Strategies and actions for the conservation of corbelled dome villages as urban and architectural landscape

The problem of preserving Syrian beehive domes is no different from that of preserving vernacular architecture in the rest of the world. The traditional agricultural economy of subsistence in every context generated its own vernacular architecture based upon available means and materials. Pragmatism, functionality and immediacy in these buildings guaranteed their integration into the surrounding landscape.

A panorama of the conservation of vernacular architecture in rural landscapes

The arrival of industrialization or, at least, of motorized transport, has suddenly and brutally affected these idyllic vernacular milieus with the introduction of new materials and imported constructive systems. Above all, the new mentality rejects traditional constructions as being associated with the poverty and self-sufficiency of the past, and vehemently adopts imported architecture, regardless of whether or not it might integrate poorly into the surroundings or fail to adapt to the functional necessities of the area. Fresh technologies have doubtlessly come into vernacular architecture everywhere, but these changes would have taken place very gradually and the permanent use of local materials always guaranteed assimilation into the landscape. Nowadays, vernacular architecture is often directly destroyed or, at best, remains neglected and frequently without the customary maintenance that any building requires. The problem worsens when the specific materials and constructive techniques used in this vernacular architecture need frequent maintenance themselves, as is the case with Syrian beehive domes.

As in any other part of the world where vernacular architecture still survives changes in the traditional economy, in the case of the beehive domes the choice is presented between either:
- conserving and restoring vernacular architecture independently of the disappearance of the social and economic context that once generated it;
- or allowing change to take its course and consequently the gradual extinction of such architecture.

If in the heart of the city there is generally an attitude towards the conserving and restoring of historic architecture as a physical testament to the material culture of the past, even if this culture no longer exists, the same logics of conservation and restoration ought to be applied to rural vernacular architecture in general and to Syrian beehive dome villages in particular. Biology teaches us that when a specimen stops breeding automatically it becomes an endangered species. It may then be stated that most of the world's vernacular architecture has become an endangered species, unable to reproduce, though it may surely be safeguarded and preserved.

Where then, is the possible difference between the conservation and restoration of urban historic buildings and rural vernacular buildings? Why does it seem that vernacular architecture is much more difficult to preserve? There are several possible factors that may have an influence upon this.

First of all, as happens with many urban historical dwellings, vernacular architecture has no monumental character, frequently no decoration and is modest in a building context. Its value lies in the materials and techniques employed that act as a constructed document or witness to history, and are...
proof of its capability to answer functionally with whatever means available, while at the same time integrating itself into the landscape. Such a non-
monumental condition represents in many cases a serious difficulty when it comes to protecting this type of architecture.

Secondly, there are the social and economic problems linked to a general abandonment of rural farming, economic problems, lack of means to survive, ageing of the population and emigration toward big cities, factors which all tend to depopulate such rural villages. The result is a subsequent decline in care and maintenance of these magnificent examples of vernacular architecture and a gradual substitution with the new architecture of contemporaneous aesthetics and building systems that seriously impact the whole.

Associated to this second factor one may add: the lack of protection and planning control that could preserve vernacular architecture; the mentality of unimpeded development typical of the remaining inhabitants in these villages, commonly identifying their old buildings with the hardships of the past and the new with social and economic progress; the fear of hindering any possible economic development of the local building industry with overly severe protecting regulations; and the uncertain promise of economic progress derived from inland tourism attracted by a well-preserved vernacular architecture and landscape.

Actions to be implemented for the conservation of vernacular architecture in rural landscapes

After various experiences over the last fifty years of the conservation and restoration of vernacular architecture around the world, the beneficial influence and even necessary implementation of the following actions can be confirmed:

Maintenance, conservation and restoration works in vernacular architecture represent a preponderant economic investment in manpower, one that remains in the area of the restored building, while any new-built building represents a preponderant investment in newly-bought materials or machinery, both of which come from other cities or even other countries. That is to say that any investment in restoration is to the advantage of the development of the local economy through the work given to its craftsmen, artisans, carpenters, smiths and local small industries.

Restoration of this architecture should employ local manpower as a means to revitalizing the local economy and maintaining building traditions. Nev-
Nevertheless, in cases where it proves impossible to find specialized manpower because of the loss of vernacular building traditions, any manpower capable of interpreting and repairing existing buildings under the supervision of an architect should be well received before giving up the conservation of this vernacular architecture.

If vernacular architecture is to be preserved and the impact of restoration is to be reduced to a minimum, differing materials and techniques may have to be employed. In the case of Syrian beehive dome dwellings this idea would imply, for example, the reparation or restoration of vaulted structures with sun-dried bricks and mud mortars similar to existing ones, or, if necessary, the implementation of compatible reinforcements, either vegetal (straw, wickerwork) or mineral (lime, gypsum), mixed with the traditional mud renderings that are customarily applied as part of building maintenance.

Maintenance is a necessary and unavoidable condition for every type of building, whether traditional or modern. Vernacular architecture is hardly an exception to the rule and, therefore, maintenance must be taken into account. However, the longevity of materials employed in erecting traditional architecture determines the necessary rhythm of its maintenance. In this regard, we could make the following classifications:

- vernacular architecture of ephemeral character (i.e. vegetal or thatched roofs, mud renderings), liable to continuous and short-term maintenance;
- vernacular architecture of semi-durable character (i.e. exposed wood, tile or slate roof), liable to medium-term maintenance;
- and vernacular architecture of lasting character (stone walls, corbelled stone domes), liable to long-term maintenance.

The less maintenance vernacular architecture requires, the greater are its chances of survival. Syrian beehive dome dwellings belong to the vernacular architecture group of ephemeral character and this factor hinders their survival.

Strategies for the conservation of vernacular architecture in rural landscapes

As with any other example of vernacular architecture around the world, there exist two main ways of preserving these outstanding dwellings in Syria. Though not always possible or feasible, there could be proposed the implementation of protection, safeguard and restoration regulations and even economic subsidies for this type of architecture from local, regional or national governments. Such actions, rare enough even in developed countries where part of the economic surplus could be dedicated to the conservation of architectural heritage, are almost impossible to implement in as yet undeveloped countries such as Syria, where many other priorities exist.

A second option, and surely even more efficient than the first, is the reevaluation of vernacular architecture in the mentality of the country’s inhabitants, as an identifying mark of national pride. Due to its intangibility, such an action may be more difficult to put into practice than issuing protection regulations or subsidies for restoration, but the effect is independent from the state, common among a great part of vernacular dwellings and is generally positive for preservation. This type of social action begins early on in education and requires long-term work with the population as a whole.

Associated to these actions and not always well-directed, but always positive in some way from the point of view of the conservation of vernacular architecture in a specific place, may be the promotion of tourism in the area, mainly because of the distinctive and outstanding character given by its vernacular architecture and landscape. Tourism may both empty and transform the content, freeze and place the vernacular architecture in a museum, but if the risk is otherwise to lose these Syrian beehive dome dwellings completely, the end would justify the means.

The diverse longevity of materials in vernacular architecture

As has been mentioned, the differing longevity of the materials employed in vernacular architecture and the specific longevity of its combination and relative disposition in the building will determine to a large part the frequency of necessary maintenance for conservation. Longevity may be divided up into the following types:

- Guaranteed longevity, when the durability of the material far surpasses a person’s life. For example, most of the stone and brick used in traditional architecture belongs to this type. There do exist very friable stones or half-fired bricks and even very solid stones and bricks in difficult circumstances or under physical or chemical attacks that threaten this apparent durability, but in general terms it may be considered adequate to assign these materials to guaranteed longevity.
- Conditioned or guarded longevity, when the durability of the material needs protection against atmospheric agents, or necessitates an amount of treatment, cleaning or maintenance. For example, the survival of a sun-dried brick or rammed earth wall does not depend much upon itself, but on the...
presence and good state of its basement and eaves; the survival of the lime or gypsum renderings on stone walls or earthen walls depends mainly on the health of the wall and eaves; the durability of wood exposed to the elements needs some care, and the health of interior wood depends on good ventilation and low humidity; the survival of a tile or slate roof also needs modest but continuous efforts of maintenance and reparation.

- Ephemeral longevity, when the inherent durability of the material is very short, such as a winter, a rainy season, an annual cycle or a period of a few years. For example, a thatched roof is liable to drying or rotting, while the durability of a shingle or turf roof, also ephemeral, will be longer; a mud rendering needs to be re-done continuously, probably every year. In fact, the mud renderings that cover buildings and domes built with sun-dried bricks in Mali, the survival of which depends on the health of the rendering, belong for example to this type. Therefore, we may say that the different types of longevity of materials are interlinked. For example, a Dogon granary, with thin walls and dome built and shaped with mud, has a guarded longevity owing to the thatched over-hanging cover that protects both dome and walls, but the ephemeral longevity of the thatched covering may expose the mud building to risk quickly if not maintained.

The Syrian beehive corbelled dome also represent an example of architecture of guarded longevity that depends chiefly on the ephemeral longevity of the mud rendering that needs continuous maintenance. In the absence of any maintenance and remaking of the mud rendering, a degenerative process begins mainly due to the rainwater that can completely ruin the building.

Types of intervention in vernacular architecture of ephemeral character

Every action of conservation may be considered maintenance if it is implemented with the same existing materials and techniques by the same inhabitants. We also may consider as maintenance the acts of substitution of ephemeral materials of vernacular architecture because, contrary to materials of guaranteed, guarded or conditioned longevity, this renovation is inherent to the materials themselves.

In the case of ephemeral longevity, whatever the durability, acts of maintenance that mean the substitution of perishable materials are more important than the material value of the building itself, because its life and integrity depend on the periodic renovation of these ephemeral materials. In this case, maintenance ought not previously to abandon the building to its fate, which would not take long since in the short term it would require such acts of maintenance.

In the case of guarded or conditioned longevity, lack of care due to abandonment of the building is to be blamed for the malfunction of the material or architectural element. That is to say, the building abandons its customary function and remains void of content. Restoration comes in suddenly and traumatically to solve in a single stroke all the accumulated problems of the building resulting from the lack of care, even with the renovation of some materials or elements. For this reason, the best way to conserve vernacular architecture would be to implement customary acts of maintenance rather than to restore it.

Restoration may also be carried out on a building of ephemeral longevity but this intervention will be increasingly traumatic as time passes following the abandonment of the building. On the contrary, in general terms, restoration is usually more feasible and reliable in its results when applied to materials and buildings of guaranteed longevity. In an extreme case, the reconstruction after the destruction or complete ruin of a building is viable, but this may have a symbolic or didactic character in the design, construction and re-use of the building rather than a restoration value as this action does not belong to the world of architectural conservation.

If maintenance, either of a building with ephemeral materials or a building with guarded or conditioned longevity, includes the use of imported materials or techniques from outside the traditional architectural context in order to extend the life of the material or the whole building, even maintaining the same use, this would not be considered maintenance but restoration. An act of conservation involving transformation of use by external agents is also to be considered restoration.

Therefore, acts of restoration usually add imported materials or techniques from outside the specific context due to three reasons:

- to extend the life of the materials of the building;
- to extend the life of the building itself, through additional protections;
- to imitate the aspect or finishing of existing materials of the building.

Restoration is always restoration, even if it uses exclusively traditional materials and techniques, considering that the attitude towards the building is completely different from simple maintenance that would renovate the ephemeral materials or attend to the materials of guarded or conditioned
longevity. Restoration considers the building finished in itself, as an object to be preserved with the same use or a new one, frequently trying to recover both the structural integrity and the visual decorum and health of the building, whilst also upgrading associated infrastructures and fittings to contemporary standards. Restoration adopts an intellectualized attitude and a certain valuation of the building, while maintenance assumes a more uninhibited attitude that might be equivalent to cleaning a home, changing a plug or repairing a washing machine. In this case, functional value has priority. Adapting the building to new conditions and situations by the same inhabitants belongs to the same attitude, like setting up an aerial, renovating the plumbing or wiring, etc. We may also call this type of action maintenance.

What halts then this fresh and uninhibited attitude typical of maintenance before restoration? The arrival of a person from an external context may find other values beyond functionality in the building. The inhabitants who live there do not necessary confer any conscious value on tradition. The value of history, memory, identity and tradition often reveals itself to people extraneous to the local context, it may also be the fruit of an infrequent sensibility of local inhabitants, or the result of destruction due to some kind of trauma, such as wars, natural disasters or a sudden industrial revolution that may put an end to craft and manual work, thus awakening a nostalgia for the past.

In the case of Syrian beehive domes, being buildings of guarded longevity liable to materials of ephemeral longevity, such as mud rendering, it may be convenient to establish a protocol of maintenance that would oversee their survival. This maintenance could also be linked to a local festival, as happens with the mosques in Mali that are rendered every year with mud during the January festival, a perfect opportunity for maintenance.

Restoring these dwellings is indeed possible, however, even employing traditional materials and techniques for repairs, attitudes would differ from a local inhabitant who would otherwise discard any reparation and rebuild the whole building. Restoration may and sometimes must resort to the reproduction or interpretation of local constructive techniques or even to the innovation of solutions in order to achieve maximum suitability and compatibility with the existing building.