An architectural culture of uncertainty

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When Neolithic man first began to comprehend how to interact with and use nature, developing a process of domestication of spaces and habitats, the forming of human culture began. Hunter-gatherers embarked upon a process of appropriating natural spaces, progressing from the linear and temporary to the central and permanent, defining the fundamental necessities of a site for permanent settlement relevant to this day, and which in the arid or semi-arid regions are met with difficulty, above all, the particular necessity of water.
The need to adapt to arid conditions, to scarce energy supplies, and the difficulties of satisfying the parameters of hygrothermal comfort, has determined the development of a technical culture of resource management, not only of agriculture and stockbreeding, but also of settlement and construction.

The region southeast of Aleppo

The region which has developed to the south and east of Aleppo, from the Euphrates to Salamiya, has been inhabited since Neolithic times by settlements of sedentary and nomadic peoples. Archaeological investigations have brought to light and identified hundreds of sites. The few most ancient sedentary farming populations have been identified from the Neolithic Pre-ceramic B period (9600-8000 BC), with populations settling near readily available water resources and corresponding to a climatically favourable period. In the Chalcolithic period (6000-3700 BC) there are traces of sedentary settlements, despite unchanged soil and climatic conditions, though this may be due to the difficulty of identifying the ceramics of that period.
In the Fertile Crescent, the Neolithic period saw the development of agriculture and stockbreeding. The arid lands of Syria and the Aleppo region were quickly inhabited and became an area of contact, exchange and conflict between the nomads and settled populations that represented two distinct ways of life and two antagonistic ways of using the land, two different cultures, that of the sedentary farmers and that of the nomadic stockbreeders, alternatively dominating this region, and each coming to terms with the demands of the environment in their own particular ways.

A heritage of exceptional value.

The main interest for a study of domed habitats in northern Syria is closely linked to this exceptional fluctuating culture of uncertainty.
Throughout the centuries not only have sedentary peoples substituted nomadic tribes, but the populations have fluctuated between the two lifestyles, often integrating into and present in the same communities or even the same families.

The various peoples who have lived in these regions down the ages have had to restrict their living and develop strategies to deal with climatic uncertainties, and chiefly with the supply and availability of clean drinking water.

The arid climate has dominated the character of this region for millennia, a determining factor as regards settlement, architecture, building culture, use of land and various resources in relation to different kinds of topology, hydrology and geomorphology.

Interaction with the environment in uncertainty

Primarily, it is in the interaction with the natural world, the social and the political, in the capacity to adapt and maintain systems of settlement, that we can find the value and interest of this heritage on a global scale: the domed architecture, its form, the construction technique with its variations and adaptations, and the organisation of the houses and villages, reflect both ways of life, the two cultures of the nomad and the sedentary. The climate, in particular regarding the fluctuating presence of clean water over time, has influenced the expansion or contraction of these ways of life in relation to the capacity to adapt to or mitigate adverse climatic and natural conditions.

A present closer to the distant past

Secondly, the strategies and solutions of settlement, and the use of resources observed today, are similar to those developed in past millennia, reflecting a situation of continuity even through the vicissitudes of both natural and social conditions.

Despite the difficulty of reconstructing in detail the history of these places and populations, often reusing as they have places, materials and structures, the technical cultures that gave form to the settlements of the territory transmit today antique signs of the relationship between the nomad and the settled, between rural populations and urban powers, between the forces of nature and an uncertain climate, technical cultures and social practicalities. Since Neolithic times, such factors have marked out these borderlands, through oscillations between crisis, abandonment, growth and development.

A culture of uncertainty

Thirdly, there is the architectural expression of a culture of uncertainty in relation to the environment. The specific object of the Culture 2000 project is to contribute to the general awareness of this heritage and, in particular, to bring to light the value of architecture as an intense and permanent expression of local and indigenous systems of knowledge, together with the strategies activated to manage the relationship between man and his environment.

This catalogue documents, and goes some way to conserving, a mobile culture on the border between the settled and the nomadic, a culture of uncertainty that finds in its essence the potential capacity of flexibility, of adaptation to the unforeseen mutability of nature, of passing from the sedentary to the nomadic when social and natural conditions dictate.

The regular availability of drinking water.

The agricultural development of the arid zones finds its own equilibrium over time between the cycle of cultivation and the distribution and quantity of rainwater.

Farmers and stockbreeders, however, need daily supplies of clean water, particularly in the hottest seasons. The localisation of water and its supply points are determining factors for the site of a settlement, whether permanent, seasonal or temporary. In arid climes, springs can be few and far between. Nowadays, natural springs are limited in number in the region, rivers and streams are slow flowing, particularly in summer, and are often further weakened through drawing off by centres of population or irrigation.

Among the techniques used in the region to distribute water for agricultural and stockbreeding purposes are:

- The *birké*, a simple hollow with a base made impermeable by clay to collect rainwater. Mostly found towards the coast, but also further eastwards inland towards the Wadi Abu Hawadid, associated with stockbreeding activities.
- Rainwater cisterns, excavated into rock and under less compact strata, rectangular or pear-shaped, with stone walls in the upper part and fed by surface water.
- Small dams, of which only two examples are known.[1]
- The hydraulic infrastructure, which is the major characteristic of the region, is the *quanat*, or underground drainage tunnel. The longest are in the region south of Lake Jabboul, towards La Fayda, the central clayey

[1] Jaubert, R. & Geyer, B. 2006. pag. 42

lemon plains (Al-Andarin), while others are found on the chalky levels, fed by the water table or artesian springs. There are some longer, constituting real and proper canals that terminate in distributing basins, and shorter examples destined for more local usage. They were utilised for the supply of water for both domestic usage and irrigation.

- Finally, wells positioned at the height of the water table.

The variety and thoroughness of the technical culture for the production and conservation of clean water testifies to the importance of this factor, explaining the localisation and permanence of the settlements over time.

A basic constructive strategy: the spiral

The spiral is the most ancient symbol found on every civilized continent, most likely representing the cycle of "birth-death-rebirth", or symbolizing the continuous cycle of the sun.

The spiral archetype has always been part of our natural and man-made landscapes: in the natural world spiral seashells have fascinated us for thousands of years, man has always gathered spiral-shaped objects and waded through spiral eddies and whirlpools, or seen similar patterns while making cheese in the pot.

The ability to carve spiral shapes on rocks expresses the process of appropriating and managing the concept of the spiral, which has been identified as a powerful structure of nature in a positive but also negative and destructive way.

In traditional cultures there was no separation between function, shape, symbol and relation to nature: so the spiral dynamic form is the core of many processes invented to shape nature: spirals are at the heart of basket weaving and pottery making, and also central to the concept of raising an edifice.

Basket weaving is a widespread craft in any human civilization: the oldest known baskets are (according to radiocarbon dating) between 10,000 and 12,000 years old, earlier than any archaeological ceramic finds.

Pottery making is one of humankind's first inventions and better conserved because of the durability of fired clay. The earliest known pottery dates to about 10000 BC in parts of Asia with other evidence from the Middle East dating to about 6000 BC.

Corbelled dome construction follows the same strategy of shaping and adapting nature to human needs, imitating and respecting natural patterns and structures. As for weaving baskets a continuous building pattern can progressively produce a new 'natural' shell adapted to basic human needs, and also on a greater scale, can generate the tallest of buildings as a veritable bridge to the heavens.

Living in the arid margins

The habitats under study are situated principally in a region crossed by the 200 mm isohyet, which marks the border of the steppe lying to the east of the line (classification by the Ministry of Agriculture of the Syrian Arab Republic). The diversity of habitats in relation to the uses of the land for agriculture and stockbreeding are linked to the aridity of the area, or rather, to two principal differentiating factors: the climate and the soil. The different factors constituted by the climate, orography, hydrology, pedology and soil, in combination and interaction with the available water resources, all come together to determine a great variety of habitats.

Corresponding to the variety of habitats, a great homogeneity exists in the temporal continuation of architectonic and constructional strategies that determines a highly individual panorama of earthen settlements and architecture. The homogeneity and continuity down the millennia is based on a capacity to adapt to the natural materials available: clay, earth, limestone, basalt, and materials recovered from previous settlements, notably villages of the Byzantine era, and to the identifiable construction techniques from these settlements. The characteristic of cultural plasticity[2] of earthen architecture finds in the lands of the arid margins one of its most explicit affirmations.

For agriculture and stockbreeding, even slight changes in climate and soil, in orography and water supply, demand the development of fresh cultures and strategies. Indeed, an immense cultural capacity to adapt and change is required, one that induces a behaviour characteristic of nomadic populations, that of mobility, flexibility, and reversibility, the capacity to pass from the sedentary to the nomadic lifestyle, depending on social or physical conditions, for the ultimate survival of the group.

For architecture and settlements a different, inverse strategy develops,

[2] 'Earth' offers a great capacity to respond to the housing needs of millions of human beings, not only quantitative needs compatible with limited environmental harmony and resources, but also qualitative cultural requirements, as a result of its high cultural 'plasticity', its ability to change and adapt in response to changes in the natural and human environment, and to be an expressive language of identities and differing histories.

predisposed to reproducing or adapting its constructional and architectural culture under diverse conditions. The sensitivity to climatic and social factors is in some way altered, on a larger geographical and temporal scale, stronger on a symbolic level for the conservation of a nomadic vision of their relationship to the environment. Apart from stone materials, the presence of cultivatable land usually coincides with the presence of construction materials, such as clay and sand.

To sum up, the conditions of settlement are:

- the availability of cultivatable earth with the presence of soil suitable for sowing;
- a level of rainfall or water supply sufficient for the growth to maturity of certain species of plant, and the availability of clean water;
- the availability of easily utilised construction materials, with an experienced constructional culture, accessible to the family group;
- A basic constructive thinking for generating three-dimensional objects such as corbelled spiral domes.

On the whole, the aridity of the climate constitutes an overriding influence, not only over agro-pastoral production, but also over the production of habitable settlements and the transformation of the territory by populations occurring in the region.

Beyond Architecture

Architecture can give shape to the invisible pulses and rhythms of life, expressing the 'magic' power that is present in all elements of nature. Architecture is a process which gives sense and structure, organizes and composes in a systemic way different interrelated energies into a material and cultural whole. The physical manifestation of architecture is always an expression of tension, taking what is invisible and immaterial and making it visible and human. This tension we may perceive in the domes of Syrian villages, and in the dry-stone domes of all Mediterranean regions.

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