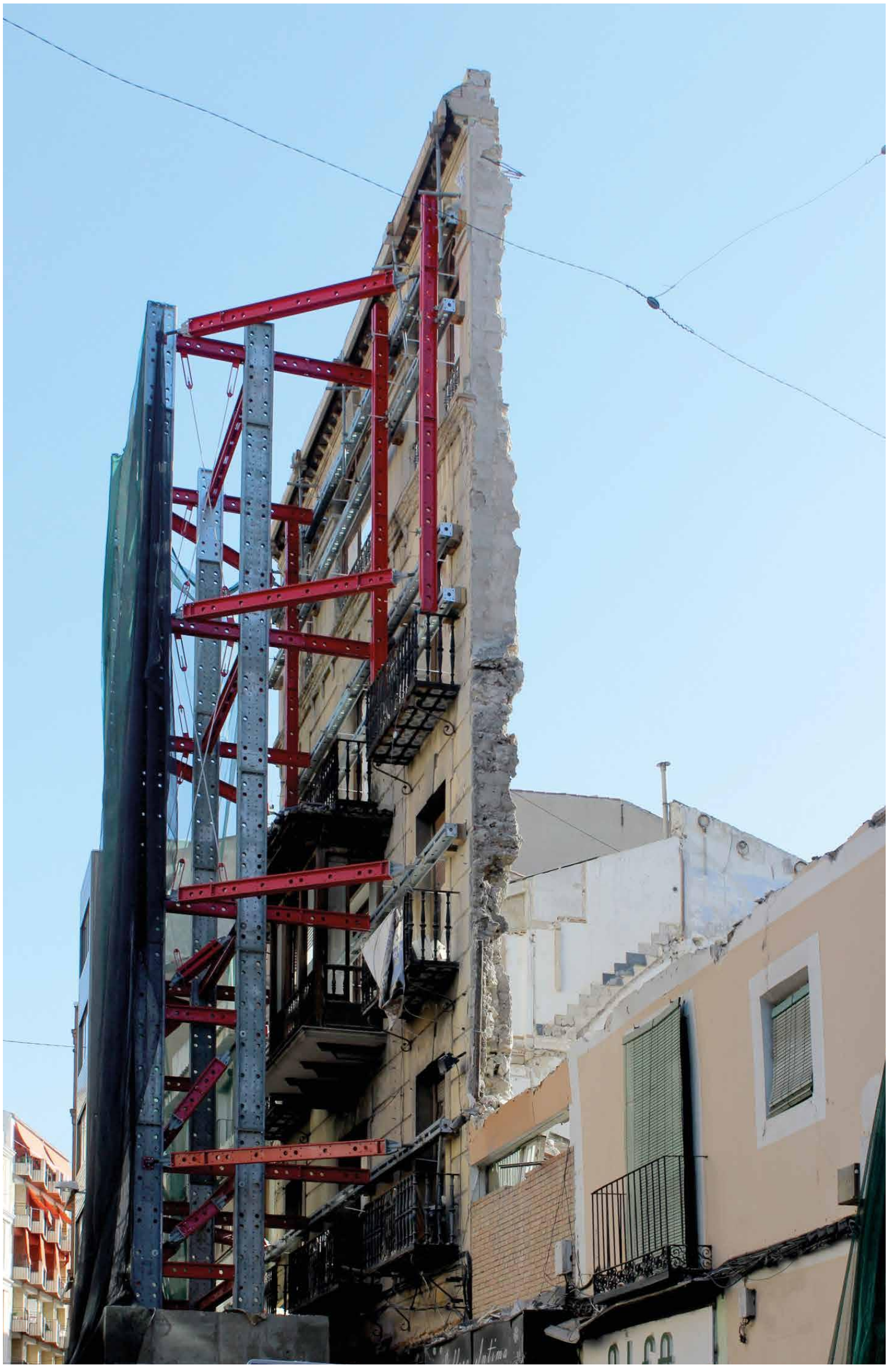
Repair of a roof with a wooden board in old Rauma, Finland
(*© F. Vegas, C. Mileto, 2017*)

vernacular spirit called for the spontaneous use of all available materials, these did not necessarily integrate in the same way as materials extracted locally, or those traditionally imported.
The consequences are not merely aesthetic but also economic, as architecture that has been manufactured or restored by local craftsmen or artisans goes straight back into the local economy. This contrasts with the acquisition and use of industrial products and solutions, as investments benefit the factory and production centres, far from these settlements.

A lesson to be learnt

All these factors must be taken into account, in order to understand the dimension of historical evolution of the heritage of a historic centre or vernacular settlement. The main problem faced by our historic and vernacular nuclei is the staggering speed of current globalisation. It does bring materials, forms, elements and solutions that can be imported at greater speed than they can be absorbed, which did not occur in the past. There is a risk of complete loss of this heritage which has been passed down that also represents our identifying traits. All this suggests a series of recommendations derived from knowledge of the stratification philosophy described:

- Softening changes to be introduced in consolidated built surroundings, both in terms of materials, which are preferred if manufactured, and of new uses.
- Preventing building speculation to save full buildings with their interiors from demolition, avoiding both excessive elevations and combining plots for tertiary uses.
- Stopping demolitions as a result of ignorance or lack of knowledge of the constructive materials and their performance and potential to be consolidated and restored.



- Adding our intervention to the built palimpsest, respecting the previous constructive phases and showing sufficient awareness not to disturb the overall balance.
- Respecting the consolidated built scenario as it stands today, given the difficulties in operating or reproducing the traditional vernacular attitude.

All these recommendations, applied to each context as relevant, allow the built heritage of our historic centres and vernacular settlements to be conserved, so that future generations can enjoy and benefit from this reflection of their cultural identity.

opposite page
Complete demolition of a building only keeping the facade, a terrible and misguided example of conservation of the historic palimpsest of a city, in Cuenca, Spain
(*© F. Vegas, C. Mileto, 2016*)

References

Diodato M. 2015, *Estudio histórico de la madera arquitectónica en la ciudad de Valencia. Análisis previos para la conservación y puesta en valor: identificación de maderas, análisis constructivo, diagnóstico, clasificación y dendrocronología*, unpublished PhD dissertation, Universitat Politècnica de València.

Elefante C. 2014, *The greenest building is the one already built*, in *The craftsman blog*, <https://thecraftsmanblog.com/greenest-building-is-the-one-already-built/> (05/20).

Mileto C., Vegas López-Manzanares F. 2015, *Centro histórico de Valencia. Ocho siglos de arquitectura residencial*, TC Cuadernos, Valencia.

Mitchell M. 1997, *Brick: burnt/fired* in P. Oliver (ed.), *Encyclopaedia of Vernacular Architecture of the World*, Cambridge University Press, pp. 210-211.

Privitera P. 2015, *El balcón y el mirador en la arquitectura pre-moderna: el caso de Valencia intramuros. Estudio histórico-compositivo*, unpublished PhD dissertation, Universitat Politècnica de València.

Vegas F. 1999, *Nysiros: paisaje, urbanismo, arquitectura y construcción*, «Asimetrías», n. 2, pp. 89-96.

Vegas López-Manzanares, F. Mileto C. 2014, *Radiant heating underfloor systems: glorias and trébedes* in Correia M., Dipasquale L., Mecca S. (eds), *Versus. Heritage for tomorrow. Vernacular knowledge for sustainable architecture*, Firenze University Press, Florence, pp. 265.