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Chapter 1: THE MEDITERRANEAN AREA

The Mediterranean is a mosaic of all the existing colours

Fernand Braudel

THE MEDITERRANEAN, BETWEEN THE MYTH AND REALITY, A LIVING AREA

Through the ages, the word "Mediterranean" has, for a multitude of people, embodied both the sea which bears this name and the surrounding territories that slither into its waters.

Over the past decades, the Mediterranean has awakened interest and passion, uplifting its name to the level of idea and concept. When speaking of the Mediterranean, unless referring to a single, specific aspect, one doesn't automatically think of the sea or the territory in an isolated way, but convenes - this key word is most appropriate - the very qualities of an area rather than the land alone. Qualities which define an idea, a manner, a world. This idea may seem easy to allure but it isn't so obvious to define: a vast environment, nourished and conveyed by a rich society, thriving with our perceptions of the Mediterranean.

The Mediterranean is deeply anchored in our imagination as a world rich with senses and sensations

As of now, two observations: the Mediterranean is a complex environment which is deeply enrooted in our social and cultural imagination (1), impossible to grasp if it is disassociated from its global context. It is a reality, made up of tangible material as well as highly revealing immaterial factors.

Let us thus set foot in this captivating and abundant world, full of all kinds of qualities and events.

The landscape

The Mediterranean sea (2) is almost an inside sea (3) with an access only 15 km wide to the ocean: the Straits of Gibraltar. In the North East, it reaches the Black Sea. In the South East, since 1869, it extends to the Red Sea through the Suez Canal. With a 2.9 million km2 area (17% vastier than Algeria) it represents only 0.7% of all the seas and oceans of the Earth; it extends between the 30.2 and 40.2 North Parallel, a 3900 km length, and a South-North maximum width of 850 km, with an average depth of 1430 meters. (4). The Mediterranean is acknowledged through its strong temperament, bred by so many characteristics: sea of Alboran, Ligurian sea, Adriatic sea, Aegean sea, sea of Crete. All of which, well beyond geographical denominations, embody a mighty historical heritage and the evidence of Mediterranean's diversity. For, as Braudel says: "the Mediterranean blends thousands of substances at a time".

The azure-blue, crystalline waters of this beautiful sea have generated a proportionately modest fishing activity. Fishing has never been a primary activity, neither as far as catches are concerned nor the population involved.

The lines of the 15th east meridian and the 38th north parallel cut the Mediterranean roughly through its centre. On the strategic island of Sicily, two gigantic cardo and decumanus, are split in halves and quarters, interestingly close to a historic reality. An aspect we will necessarily be brought to reflect upon further on.
Its 46,000 km of coast are often rocky, abrupt, steep, cut up, and often difficult to access. However, flat and broad littoral strips are not scarce, through river-scarred plains, some of which open into significant deltas (the Nile, Ebre, Po, the Rhone...) or onto the desert (Libya, Israel...) where sea and sand blend on the edges of opposite horizons. This intricate mountainous range, with valleys going in all directions, winds through a good part of the coast, defining a most particular landscape: a very narrow littoral with a quickly vanishing sea as soon as one ventures inland, abruptly climbing to altitudes sometimes exceeding 500 m. It is not exceptional to find oneself above 1000 or 1500 m within only a few kilometres of the coast (Corsica...) or reaching close to 3000 m (Italy...) or even 4,138 m in Toubkal, Morocco.

Insularity is another typical and significant characteristic of this sea. In addition to the large islands such as Cyprus, Crete, Sicily, Corsica, Sardinia or Majorca, Greece alone counts over 2000 large and small islands, only a hundred of which are inhabited.

Undoubtedly, both climate (5) and orography impose the most severe conditions onto the Mediterranean landscape. Several bioclimatic variations bring forth significant, subtle differences in climate with outstanding contrasts in its geographical peripheral extremities. In the north there are massive forests and great continental rivers – some of which contribute strongly to ensuring survival - and in the south we have the Sahara Desert belt. East and West slide slowly towards the South, below the 37th north parallel. With hot, dry summers flooded with bright sun and ablaze with light, soft and wet winters, the Mediterranean climate generally concentrates rains sparingly, in spring and especially in autumn. Although, here again, extreme conditions are not exceptional but a significant, determining factor of this climate.

The lands of the Mediterranean area, two thirds of which are constituted of limestone - are too often scarred by serious earthquakes and volcanic eruptions (6). A rich, perfectly adapted flora grows in all the various climatic and orographic situations mentioned above, consequently generating a great variety, both in terms of the number of plant species (7) and the density of this flora; as a result, one can find highly contrasted landscapes. This often rocky land, with rock tips showing at the surface, provides the most widely used building material throughout the Mediterranean area: stone.

In this constraining climate and on these fragile soils, while some species are well adapted to the scarcity of rain, others are cleverly irrigated. They scent the environment (8) with intense fragrances: thyme, rosemary, lavender, basil, cumin, fennel, mint, jasmine, rose tree, fig tree, orange tree, apricot tree, olive-trees in blossom, and the penetrating flavour of freshly pressed olives... all generate a particular, vividly real, yet immaterial dimension, enhancing the pleasures of Mediterranean life.

A constraining climate, a fragile landscape, but a vital luxuriance. The Mediterranean is marked by this constant struggle (9), sometimes quivering between myth and reality. Similar to olives, bitter and yet sweet as honey.

Nowadays, the Mediterranean area is inhabited by 400 million people. These inhabitants, in addition to those who have preceded them for thousands of years, the numerous more or less turbulent neighbours or far away immigrants who have crossed or wandered through these Mediterranean lands in all directions, freely or by force, make up the people who are the essence of Mediterranean production. A capillary world of integration, adaptation and blood mixing. (10)

*The Mediterranean area is attractive, powerful yet delicate, and always sensual: a testimony to the overwhelming contribution of women to this world*
The Men and Women

The stories of this area were often told through the glorious deeds of emperors, sultans, heroes of masculinity, not always paying justice to the importance of Mediterranean women and the feminine strokes they brought. An attractive world, both powerful and delicate, always sensual. The landscapes, which they shaped and maintained through endless efforts, the walls or terraces, coatings or the decoration of shelters and houses, are a testimony to the contributions of daughters, wives, and mothers, creating this unique environment.

In the very flesh of this Mediterranean land, are engraved all the acts and thoughts of civilisations and societies that have preceded us because "a world is the result and the product of social activities". (11) Together with the landscape – the one described earlier – society becomes tangible, and thus, particular and distinct.

The Mediterranean population was traditionally attached to land (the terra patria of our forefathers), to farming and forest activities as well as raising cattle, especially smaller live-stock. This is also true for the populations living very close to the coast, or on the coast itself. Fishermen were a minority who combined this activity with small home farming on more modest pieces of land. On the other hand, since the very first civilisations, the trade and transformation of raw materials constituted a feverish activity in the cities of the Mediterranean coastline. The significant network of these towns and cities has been crucial since antiquity (12) for the rise and development of the area, while at the same time, the cultivation of inland and coastal soils was essential to feed this swarming population. Water, the fertility of effortless and generous soils and of course religious faith, were the basic parameters determining the choice of a settling population. In addition, the choice of a specific spot for a house or village, always wisely oriented, never neglected questions of security (13).

The gradual occupation of every piece of land meant the implementation of intense labour to make the soils suitable for cultivation. This work through the centuries, carried out by millions of farmers, resulted in a typically Mediterranean landscape. Terrace cultivation, a mosaic of alternating pieces of land and woods are a few of its characteristics. For the inhabitants of the Mediterranean area, mastering water has always been as significant as farming. Water is the most essential, invaluable element, often lacking, always irregular. Mediterranean civilisations have always mastered water, transmitting a huge heritage of constructions and know-how.

Land property and its inheritance emanate from two different legal approaches: Roman law and Muslim law (14), in addition to all the various local specificities. The various resulting situations of property and its transmission have a tremendous impact on the way traditional constructions are managed and kept.

Living in the Mediterranean Area

Most of the Mediterranean population lives in grouped housing: Mediterranean inhabitants favour partnership, community life and helping one another. No doubt Greek, Roman and Arab-Muslim heritage have contributed to this form of community. Mediterranean cities and villages are places of vicinity, friendliness and hospitality (15). Once again, the Mediterranean develops numerous and various possibilities. The spirit evoked above is common to all. However, two general cases can be found: first, compact more or less dense villages with different morphological solutions, and second, dispersed villages with seemingly random scattered houses. These two layouts are linked to two different models of social organisation. This second model, very frequent in North Africa, corresponds to tribal communities and societies (16), whereas the first model corresponds to more organised, complex urban societies (17).

Compact villages are organised around public spaces, integrating religious and political buildings, symbols, markets, celebrations, feasts and public events... their morphology and location are conditioned by orography, the need for farming land and safety considerations.
Dispersed villages are "bound together" by the same force of social organisation, but the means of production and property generate a different layout in the landscape (17).

This is also the case for scattered housing (which we cannot actually qualify as remote in the Mediterranean area, for the reasons mentioned above) connected to immaterial but solid and true binds, links that imply many obligations and duties with more or less far away neighbours. Actually, in the Mediterranean area, if the tendency is to group houses in villages, the tendency is also "to group" these villages in the landscape (18).

Scattered housing and villages are connected by a multitude of huts, seasonal constructions, shepherd shelters and large housing systems used for mobile or large travels such as caravanserais. They can also be linked by a complex network of roads and paths. This intricate lace of civilisation always gives a human and reassuring scale to the Mediterranean landscape, never short of landmarks.

While grouped populations represent a majority, scattered houses are also common: they are generally found in less undulating mountainous environments, although there are.

Thus, while the enrooting of solid constructions (19) and the inheritance of "a land" are characteristic of the Mediterranean people, it is nonetheless true that nomad societies were abundant at one time in the Southern and Eastern regions. Today, they only represent a small minority, which tends to settle down permanently. (20) The nomad way of life refers to a whole different concept of time, space and freedom. The stage just prior to transhumance.

Still present today though declining, transhumance (21) is a compromise between seasonal displacement and the necessary sedentarism of agricultural populations, which, in certain areas, can mean a temporary displacement of all the inhabitants of a village. For centuries, this way of life, often following Roman ways, contributed to developing relations and accesses to the more remote and hemmed in regions found in mountainous Mediterranean areas.

Mediterranean folks live in the open as much as they do indoors. Climatic conditions allow living outdoors most of the time. Inhabitants seek sun, light and air. Regardless of how intimate the environment may be, as in the case of houses with patios, or even the most secluded spaces of a médina, open air and non covered spaces are a vivacious need.

The Mediterranean area is broadminded, open to exchange, philosophy and other people; it once was the most significant source of civilisation in the world. It has influenced the organisation and evolution of modern societies in a most determining way. It has been an infinite source, a bottomless well, a forceful, ever-giving fountain of innovative ideas, invention, tenacity, imagination and spirituality, but also of covetousness, confrontations and destruction. This produced a greatly dense history, stacked in layers, visible on architecture endlessly rebuilding itself, assimilating know-how and recovering materials, such as the magulas of Tesalia, the tells of Mesopotamia or the höyük of Turkey.

The civilisations of the Mediterranean have not always cast their influence over the whole area and all lands with a same intensity, nor for the same length of time. Distance, circulation through neighbouring civilisations, resistance, interpretation all gave birth to a cultural and historical landscape filled with different colours and tones. The greatest currents of civilisation gave the essential traits to this space. If we glance at our chart of the Mediterranean again, with our two imaginary cardo and decumanus, observing from a certain distance, we will have a practical and simple overview of the main waves of civilisation in time and space.
THE MEDITERRANEAN AREA, OBJECT OF OUR STUDY

The countries that integrated the CORPUS project in 1998 determined the extent of the national territories on which local teams worked: investigations were carried out on the ground. The significant number of these countries was representative enough to make it possible to draw a global view of traditional Mediterranean architecture in the area, though the study did not oversee the full extent of the territory.

* A major Mediterranean characteristic is to be sought in the enrooting, foundation, construction and transmission of a place *

Obviously - and these two years of work confirmed this point - we have found remarkable studies and monographs on areas, typologies or building materials of the Mediterranean which constitute an invaluable contribution to our knowledge of traditional construction. However, the highly detailed and local scope in these works make it difficult to seize a global view, which is anyhow not the object in these types of studies.

Moreover, certain publications which aim at a comprehensive analysis of Mediterranean architecture, limit their analysis to the “most Mediterranean” models or at any rate to the most typically close to a global cliché, as we mentioned above. Though bringing an additional contribution by their very nature, these works cannot propose all the aspects concerning processes of transformation, potential, weaknesses or strategies to preserve traditional architecture; they obviously drift away from these points.

Considering the Mediterranean area is so significant in size - and if we reason, as is our case, in terms of action and effectiveness and not embalming preservation - the extent of traditional construction is extraordinary. Indeed, if we want to avoid the error of extracting an object from its context, by considering heritage as a series of lifeless objects, without culture or time, in stone, brick or wood, then we should accept this traditional architecture taking into account its material and immaterial context. This may seem ambitious, unreal, maybe utopian, and especially as one is speaking about a heritage “without identification papers”, ignored / unrecognised, which was granted only small, dispersed means, often too marginal to be effective.

As for the physical area we studied, it is restricted to the obvious Mediterranean area. We admit there is a certain degree of ambiguity in determining geographical limits. Admittedly, from a climatic, biological or cultural point of view, the limits of this area could be the subject for an extensive debate on a variety of exceptions. If we led cases to the end, conclusions would bring us to territorial extents and latitudes that would widely exceed the potential of this study. Obviously, great ramifications are present on all the banks of our sea. How far into Spain do they penetrate, how far into the Middle East? How far down beyond the Maghreb? These questions would obviously concern even larger territories.

It seemed reasonable and effective to take up an area corresponding to the broader belt of territories around the Mediterranean, "saturated with the Mediterranean", beyond this belt, and for a number of areas, Mediterranean signs become less perceptible, more diffuse and diluted into other cultures, landscapes and history. This leaves the area open to a possible widening of this territory in future studies; our choice does not exclude recognising Mediterranean components in areas other than those withheld for this study. However, new territorial approaches, though significant to complete and bring nuance to our work, would only reinforce and enrich the core of the Mediterranean area that all the partners of the CORPUS project chose to outline in this study.

Though this band could easily have been extended for certain areas, the solution we adopted stood as the most balanced and reasonable. Beyond these aspects, we hope we’ve answered the fundamental
question and reached the essential objective of our study: to constitute a global solution, common to all and shared by all. The approach is no longer to obtain a more or less harmonious preservation, but to protect the right of traditional construction to sovereignty and its own language (and workmanship) in a durable development of society. This right also implies being regarded as an essential richness of our cultural landscape, rather than an unhealthy stock of houses waiting for demolition. To become a solution rather than a problem.

The contributions of this togetherness in a Mediterranean partnership only further fortifies the notion of Mediterranean identity. Traditional architectural heritage is a great contribution, both through landscape and culture.
A HISTORICAL MOSAIC

The history of the Mediterranean dates back more than 8,000 years. This history is so considerably dense and complex it would be foolish to attempt to sum it up. These maps shall complete our analysis on traditional architecture by providing a basic historical background to help visualise the major waves of Mediterranean civilisations. We have chosen a straightforward graphic style, drawn up in a few historical charts and timelines.

While the maps we chose represent the great moments of major civilisations, they are unable to express the many subtleties of historical details for the periods concerned. They merely give a feel for the boundaries in ancient Mediterranean territories in certain periods.

Although it is tricky to make light of certain minor historical facts, privileging only the major events (remembering that minor events often trigger major historical changes), it is agreed that the Mediterranean area was shaken by three large waves of civilisation. Schematically, in the North West of our cardo and decumanus we find Rome, the Latin world and Christendom. Below the decumanus, in the southern half, we find the Arab-Moslem world and Islam. In the North East, we find the Greek and orthodox world.

Maps enrich this image showing the influences of multiple civilisations throughout the ages: the Islamic influence extends to the North East, the Latin world pushes South West, evolving into important eras, Byzantine and Turk-Ottoman worlds, for example. We could mention many other epochs and territories: Judaism, Germanic groups, a variety of states, kingdoms and nations, even English and Dutch influences. Clearly, many people, periods and societies have influenced the Mediterranean area.

The colours of the Mediterranean are not therefore limited to three. Each colour is inspired by the various tones and shades according to time and place. Others have preceded, co-existed or taken over, all have contributed to a unique and attractive historical texture. As Fernand Braudel said: "The Mediterranean is a mosaic of all the existing colours".
Notes:

1. "Area" is used in this document with the definition given by Milton Jones and many other authors: "an area results from the combination of society and landscape". Area is therefore characterised by movement, dynamism, and time. In fact, landscape is a relatively recent word (appearing in France in the XVIth century). Some people still use the word "country" to mean both man and territory in an area "...

2. "The sea. We must try to imagine from the eyes of the men of the past we must see it as a limit, a border, spread across the horizon, like an obsessing vastness, prevalent, marvellous and enigmatic! ". . . for a long time the sea was an obstacle before it became a link. Navigation, (flotis worthy of such a denomination), did not appear before the second half of 3000 BC, with Egyptian navigation towards Biblos or better still, with the rise, around 2000 BC, of sail boats in the Cyclades...". The Mediterranean, Fernand Braudel.

3. The Mediterranean, from the Latin word mediterraneus could be equivalent to internaeum, interior, in the sense of "between", "in the middle of". The Mediterranean is thus a sea in the middle of lands.


5. "Mediterranean climate" confers its name to zones on five continents (California, Chile, Southern Africa, western Asia and southernmost Australia), which have similar landscapes.

6. Examples of dated catastrophes in the Mediterranean: Pompeii, Santorin, Messina, Algiers...

7. While the pine is the most widespread tree in Mediterranean woods today, the cypress is still the most symbolic tree, and linked to specific topologies (cemeteries or monasteries, as a symbol of spirituality or as a symbol of hospitality in the Catalun mazia). The olive-tree covers a significant portion of non irrigated soils. It remains the emblematic tree of the Mediterranean area — it embodies all its symbols — for its role in traditional and current economy and for the beauty of its perennial silver green tones, great longevity, and symbolism. A sober model, temperamentally introverted into the ground, and especially generous, the olive-tree sums up many features of the Mediterranean area and people. Also, the date palm tree, the "wonder of wonders" according to F. Braudel casts a symbolic silhouette on the entire Mediterranean, allowing for the most rich and beautiful gardens in the most arid zones.

8. Pline spoke about "the exhilarating scents, in Campanile, of olive-trees in blossom and wild roses." In Turkey one says that "for the perfume of a rose, a gardener would bear thousands of thorns, with a smile on his lips".

9. earth / sea, sun / shade, inside/ outside, drought / flood...

10. Located at the crossroads of three fundamental continents for the history of man and civilisations these qualities are further enhanced. From deepest Africa, to the Far East, to the arctic Northern Europe, without forgetting the New World wave since the XVIth century, all men have encountered the Mediterranean, sailed its seas, wandered through its cities, impregnated its spaces.

11. La production de l’espèce, Henri Lefebvre, Anthropos, 1981.

12. "Cities are the text of history...,", "Cities constitute a world in themselves...", "Athens is the first clear idea of urban science; it is the passageway from nature to culture." A. Rossi. L’Architettura della città, Marsilio Editori, S.P.A., Padova 1966.

13. The Greeks believed that the site of a city was to be chosen and revealed by the gods. Herodotus denounces the erection of a city by Dorian, the Spartan, as an act of piety or madness “carried out without consulting the oracle and without performing any of the prescribed ceremonies”. The ancient city, Fustel de Coulanges, Flammarion, 1984.

14. "The legal history of the Mediterranean thus contains the two possible approaches related to the origin of law. Modern law and Roman law — at one time in their histories — generated the persistent temptation for men of law: that legal order be the reflection of a divine creation, and that the relation of one man to another be impregnated with the notion of God, otherwise legal order is born from everyday life and man’s aspirations for autonomy." Histoire juridique de la Méditerranée, Jeanne Ladji-Mouchette, Publications Scientifiques Tunisiennes, 1990.

15. It is perhaps a tradition inherited from nomad Mediterranean ancestors. Traditionally, nomad families destined one of their tents to the dhaif (passenger, visitor or guest). “Hidden joy, extinct candle" is a saying from the other end of Western coasts.

16. Anthropological meaning of the word: social group gathering many families or clans linked by linguistic, ethnic and cultural bonds and generally living according to their own legal system.


18. “From the height of a bell-tower one can always see the neighbouring bell-tower...”, sung Lluis Llach, in Catalonia.

19. Rooting turns to an original model in the case of troglodyte houses. Although they are not very numerous, they are found in small numbers and with spectacular examples, as in the case of Matmata in Tunisia. As Moustafi Lachen wrote in the foreword of the book by André Ravereau, "...a society [...] a civilisation [...] of the organised site for a long duration...".

20. "...in the rich green pastures one estimates that one needs three hectares per annum and per sheep. It is obvious that this unit of pasture must be more significant in the Erg...", "...for diverse reasons; the loss of a herd, significant reduction in family manpower or group, nomads become sedentary." Le Souf des ouais, Ahmed Najah, Editions de la Maison des Livres, 1970.

21. Anthropological meaning: group of seasonal migrations, especially specific of stockbreeder societies, that benefit from spread out pastures as well as possible, going through huge territories, from plain to mountain and vice versa.
Chapter 2: ARCHITECTURAL SHAPES

The house I long for,
may it stand beheld by the sea
and may it be wooded
by the fruit covered trees

Joan Salvat - Papasseit

CONCEPTS AND CRITERIA

The following two chapters will take us on a voyage through traditional architecture in the Mediterranean area. This voyage requires some explanation, and we would like to briefly clarify some of our choices developed in the study concerning space and temporal or semantic perspective.

Amongst the rich range (1) of terms describing the architecture we explored, the word traditional (2) most often seems to offer a reasonable balance between accuracy and subjectivity. Traditional easily evokes an environment with all of its social, economic or construction practices. The concept of inheritance seems most appropriate to sum up both the essential characteristics of this architecture and the practices of those who establish and perpetuate tradition from generation to generation. This idea of inheritance is implicitly associated with qualities of permanence, respect, heritage, and repetition.

In the Mediterranean, we can speak of the wider family as we speak of the wider house

In the field of architecture, we chose the dwelling or house (3). However, in the study we often refer to the importance and meaning of other types of buildings (4) and constructions that make up (5) the Mediterranean architectural heritage. For example, we must recognise the well (6) as a fundamental element of life, of survival! Thanks to the well, traditional communities of this area are completely preserved. So in the Mediterranean area, as we speak of family in a broad sense, we also consider the wider house area, for wells, furnaces and pigeon lofts are also an extension of the house. We must, however, insist on the importance of these constructions which are often wrongfully looked down upon as “auxiliary”, and whose diversity is absolutely fundamental for the survival and fulfilment of traditional societies. This architecture is most generally in danger because it is discrete, sometimes obsolete or given up, or almost absorbed, eroded by the landscape (with irrigation or water control systems, for example). Being almost non-existent, its destruction goes unnoticed.

The extraordinary extent of the territories we covered, and the great number and variety of auxiliary constructions would be a subject for a great study in itself, making our decision to concentrate on the house quite indisputable. In addition, the house remains the essential centre; a core where actions, elements, population, and living conditions are recorded. Beyond the strictly architectural frame, it cumulates a wealth of information allowing us to interpret not only shapes, but impact, beyond its intimate space, on the landscapes and places influenced by its presence.

These places lead us to two different environments, rural and urban, the limits and definitions of which are not always unanimously agreed upon. Theorising this point is neither necessary nor essential for this study, we therefore agreed to define rural - opposed to urban - as all the shapes and actions related to life in the country (7), including all the areas where populations are mainly attached to farming and pastoral activities. The differences between these two environments used to be much cleaner in traditional Mediterranean society than nowadays, where urban development and its confused and diffuse spreading through larger territories, makes debating these terms pointless. In addition, we must take into account the fact that the physical environment we call rural, is often no longer limited to housing country populations, but also includes inhabitants working in secondary or tertiary sectors
whose life and activities are more attached to a production-consumption pole (city/metropolis environment) than to the environment of habitation. Actually, this rural environment is constantly being absorbed by an avid urbanisation of the area.

We preferred to define time according to use rather than historic frame, strict dates seem impertinent considering the multiple range of time in this large area. The houses, dwellings and buildings studied here are thus inhabited constructions, alive and exploited by today's population even when they are sometimes on the verge of abandonment.

The architectural heritage that has reached us was often built between the XVIIIth century and the first third of the XXth although many cases were prior to these periods: Middle Age foundations can often be discovered, and the construction techniques used have persisted since medieval times, sometimes even antiquity. If the image we have of a construction is often less than two or three centuries old, its foundations or other little visible elements are much older. We perceive the strength of inheritance, presence and persistence through time, on this architectural heritage.

We determined the end of the timeline for our project at the emergence of pre-industrial building arts (8). This idea is to be interpreted in two ways: we studied constructions built with local material resources; constructions that didn’t benefit from modern heavy material transport, and are thus prior to those times. Choosing ways and means of construction rather than time presumes that we can still find small pockets with traditional, little changed practices and organisations, and that these pockets can be studied and accounted for.

The houses selected in the area did not, at the time of construction, bear any trace of standardised contemporary materials such as cement, breeze blocks, or reinforced concrete. Of course, as old buildings are regularly subject to maintenance or modification operations, these new materials are often mixed with traditional ones, or used in substitution. Since several technical cultures are combined, questions of compatibility were taken into account, from a performance or cost point of view, as well as on an aesthetic level.

The traditional architecture we encountered is not the one generally found in books dealing with the History of Architecture. This is surprising considering it makes us dream today, inspiring and seducing a great number of famous architects (9), providing innovative freshness and ideas, and above all still sheltering hundreds of thousands of families from one end of the Mediterranean to the other. In spite of its historical, geographical, cultural, social and economic importance it too often remains little known, ignored, or looked down upon as inferior (10). Alas, it stands as an architecture "without identification papers". When classified, it is usually tagged as “exotic or minor”.

One can easily understand that the whole architecture of our study combines a very significant segment of time with a vast area, with a strong anthropological melting pot, constituting a quantitatively enormous world; a qualitatively complex and various environment to grasp as a whole.

The purpose of this study is not to present a full range of Mediterranean models. The issue is rather to study architectural heritage and its transformations, and through a thorough analytical approach, to propose strategies and tools that contribute to preservation of traditional architecture, today and for times to come (11). The inventory and analysis are adapted to these objectives, bearing in mind that grouping results in reduction. That means that the architectural subject was tackled from multiple points of view, considered as a living and dynamic material rather than as an inert formal object (12). We tried to avoid the heaviness and complexity of an overly formal and rigid classification, which would be useless here, and would no doubt be more appropriate for an architectural shape research program (13). We grouped all the material in a practical way in order to manage, understand and explain without excluding any prospect a priori.

One must consider this text and the CD-ROM as a whole. Both of these sources (two possibilities to access complex and dense information) allow for a general overview and easy approach. With this
text on the one hand, and the CD-ROM on the other, one can plunge into a vast data bank, every user can make his own voyage, casting his own nuance and lighting on this rich and various architecture.

Moreover, this frees the text of dogmatism, by proposing extensive material, processed and presented systematically, allowing for free and open reflection which should stimulate a rich future of research and interventions, aiming at revitalising the fantastic potential of traditional Mediterranean architecture.

It is also necessary to note that the survey was always thought about and carried out in a broadminded way to express all sensitivities, regional and local, to further enrich the study. We wished to let the richness of the Mediterranean civilisation express its diversity without formal constraints. This inevitably leads to a rather great flexibility in data processing, and of course requires a certain complicity and understanding on behalf of the reader. Especially on behalf of the reader’s eye, that can become a true instrument of knowledge in a deliberately picturesque and colourful book: some of the qualities of our area can only be truthfully transmitted through images.

*Traditional architecture used to be "the architecture" of our area only a few decades ago*

One last point concerning a grammatical choice. We preferred to use the singular to express “architecture” or the “Mediterranean house”. That may seem contradictory given the large cultural and expressive variety of the area, and may also be perceived as limited. However this use of the singular does not reduce Mediterranean shapes to a single model, but to a single rich and varied corpus of architectural expression. Far from theoretical disputes, we felt it necessary to speak of our topic from a distance, given the size of its corpus, and to make communication simpler.

The use of the present tense should be interpreted in the same spirit. The document traces a perimeter around traditional architecture and its periods. Therefore, evoking in the present should not lead to any misunderstanding. Use of the present tense also emphasises that merely 30-50 years ago, traditional Mediterranean architecture was "the" architecture in the whole area. Presently inhabited by millions of Mediterranean people, it is a daily reality. We could add that there is a warped perception of traditional Mediterranean architecture, often represented in its more “exceptional” or "exotic" models. In spite of some misleading examples, it belongs to a "normal", "daily" world with its humble and discrete character. These qualities are a great asset for the future, and a source of hope.

*Scattered housing represents the vital and vivid network of a territory*

To ease reading and provide information in the broadest way possible, we decided to separate materials and techniques from architectural shapes (typologies). Analysis and presentation of typologies will only skim over materials and techniques to avoid breaking up the global typological approach. The following chapter will come back to materials, building arts, and know-how in more detail.
ONE WAY OF LIFE, MANY WAYS FOR DWELLING

The Mediterranean man likes community life, partnership, and mutual aid as we mentioned in the presentation of the Mediterranean area. This analysis of architectural shapes clearly confirms this characteristic.

Scattered houses, grouped houses, neighbours are always present

Indeed, over 80% of all typologies are organised in groupings (hamlets, villages, urban environments) and less than 20% correspond to scattered housing. Of course, this distribution between scattered and grouped housing can vary substantially according to areas. If one could apply a quantitative demographic criterion to this analysis (we did not have these data), the ratio of the population living in grouped systems or scattered systems would be about 9 to 1. We would also have to take into account a certain number of fake scattered houses. This would be the case, for example, in the Middle Ages, when dwellings were in the orbit of a lord’s castle, sometimes leading to the emergence of grouped constructions. Today, it is still quite common to find this kind of scattered housing in North African hillsides, (scattered according to Western criteria) that don’t seem really organised in any coherent way. This is just a mirage: living space and relations are organised with invisible threads, handed down from a long lasting tribal origin.

Mediterranean also means family. It is the broader, wide-scale, clan-family. A family for support and heritage. This extended meaning of family sometimes exceeds family ties to include servants, employees or apprentices. According to studies, these people could be seasonal workers: temporary or permanent, hired for harvest season, or under construction campaigns. This family structure greatly contributes to the shape and appearance of all house volumes. It also determines relations amongst them and relations between these volumes and circulation facilities.

The Mediterranean man generally lives in "his" house. Over three-quarters of the typologies we studied were inhabited by a single family. But this family can be extended to include several married sons living in the same house. In rural environments, and in sharecropping relations, farmers and sharecroppers (tenants) can live respectively on the first floor and the ground floor of the same house. Some typologies group several houses constituting "agglomerates of buildings and dwellings" where abundant family spirit governs everyday life. In urban sites, where condominium type groupings are much more common, a certain immaterial bond links those who share the same house: tenants seldom change, and they usually live in the same place for several generations.

The presence of water, good quality soil and the potential for exchange were the strongest factors in determining the settlement and occupation of the area. Since antiquity, grouping and organisation, where urbanity is the standard and the necessity, generated a flourishing of commercial cities all along the Mediterranean littoral. In addition, a network connected continental towns and cities to the large arteries of caravans, which in turn linked the Mediterranean to the distant civilisations and huge markets of the three surrounding continents. Many large cultural currents came from these continents, and extended throughout the area: the Arab-Moslem or Turkish-Ottoman cultures for example. Thus, for thousands of years, the Mediterranean area was strewn with historical cities and towns, some of which have become large metropolises today. (Istanbul, Cairo, Athens...) Others have but remains and ruins as a testimony to their far gone golden age (Ephèse, Tipasa...).

However, we shouldn’t think of scattered housing as either marginal or inappropriate (from 15% to 20% of the typologies presented). It, on the contrary, constitutes a fundamental form of housing in colonising, structuring, exploiting, and domesticating a territory. In certain areas, these scattered constructions form a solid network of narrowly woven units. An "accomplished landscape" where the balance between inhabited – cultivated – construction is specific, complex and intricate. Land property, its inheritance and social organisation are determining factors in a territory-house, and house-house syntax, including the morphology of the latter.
As scattered housing exists in rural environment, it is generally inhabited by the most traditional populations, often remote or even cut off from a certain number of events or currents. These population perpetrate the tradition of the past, beholding customs and practices that often go far back in history, without any major deterioration.

For an introduction to landscapes, a great part (three quarters) of typologies is established in plains, plateaux and hills. It is in these landscapes that one finds the best soils for agriculture, for cattle and breeding, great rivers, large channels of communication and exchange, and also a necessary discretion, an effective protection against dangers coming from the sea. That explains why the coast areas contain a much smaller number of typologies (between 15% and 20%), which is to be related to a rather small fishing activity. Finally, the average / high mountain areas display even fewer significant typologies, and obviously less population (around 5%). It is nevertheless a significant area which would at first seem subordinate to the sea. The Mediterranean mountain plays a determining role: water supplies are a significant source of life and energy. Wood and pastures, often located deeply inland, cattle and animal by-products, labour, are found throughout the area, particularly in vast plains.

Scattered housing is present in all Mediterranean countries. It is associated with the rural environment, whatever the social status, from the poorest to the wealthiest. The size and type of agrarian fanns or herds will greatly influence the definition, morphology and syntax of the areas. Frequently, although a varied typological repertoire can be made, both modest peasants and wealthy families live in houses of a similar construction and structure. Defensive reasons in certain cases, cultural or historical reasons in other cases, together with materials available, techniques, know how and climate, have all imprinted a strong individual and local touch, a deep architectural stroke on the house.

**Three solutions for a style of housing: The basic house, the compact house, the multiple structure house.**

Three groups can be inventoried in scattered housing according to the degree of specialisation in each area:

The basic house has very little or no specialisation in the spaces shared by inhabitants, animals, and farm storage. It is single, general-purpose room, used for a limited period; as most activities are outdoors. This naturally brings people to live in close relation with the open. The ground plan is definitely rectangular, and typically the house only has a ground floor. As covering for the house, we find a roof with two slopes, one slope, flat or vault roofing (mainly barrel vaults). The façades generally have few openings. The quintessence of this house implies similar ways of life in different typologies. The basic house is often the core from which the house then evolves. This evolution, partly linked to the morphology and construction system of the initial core, presents various solutions.

Within this group, some houses can be considered as primitive. Although as simple as those we have just described, especially because of their shape (often round) or system, these houses have trouble evolving and developing. They generally represent a static model that lasts through time without any notable change, and because there is no evolution, this model tends to vanish.

The compact house provides housing, specific structures and spaces for production. It undoubtedly represents the largest group. In most cases, it has a ground floor, one or two levels, and a roof area space that is very often lived in or at least used for production activities. It can be found in both scattered or grouped housing environments.

The ground level plan tends to be less rectangular and nearer to a square shape (though this by no means constitutes a rule), although irregular plans are also possible due to topographic constraints. In this type of house, the floor area is definitely larger than for a basic house. Defining specific areas and spaces for certain activities, and a hierarchy of these activities contribute to increasing area and volume. Sloped roofings are very frequent, however, in regions with little rain, flat or weak sloped roofings can be found. The processing of the façades can be quite varied and different, from massive
typologies with no real composition, to carefully adjusted façades with generously numerous openings, mouldings, profiles and cornices.

The multiple structure house is made up of several buildings, each one having a well defined, specific use. Here the house often stands out in a formal hierarchical level from other buildings; this distinction is sometimes accentuated to the point of singularity, though the force of the unit comes from the very grouping of constructions, bringing a little nuance to this view. In the case of the multiple structure house, buildings can be semidetached, terraced or completely separate structures. Constructions can be built on the same alignment or on a roughly radial layout, or even according to a strictly geometrical and practical layout. In the latter case, rigour is imposed by rational productive criteria. The compact house was conceived finished, as a whole, whereas the multiple structure house can easily add buildings, as more space is needed, or volume is imposed by production constraints or by the diversity of activities.

The multiple structure house will meet the requirements of large farms, sometimes quite specialised. The number of specific buildings and names for these types of units is extremely variable, according to the diversity of activities. In this group we find real “production units”, often dedicated to a single specialisation (wine, oil...) and which require a specific architectural solution for each activity and production model.

Topography, farm size, soil production, yield or leading produce will all generate a more or less dense occupation of the territory, increasing or decreasing construction complexity.

Obviously, in the Mediterranean area, this appearance of grouping is subject to many subtle alternatives and nuances on the spot, even on small territories, along the lines of the above parameters. Monographs and local studies are relevant and invaluable here. They allow for a detailed and accurate appreciation, a more extensive understanding and a necessary knowledge to preserve and develop Mediterranean diversity which is undoubtedly the greatest asset of our area, its very essence.

THE MEDITERRANEAN HOUSE, CONSTRUCTION AND DWELLING

Standing alone in the middle of a landscape, always seeking a “watchtower” position, the house tends to materialise an intimate, private area. This private area is sometimes clearly explicit, as in houses with a courtyard or a garden, with or without extensive fencing, or, when the space between various structures expresses a particular area, transforming it into a patio or inner courtyard. It can also be a less determined area, bounded by the various surrounding buildings; it is an articulation, a passageway, a domestic space shared by inhabitants, poultry and smaller livestock. The open spaces of compact houses are often confined areas, with neither fence nor apparent perimeter. Physically less intimate than others, this space is nonetheless always present, although almost immaterial: trees, an improvised bench, a plough, a more hard-packed soil, are a testimony to its presence. The human touch recreates it indefinitely.

Patio, courtyard, garden, trellis; from domestication to an expressed household area.

If we mentioned the patio, courtyard or garden, it is because they are three rich, formal and locally varied expressions of a Mediterranean fact: life is lived as much in the open air as under a roof, an architecture of earth, stone or wood as much as light, shade or aromas. While the house is the area especially for women, the street is the area especially for men. A street imposes a construction or is the result of a construction; the street is always a large area of familiarity, exchanges and relations just as much as it is a place for circulation. In certain areas it becomes a continuity of the house, and frequently is both an extended area for activities, crafts, shops and social relations. The Mediterranean house often flows outwards. Particular elements sometimes being small side constructions. This is the case for kitchens or baking ovens built outside, both connected to the house and separate structures. But this common space is mostly encroached by small businesses, crafts or shops.
Patio, court and garden: three ways of domesticating an external area

Along the same lines, we find another typically Mediterranean area that contributes to defining the subtle boundary between inside and outside. It is what we could call “shade architecture”. This area is generically called a porch or portico. Whether it is a real hard point construction with a portico or arcades or whether it is materialised with plants, often trellised vineyards, jasmine, rose bushes or trees, this area stands as a most meaningful place. It has its own microclimate, but also a capacity to moderate the brutal Mediterranean light contrast between inside and outside; it is an extremely prevalent and cherished area for all the inhabitants of the Mediterranean area. A living space that connects confined areas to open outdoors.

The patio, courtyard and garden are often confused or processed as variations of a similarly defined area. These words are often used without distinction, blended and stripped of their true cultural diversity and expression. Yet these three areas express three ways of thinking, living and inhabiting. Three ways of domesticating the exterior.

We can accept the synthetic requirements and Arab-Moslem roots to define the patio; a word which certainly best defines the qualities of this house space. The patio is a shelter for millions of Mediterranean people dwelling in dozens of urban environments (médiñas) and in houses. A living architectural structure, rich with qualities, but alas also threatened.

The patio indicates both the centre and the core of the house, the heart of family life. This word has no synonym: it has become an irreplaceable area on a human scale, generated and conditioned by traditional construction. A dwelling area, a source of life. An active area, a peaceful and intimate place. Inside and outside. Ground and sky blend into an environment, a proportion, an architecture.

The patio can be more or less complex. Not having arcades on a ground floor, walls (or walls and elementary porticos) then define the limits of this central area, or arcades can exist on two, three or four sides. When arcades are present, the richness of the space is increased, creating a transitory place between the inside and the patio.

The quality, density and vital energy of this area are such that a house does not need more than one entrance on the façade. Everything is concentrated and turned towards this central point of the house. This entrance, always shifted with a chicane, spares inside privacy.

Although from a morphological or even functional point of view, the courtyard is sometimes similar to the patio, we find differences which give it a clear and distinct character. From a diagram point of view, the courtyard offers two main solutions: it is a space limited and designed by the various elements of a house, buildings or walls. That is to say an area which is more or less generated by the construction itself, more or less designed with fencing. In both cases, size and scale are conditioned by economic or farm activities. The herd, products, means of production and farm machines are as significant as the human scale in defining the courtyard. This area is less dense than the patio, its density is reduced by animal, agricultural and production constraints. It is more often demarcated by walls rather than buildings. The courtyard therefore remains a rather confined outside area.

The house with a courtyard is everywhere in the Mediterranean. Existing in all possible variants and shapes. In the Arab-Moslem influenced areas, it often resembles the patio, whereas in the northwestern Mediterranean it is more pragmatic and practical. According to the complexity and dimensions of the original construction it extends, this courtyard can be more or less open, repeated in a series, or generate distinctive areas.
If in a patio the area is bounded by construction, and in a courtyard only partly confined, in the garden this is no longer the case. Garden and house are juxtaposed. Each can exist on its own. Both offer an alternative to create and live in a double unit, inside / outside. Whereas the Arab-Moslem house best describes the patio area, for the garden it is the Turkish house which most accurately combines house and garden. The culture, more precisely the religious culture, will determine whether a garden is more or less intimate, a constrained place of shelter, or an area permeable to the outside. According to areas, this garden emphasises a leisure and pleasure spirit, or a more productivity oriented role.

Generally situated directly against the façade of a house, the garden is rather large, because it represents a significant place of household production. Plants of all kinds are cultivated in all seasons, with a large variety of fruit trees amongst which one almost always finds citrus fruits. However, it is also an area of leisure and pleasure: flowers with beautiful colours and delicate scents are fully expressed here.

As we have just mentioned, house and garden are the fruit of an add-on, but become one in time and space. It would be impossible to imagine these houses differently (though transformation processes unfortunately impose a disruption of this harmony). This architectural shape, literally a welded inside and outside, contributes to the production of unique urban landscapes, with a great density of greens which lighten built spaces and structures.

*Defence, culture, history, materials, know-how and climate will constitute the architecture, drawn from local and individual workmanship in a deep, architectural sense*

This act of domestication and outline of a closed and particular area which brings forth a strong feeling of intimacy and safety, is also expressed in the tents and light constructions of nomad populations. In the latter case, this area is created with the flaj, a large rectangular piece of fabric used by nomads, or simply with a few thorn bushes.

As always, with great nuances, we must once again insist on the decisive diversity of Mediterranean colours and strokes! We shall echo this again and again. We therefore face two designs. The first is a global inhabited area: a closed area, intimate and private, sheltered from the outside (a patio or inside courtyard defined by buildings and enclosed yards, whose walls protect from outside looks). The second is one that includes external elements on the same basis and level as other inhabited areas, with a more or less materialised or fenced periphery of the courtyard, laying out domestic borders, a design that clearly defines a permeable area, open and exposed to outside looks (here, the area is mostly related to farming production or activities).

In the first case, the non-covered area often becomes the core (14) of the house or at least a significant centre of activity. In the second case, although still important because Mediterranean people live outside, this space no longer plays the same central role, nor is it considered on the same level as the first area.

In all instances, the same need exists: to stay in permanent contact with the outdoors. This is not exclusive to our area, it is a true quest for many people around the world. But in the Mediterranean, this quest is strongly modelled by the history and landscape of so many different cultural temperaments.

*Mediterranean architecture is expressed powerfully through earth, stone or wood, light, shade or scents*
Presence becomes house; nomad dwelling.

Nomad populations are probably those that have most strongly practised this affinity with nature. Historical narration, mainly produced in the north-western world, too often presented southern and eastern nomad populations only emphasising the exotic and indolent cliché of the Mediterranean. Its structures, urban planning – we dare say - its techniques and building materials, were never looked upon seriously. Sometimes nomad was systematically associated to misery, when in reality it is quite often the contrary. Another fantasy tends to identify nomad as Bohemian or adventurous when in reality, migration, bearing, stopovers... everything is precisely determined and considered in a wilderness that allows no error. Under a light and fragile appearance, a tent is the sanctuary of an impenetrable and secular culture for immense territories.

The house of hair (beɪt ʔeʔ char) for Arab-Moslem populations, or the otag, tent of Turkish tradition, have anticipated ways of life which we find in the architecture of solid sedentary houses. The otag will later become the oda, the bedroom or room. For the Moroccan Berber, the word for tent is taxant (or takhant) and the word for house is akham (or axxam). Here are two examples from two extremities of the Mediterranean basin, to illustrate this heritage.

The architecture of nomads is refined: the tent and camp layout are as finely organised as any hamlet or house. Even the colours are strictly determined, as these colours identify the owners and users of a camp from afar.

The tent of the nomads, fewer and fewer in the Mediterranean area today, characterises a type of housing and construction exclusively prepared by women. It is the women who used to prepare the raw material and wool, they who produced the elements, wove the fajl, built, mounted and dismounted the structure at each displacement. They again who were in charge of maintenance, repairs or renovation. This presence became a true dwelling: a sign of higher social class and nobility amongst the Arabs, and a sign of low social status for the Turkish or Berber populations, the nomad dwelling brings us to a dialogue between architecture and landscape. We could actually state that a tent is hosted by the landscape, spreading out gently and clinging solidly to the land.

Less frequent than nomad tents, other dwellings we can call mobiles, which have disappeared today, were formerly found in the Mediterranean area. They were houses made out of plant fibres and wood, easily dismounted and transported by animals, for rather short distances compared to those travelled by nomad caravans.

Despite these mobile dwellings, the desire and need to settle and create a home dominates throughout the area.

The permanent structure. House and roots. Laying the foundation of one’s place.

The permanent Mediterranean structure is an answer to an aspiration for foundation. Almost 40% of inventoried typologies correspond to one level houses, ground floors (GF). At first, we could say it is a modified open air. Almost three-quarters correspond to houses no higher than two levels (GF+1). A fifth only exceed this volume: GF +2 and GF+3 or more. Intermediary levels, though found are rather scarce. This small percentage of GF +3 or more typologies nevertheless cumulates a strong percentage of the population as it represents village typologies. A village or urban environment favours vertical constructions where land is scarcer, and notably in strongly sloped landscapes. In addition, a defensive criteria tends to favour grouped housing with a more or less defined surrounding wall: it is essential to protect oneself against enemies both human (looting, razzias,...) and natural (the desert). However, constructions that spread out on the ground level remain a significant characteristic.

They are found in two thirds of all typologies, on a ground plan with regular shapes, over half of which are rectangular. Only a third of all typologies are irregular in shape. Very often, in rural environments, topographical constraints impose this irregularity. Sometimes they are the result of
added elements after property inheritance or rural land regulations. The rule seems to be regular parcelling. Angled constructions are also the standard; although round shapes are sometimes found, they are an exception. They seem to testify to older more arcaic shapes, and are seldom found today.

Interior space distribution solutions are plentiful. This diversity is expressed in both one level houses, elementary or complex, and in houses with several floors. A great quantity of factors combine to generate one solution or another. The diversity of cultures, associated production or farm activities, as well as construction control, privilege certain choices over others. Upstream, we can already distinguish two great groups: typologies whose distribution is outside and those whose is inside the house.

We find a great range in the first group: from the exterior parts, to a more or less immaterial portico. Certain typologies in this group can evolve (but are not "transformed", although this can also be found) by closing this external distribution area, and by making it as an indoor area: new activities are added to the distribution. Certain houses with a courtyard or patio can be considered part of the two groups. Indeed, although the distribution is outside, it remains an intimate and private area, the center of the house – this is indisputably the case for the patio, and more subtle as concerns the courtyard, especially when it is only partly closed.

This leads us to consider two sub-groups for houses with indoor distribution: those that are organized starting from a central area and those with a linear organization. This schematic view implies a certain hesitation in grouping certain typologies with hybrid solutions.

From a central area, we find the house with a patio, and all houses with central sofa, the Lebanese house. Crossings and bays often determine a central point starting from a basilica configuration, insisting on the hierarchy of a central nave – this is the case of the masia in Catalonia, where the sala is a central area.

A linear organization is sometimes carried out from the center, or sometimes from one of the sides. This axis is often used to directly connect two external areas: the street and the garden (or courtyard) up against the back façade.

According to cultures, inside areas tend either towards versatility and constant change, or towards much more explicit specialization. The room of the Arab-Moslem house, or the oda of a Turkish house illustrate the first case; for the second case, we find the village house in Provence, for example.

The Mediterranean, which has colder winters than one often imagines, attaches a great importance to fire. Fire, the fireplace - whether to cook or to heat, sometimes both - often becomes a central living area in winter or when nights are crisp. They sometimes embody the external character of the house, with significant façade or roof chimneys. In more basic houses, a simple hole in the roof ensures the evacuation of smoke.

With the exception of troglodyte housing, on which we will comment later, the Mediterranean house is not characterised by a systematic construction of a basement (levels with non-apparent façades). Only 15% of all typologies have this basement (half buried levels are more frequent, with only one apparent face, the others cling to the ground or slope). This basement is of course sometimes important for production and preservation activities associated with the typology (development and preservation of foodstuffs). We must remember that the need to control and store water carefully generated a trade in the Mediterranean: digging wells, water mines or cisterns. Finally, 5% of all typologies have a mezzanine, an intermediate level between the ground floor and the first floor.

A presence becomes dwelling area: behind the apparent lightness and frailty of a tent we find a dense and secular culture that enjoys the flavour of large open spaces
As far as the floor size and habitable areas are concerned, we find a great range and scale. In scattered housing, a significant proportion, 35% of all typologies, do not exceed 50m², whereas another third is between 150m² and 300m². Wealthier farmhouses can be larger. In grouped housing the distribution is rather more uniform in all environments. Areas are frequently adjusted to the same typology with significant variations, adapting to the demographic, social and activity characteristics of a family. In the Arab-Moslem médinas we find good examples where it is possible to recognise the same model for a modest family house or wealthy, noble residence.

In fact, in traditional Mediterranean architecture, the typologies inventoried corresponding to higher social classes that we could simply call wealthy, only account for about a quarter of the total. The majority, about two thirds, corresponds to the broad range of farmers, stockbreeders, tradesmen and craftsmen, and the remainder to humbler social categories.

The Mediterranean house seeks solidarity and permanence. The house means the place; when speaking of a house, don’t we say "the place and the fireplace?"

Mediterranean people are dedicated to the construction of their houses. In great majority, a solid house is an enduring dwelling (9/10th of all inventoried typologies would be in this group). However, a Mediterranean culture associating summer and winter home is also represented. We can evoke the examples found in Algerian M’Zab towns. In these cases, clear differences can be observed between summer and winter typologies, also found throughout the North African Maghreb and elsewhere. These differences go beyond just strictly morphological features, and tend to influence even the rigidity of daily life. It is often the climate that leads to choosing this strategy of seasonal housing. Let’s not forget that in the areas where seasonal climate differences are great, a seasonal organisation transforms a house, through a "domestic transhumance", in a quest for the freshest or warmest rooms and levels, according to the season. In summer, a terrace can become the best possible place to sleep.

This being said, we should remember the Mediterranean landscape is strewn with auxiliary constructions for agriculture and farm activities. We say auxiliary in this case because the large majority of these constructions can be regarded as seasonal constructions, used practically only for the day. In general these constructions are rather small (used as temporary shelter for people or tools or sometimes cattle) and so well blended in with the landscape that they become a reference of this landscape. Another interesting aspect is shape and construction simplification. For example, in areas where the rule is a roof with two slopes, these constructions generally only have one slope, and vaults are often blind arches. These constructions are moreover a model of effectiveness and extreme durability, built mostly with materials that cannot be considered as transported or supplied, but just collected within arm’s reach. Stones for example are often collected in ploughed fields. However some of these temporary shelters are far away from villages, in remote areas, near farming lands, or used at the time of transhumance.

**The light construction or reasserting one’s roots**

If the vocation of the Mediterranean house is to be a permanent foundation and place, this does not automatically imply a solid construction.

In the past, vast littoral areas or even inland plains were marshes. On these water lands as on hard ground, stone was scarce and heavy structures anyhow impossible to implement. In addition, humidity played a strong role against the use of capillary sensitive materials. On the other hand, reed was generally quite abundant.

From one end of the Mediterranean to the other, this very particular environment was an incentive for the conception of lightweight housing, appropriate for these peculiar environmental conditions and available resources. This housing is more or less light, sometimes palafittic usually basic and simple, with only average longevity. This relatively short life span coupled with the progressive draining of
marshy Mediterranean zones slowly erased traces of this type of house. However, light houses are still built and inhabited in a few areas, involving a very limited population.

We could easily think this architecture is the opposite of solid and "imperishable" constructions. It is sometimes classified with tents, but this lightness is only true in terms of materials. Conceptually, it is a house that is just as rooted as a solid one. Actually, in the case of these light houses, bases and rooting are renewed and reassessed regularly. Indeed, the brittleness of the materials used implies rebuilding the house completely every three to five years! This is the case in the delta of the Nile, on the banks of Borolos lake, where fishing communities still live in this type of house.

**Evolution and definition**

In the Mediterranean, the house is mostly conceived / finished from the start. That means that it adapts to needs and at the same time must foresee use and means. Enlarging a house without the primary idea of evolving from an elementary core is of another nature. We could thus speak of final typologies and evolving typologies. The first group accounts for 85% of all typologies and the second for 15%. We should however mention that evolving models develop according to a generally predictable process. From this point of view, they could be regarded as final, as construction would extend over an open timeframe. The evolution of the house is usually more horizontal than vertical, although this last case is not exceptional.

**The “in-construction”, or troglodyte constructions**

We can find troglodyte constructions in almost all Mediterranean countries. In some countries, they are still inhabited (Tunisia, Spain) and in some of these countries, preservation programs are carried out to rehabilitate constructions and render suitable living conditions. It represents a peculiar type of architecture for the area and shelters a minority of the population, both throughout the area and in each specific country.

These troglodyte constructions are in three great groups: first typologies using a natural hollowing then closed by a wall, such as a façade, as in Palestine, Tunisia or Spain, secondly typologies in which dwellings are completely dug out horizontally and whose only apparent elements are the front door and the chimney, such as in Guadix, in Spain... and finally a typology where elements are dug horizontally starting from a vertical well, such as a patio, as the examples reported in Matmata, in Tunisia.

This type of housing is like a real gutting construction process, like a film negative in the sculptural meaning of the word. It benefits from a maximum number of qualities, amongst which are constant thermal levels, due to ground thickness. It could be considered in certain cases – especially in Matmata - as evolving. Aside from the dwellings we have just mentioned, other in-constructions of this same type exploit the specific hygrothermal qualities for cellars in the production and preservation of food products.

*The troglodyte house, the "in-construction" found in arid areas, benefits from consistent and permanent ground thermal qualities*

**THE MEDITERRANEAN HOUSE, ISSUES AND ACTIVITIES, AREAS AND CULTURES**

**Defensive considerations**

At all times, defensive concerns shaped architecture in areas subject to war, invasion, plundering. An even more radical architectural form of expression was developed in the most violent areas and during
the most turbulent historical periods. This architecture almost turned to formalism when safety was achieved.

The Mediterranean has a large range of solutions to incorporate the idea of defence in construction. A grouping can be made according to three criteria: the house is itself a defensive element (the tower house), the house incorporates this defensive element (house with a tower), the house incorporates morphological strategies of defence, without their strictly corresponding to elements of defence. Volumes and materials can sometimes provide a perfect camouflage for a house or an entire village.

Here again, this grouping is to be taken in a very synthetic sense, which helps to better understand the great architectural expressions used to fulfill the same need. Thus for the tower house, the shape goes from a very compact, closed house with the fewest openings possible (tall and narrow), rising up to an actual tower. The first case is an adaptation of the standard house to defensive needs, the second case is almost adapting a style of life to a specifically defensive volume. As for the house with tower, the tower will more or less display the defensive character of the house, either characterising the whole structure or just discreetly altering it. Certain Turkish houses are a good illustration of the third group.

Obviously, these precautions are taken in great majority for scattered house. Grouped housing uses collective defence systems: enclosure walls, natural setting camouflage, or difficult access.

In a less explicit degree, we can also mention defence and protection of household intimacy, and especially in certain cultures, the intimacy of women. Here too, traditional architecture presents a wide range of solutions, from the frach of the nomads, to the blind façades of medinas or the moucharabiehs of the Arab-Moslem or Turkish houses.

Activities linked to production

Separating humans and animals is generally the rule. However, in the most primitive types corresponding to the most remote territories and the most traditional societies, we find animals and owners still sharing the same covered living spaces. Animals and inhabitants most often share the same enclosure: animals are in a courtyard while humans are in the surrounding buildings. Third case: the same building accommodates the two, but with a separation, either on the same level or on two different levels. Finally, in a fourth alternative, humans and animals live in separate buildings. The separation of inhabitants and animals can be interpreted as a sign of social development and / or type of production.

Three quarters of the typologies are associated with production activities related to agriculture, one quarter to trade or craft industry, one third to breeding and farm activities and one tenth to fishing. Some quite frequently associate several of the above described activities. 40% do not associate any essential activity to the house other than dwelling.

These activities cover various areas according to typology. A general tendency in the compact house is to use ground floors for production activities. This is obviously rather logical, especially for trade activities and crafts which are directly and easily accessible: workshops or trades are open on the street. Ground floors are also practical for cattle, ploughs or other farm tools. The same situation can be found in typologies associated to fishing activities. In these cases production activities clearly define the perimeter and parameters of an area, but also its connection with the other areas of the house. At another extreme, we find other production activities under the roof or even on the terrace in certain areas and typologies. Indeed, the under-roof area is often used for storage and drying of vegetables or mixtures, and sometimes also used for the breeding of farmyard animals. In a multiple structure house, these activities profit from specifically designated buildings or constructions, adapted to each activity. They are conceived to meet the exact requirements of a corresponding activity, which in certain cases generates a specific architectural expression. As for the terrace, it is a typically Mediterranean place, with a great richness in terms of activities. The Mediterranean terrace is much more than just a roofing of the house: it is a place for drying fruits and linen. It is altogether a summer
room, a private outdoor space and a social place. It is sometimes a passageway, a rainwater collector, a watch-post onto the horizon and dreams, a finite and infinite area, recreated by men and women, elevating life to a unique level. In certain typologies without terraces, in the conventional sense of the term, a flat earth roofing sometimes has the same functions and richness as a conventional terrace.

The terrace, beyond a mere roofing, is a distinctive Mediterranean living area

Before coming to clearer boundaries and differences in the latest stages, a great complicity, we dare say promiscuity, used to exist in rural environments, between landscape, buildings, people and animals. Inside and outside used to be so closely linked with early morning sun pouring into the house through open doors and windows, or with the shadow of the house extending over the ground in the sunset, that they blended as one. The continuous and repeated going to and fro in and out of the house merged inside and outside into a single living area, common throughout the whole Mediterranean. The climate more or less modulated the intensity of this characteristic according to latitude and altitude.

Two cultures, two attitudes, two living areas

Two great cultures generate two different ways of thinking, creating and re-creating a construction, and a different way of life: we could say a standing culture and a sitting culture. (15) We refer to two completely different worlds with two ways of living. First, the southern and eastern areas of the Mediterranean, the Arab-Moslem, Judaic and Turkish influenced zone; and, second, the northerm and western area: the Latin world, Balkan countries and Greece.

A way of moving, a position of the body; life is seen from an angle that can change everything: it alters the scale of perception, modifies the specificity or versatility of areas, adjacency or furniture, and determines whether inhabited rooms are full or empty.

In south-eastern lands, living on the floor or on the ground does not require large furniture: space is continually recreated according to needs, at any moment and every day. For example, the "furniture" integrated within the walls of the Algerian houses in M'Zab free the rest of the room. In north-western areas, chairs make it necessary to add a table, which means that rooms include pieces of furniture and objects, hampering and obtruding the visual field. This filling of space with furniture also affects the perception of volumes and light.

THE CONSTRUCTION OF TRADITIONAL MEDITERRANEAN ARCHITECTURE

A balance between capacities, resources, needs, and pleasure

Apart from some exceptions, traditional architecture is constructed using local materials. It is not astonishing that stone, especially limestone, found almost everywhere in the area, is the most commonly used material, the main element for 60% of all our typologies. This percentage increases significantly for auxiliary constructions and reaches nearly 100% for terraces and other elements structuring the agricultural landscape. Combined with the scarcity of other materials in certain areas, stone suffices for walls, crossings, roofs, showing the effectiveness of traditional techniques and know-how. The latter solve a score of problems using a sole material, very often with hands as the only tool. Obviously, stone is mostly used for the construction of walls.

Earth with no other processing than collection (10%), in the form of mud or terracotta brick (20%), is represented in almost 30% of all typologies. Earth is also commonly found in walls, but it is also used in flat roofings and certain crossings. Mixed solutions (stone/earth, stone/brick) are present in 8% of
our typologies. Plant material as main construction material, thatch or straw for example (not including wooden structures), is used in only 5% of all typologies.

From a structural point of view, the most common solution combines load-bearing walls with horizontal crossings. These short span crossings are generally made with wooden beams and a wide range of solutions regarding the processing between the beams and the flooring. Various types of vaults are another common solution, especially for ceilings, cellars and ground floors. Stone, brick and mortar casting with aggregates are used to build them. “Diaphragm” partition arches are found almost everywhere, combining short spans to obtain large areas, while acting as hollowed load-bearing walls. Some arches customarily allow for great spans, generally used for large residences or farm facilities, in areas with substantial forest supplies. In the plains of the Maghreb, for example, we still find “hypostyle” spaces. A wooden post “forest”, associated with a flat compacted earth roofing, frees substantial ground space: the resulting areas seem quite spacious, despite relatively modest inside heights.

With regard to roofs, several solutions are found. Sloped roofing (mostly two-sloped roofings) is used in 56% of inventoried typologies; flat roofing represents 38%, 22% of which are flat earth roofings, 12% use lime rendering, and 4% use tiles: this means that 16% of all roofing typologies are terraces. Sloped earth roofings represent about 4%, 3% of sloped roofs are constructed with straw or thatch. As for cupolas and vaults, they represent only 6%.

*Traditional architecture Mediterranean is of exuberant essence, splendour and vitality*

For the structures of these roofs, the solution used is the same as in horizontal crossings for flat roofings. For sloped roofings, the most frequent solution uses rafters resting on two load-bearing walls, for roofs with a single slope, or on load-bearing walls and a ridge beam for roofs with two slopes. An imaginative range of alternatives is developed around trusses, blind trusses or mixed solutions. Terracotta tiles are the most commonly used material for these roofs, although stone such as schist is also used, mainly in mountainous areas.

Vaults are present almost everywhere, but in varying frequency. The cupola, on the other hand is less widespread in general, and limited to South-eastern areas. When more present, it combines imaginative alternatives and profiles. These typologies represent one of the most successful, popular and mediated images of the Mediterranean, though only representing a discrete minority.

A large majority (75%) of typologies uses an external coating. The most frequently used is a lime-based mortar (45%), while the remainder are gypsum, plaster or earth based (15% each). Stone or ceramic plating is scarce. The remaining 25% have no or only occasional coating. This external coating might not cover all the walls. In certain cases, only the main façade is covered, while in others only the façade most exposed to rain and wind is covered. In the other extreme, the coating can cover the entire house, roof included. This is the case for light coatings, such as liming. Here we find the stereotyped image of an allegedly typical Mediterranean architecture. Yet at a chromatic level, it is not white which dominates but rather yellow ochre, and the bluish-grey of earth and limestone. This includes a whole range of pastels: reddish and pinkish tones, greens, blues: this array of colours recalls the diversity of the Mediterranean world.

For inside facings, we find the same possibilities as for the outside. It is, however, necessary to note the presence of earthenware on the walls and ceramic tiles on the floors, which in certain areas reach an array of profusion, beauty and great mastery.

We also find a clearly basic Mediterranean house, built very quickly. This surprising quickness (from one week to six or eight weeks for most typologies) is explained by three main points: the simplicity of the building, filled and decorated with light, shade and presence only; constraints linked to the time
of year, harvest seasons and rain seasons; and the preparation of the site and materials in advance, proving the degree of architectural reflection brought into such constructions (thus less spontaneous than usually reported). We can also often note local co-operation and partnership among families, neighbours, and villagers.

A welcoming land, but also one of emigration. Emigrants sometimes accumulated fortunes during their expatriation years, and generated a great quantity of architecture for the rich during the XIXth and the early XXth century. We find these examples in areas with the greatest number of expatriates overseas: Aegean areas, Portugal and Spain. The architecture chosen to express a new status for these new rich people was neo-classic, with exuberant ornamentation and detail. Often brought back from the Americas or the Indies, in Portuguese architecture it was called brasileiros, while in Spain it was known as indios or americanos.

Throughout an area resembling a mosaic of states, architecture took no account of borders, and it is common to find the same type in two or more countries, neighbouring or not. Thus in Turkey one will call Greek house the same type of house that would be called Turkish house in Greece. At the other end of the Mediterranean, surprisingly similar architectural expressions can be found between the Portuguese Alentejo and the Spanish Extremadura, or between Andalusia in South of Spain and the Maghreb.

It was often said that traditional architecture bears the signs and marks of cultures and populations. Not only traces of the physical signs (activities, demography…) but also traces of cultures and creeds. On two façades (main and secondary) of a house, are two doors of strikingly different sizes and processing. One large and noble for men, the other one small and humble for women, both disclosing a long chapter on culture and society. Drawings in vivid colour on the walls of Moslem houses in Nablus, a statue of a saint on a street in Malta or Andalusia, a small palm tree branch nailed to a front door in a Catalan village, all bring to light a voyage to the Mecca, a catholic faith, or a protection against the bad spirits. It is certainly because a traditional house is the skin of a population and not a monument that it exhales so many of the joys and tribulations of its inhabitants.

But the enormous capital represented by this architecture is not spared from danger, and its condition arises alarming concerns. The results of the investigations and analyses provided data which is far from reassuring. Co-ordinated and effective interventions must be implemented urgently. The results we have gathered, beyond the inaccuracies that must be accepted given the size of the project, show a rather accurate reality of the situation.

We can estimate that 10% of all typologies are seriously threatened, either by abandonment or by forces that are impossible to withstand. 60% are floating between regression and stagnation, therefore losing their living form. Only 30% are not subject to any significant danger, and are on the way towards revitalisation. This means that nearly three quarters of this capital and Mediterranean potential is at a dangerous point from which there is no recovery.

SITES, A TOOL FOR THE STUDY

The Mediterranean is a landscape strewn with hamlets and villages. Village life is an essential element in the area. Average sized urban environments complete this spectrum, keyed like a vault by the larger, often historic urban environments which are becoming enormous metropolises in certain cases but still preserve districts whose architecture is a testimony to history and tradition.

These villages, urban environments and districts represent centres of power and decision at various degrees. They testify to initiatives and sensitivities. We can feel the dreams, frustrations, errors and collective successes through them. It is there that the house, the typology, lives daily life intensely, often dramatically, chock-full with its past and history, and too often emptied of any future. There
only, on the spot, do events reach a true dimension: there only do projects become demanding, difficult and complex.

It is for all these reasons that local teams chose some significant sites for each country, where one could find the indexed and studied typologies in their true to life context, and where one could find politicians, deciders, designers, users, associations, schools, contractors, craftsmen... and assess the achievements, programs and projects. These samples, with a total of seventy one sites, are varied and spread throughout the area, in all landscapes. They represent a wide range of situations that point out all geographical, social, economic and political trends and reactions.

We use the word site here in a broad sense, to simplify denomination, to ease understanding and identification. A site thus includes architectural sets (urban or rural) as well as built areas, well aware that cultural landscapes may overlap. It was necessary for us to make an effort of synthesis, to avoid heaping each line with nuances that would make reading hefty or sometimes impractical. But our prerogative for diversity and rich tonalities remains intact. Along these lines, the high level of detail and geographical, economic or cartographic data contained in the CD-ROM will be of a great use, and we believe essential. Site thus appears to accurately express city, village, as well as rural area with scattered housing without major contradictions.

Village life is an essential trait of our area

We chose the expression significant site to highlight those selected by local partners among a greater number of choices: significant sites because of their qualities and capacity to sum up features and characteristics particularly revealing to illustrate the analyses of this project: architectural shape and processes or interventions. Because when we say that traditional architecture represents an enormous capital, this is true from a patrimonial point of view, in the broadest sense of the word, but even more so through the huge stock of constructions it constitutes, with thousands of villages and thousands of scattered houses, landscapes, and million of inhabitants. That is why it is especially necessary to consider the selection as just a modest sample of the richness and density of traditional Mediterranean sites.

The sites selected are dispatched as follows: one quarter on the sea side, two thirds in plain, on plateaux or hills, and a little less than one quarter in high mountain areas. As concerns population, we find two sites chosen among urban environments of over one million inhabitants, up to 25 sites among villages of under 5 000 inhabitants.

If agriculture, cattle and fishing account for three-quarters of main traditional activities for all the sites, these are modified by new ones today. Tourism and industry represent new emerging activities for 58 out of 71 sites.

When observing the health or condition of these sites, it is usually more positive than for typologies alone. A logical point, owing to the fact that a site profits from certain more global dynamism and mechanisms which do not usually favour particular traditional architectural places. Nevertheless, stagnation seems to prevail for 45 % of the selected sites.

With sites, we once again notice great differences between the north western and south eastern banks of the Mediterranean: differences in economic and human resources, experience, advanced training, but also in population awareness and participation; a sensitised population is more able to dedicate time and energy to these questions. Differences also exist as concerns administrative procedures and decentralisation, as well as flexibility and autonomy of local authorities. This does not mean that relevant interventions occur on one bank only: significant projects have been implemented for years on the south and eastern banks. To these structural differences, we must add the morphological differences of each site, their state of preservation, and their potential and ability to react.
We can also note a tendency towards an increased collaboration between the two banks, based on the sites, which should allow for most welcome and invaluable exchanges.

The sites selected provide a broad range of possibilities and especially a true and earnest experience: a real future for the joint partnership which has only just begun.
Notes:

(1) This is not the time and place to discuss the various approaches authors have developed in diverse fields. It is however useful to point out some of these terms: architecture can be popular, vernacular, traditional, primitive, anonymous, without architect, spontaneous... A potentially long list of possibilities, sometimes strewn with relevant terms, and occasionally extremely ambiguous ones. We must comment on the abusive or perverse ways in which the word traditional is often used, systematically given archaic or obsolete meanings. These misuses are wrong and most of all dangerous, because of the harmful corollaries they can generate in the field of preservation and rehabilitation of traditional architecture. Beyond these issues, we must quote Jean Cuisienier: "Tradition is not exclusive to the past and long gone times; so many contemporary social practices are an expression of popular tradition!" Jean Cuisienier, La Tradition populaire, PUF, 1995.

(2) Tradition, from the Latin word traditio. The verb tradire means to transmit, to give "...construction tradition is to architecture what oral tradition is to literature..." Ortiz de Ceballos, Le Val d'Aran, Contenido de un paisaje, Cuadernos de Arquitectura, 116.

(3) Traditional know-how was also invested in public constructions (schools, buildings, hospitals, markets, canyons, dams...) and religious constructions (mosques, churches, tombs...) producing a very effective, beautiful, and sensitive architecture.

(4) The Mediterranean area is rich with complementary constructions. We can mention them on a non comprehensive basis: wells, huts, mills, cisterns, drying units, pigeon houses...

(5) It goes without saying that units consist of one or more houses; various buildings associated with the productive economy are presented as a whole and indexed.

(6) The well was often the first construction undertaken, since it is a primary condition for a settling, and guarantees the permanence of a given spot or site. Albert Demangeon considers water as one of the four determining factors (water, defensive system, production activities, ethnical traditions) which explain grouped or scattered housing. A. Demangeon, Problèmes de géographie humaine, A. Colin, 1947.


(8) According to countries, whether an urban area or rural area is examined, the end of pre-industrial construction can be set at different periods: from the last third of the XIXth century for large European cities, after the second world war in the West zone as a whole, after independence in the South and East Mediterranean, sometimes still preserved today.

(9) Amongst which: Le Corbusier, Wright, Sert, Aalto, Tange, Mies van der Rohe ...

(10) "Wrongly regarded as minor structures compared to the architecture of architects, the comparative study of vernacular architecture acknowledges all the aspects of a space more genuinely and less emphatically: this architecture is actually lived in, it is in use, therefore more significant." Pr. Frédéric Aubry in the introduction to Architecture Vernaculaire, S.Guindani, U.Deeper, PPUUR, 1990.

(11) We must not confuse total and comprehensive. The vocation of this project was never to replace the accuracy, detail and scale of excellent existing or future local monographs. This would anyhow be impossible to do. On the other hand, a global solution enlightens these local assets, these diversities, by connecting them to a larger common living space, which is the Mediterranean area.

(12) This relates to the plurality of criteria for the itemisation and understanding of construction. J. Robert. La Maison agricole. Essais de classification et définitions.

(13) This does not exclude that the proposals undertaken in the field of classification were of great use, and constituted irreplaceable material, thanks to authors as: A. Demangeon, G Aymonino, A. Rossi, G.C. Argan, R. Grassi, amongst others.

(14) We should rather speak of a matrix, because this is a more feminine space, a life generator in the household.

(15) With richness and simplicity, André Raveraux defines a culture where one sits: sitting is "another perspective of life". A. Raverseau, La Casbah d'Alger, et le site crée la ville, Sindbad, 1989.
Chapter 2 - Typology Charts: LIVING SPACES. SIGNS OF LIFE

In the following pages, we’ll try to illustrate all the significant features and characteristics of the Mediterranean way of life and the related living spaces we have evoked so far. There is such a great variety of traits, and so many significant nuances that this chapter would be incomplete without the attached CD-ROM. The following presentation conforms with the same multiple entry chart and multiple conception approach to express traditional Mediterranean architecture. We focused more on explanation and description, privileging facts and workmanship rather than trying to draw up a classification of models and objects. In our selection of examples we sought neither the most original nor the most spectacular or exceptional cases. On the contrary, we were guided by normal, common and daily examples. These qualities are more or less relevant according to the degree of vitality in the various typologies. We also accepted another constraint in our choice: the alternative presence of territories taking part in the CORPUS project, with examples taken here and there. This was necessary to ensure a good geographical distribution of examples, but also to avoid the heavy, overly publicised examples in traditional architecture. The choices were aimed at finding a balance between themes for the reader. The number of examples was determined by a compromise between the number of points that required graphic illustrations and the space available in this chapter, which was limited to preserve the equilibrium of the book.

We invite you on a voyage through plans and illustrations. All were drawn up today as traditional architecture has mostly been an oral tradition, transmitted directly on location. These illustrations also give a flavour and a colouring to our architecture. They will hopefully arise the interest and curiosity of the reader who can then navigate through our data-base. As this is a crucial objective, we hope the peaceful and intellectual thirst of a new Mediterranean navigator will be quenched.

"Through the years, I have become a man of all places. I have travelled the continents and yet have but one deep root: the Mediterranean. I am a Mediterranean man, overwhelmingly."

Le Corbusier

ARCHITECTURAL IMPLANTATION THROUGHOUT THE TERRITORY

"The Mediterranean has never been a free paradise offered for the pleasure of humanity. Everything here had to be built, often with more pain and adversity than anywhere else." With these words, Fernand Braudel gives us the true colour of the area. Grouped or scattered housing, rural and urban environments were often considered as adversaries: harmonisation is not yet a fact (Ghardaïa, radial Medieval city in the M'Zab valley, Algeria (1) and scattered housing in the Maestrat Valencia county, Spain (2)). If the work carried out in rural areas enabled and stimulated urban development, it is the vitality, rise and radiation of cities which have always fascinated people since Antiquity. It is the cities that displayed the most characteristic image of the Mediterranean. Let us lend our ears to the reflection of various great Mediterranean men of all ages: they reveal the various perceptions cast on the concept of foundation.

"What we call city is the main community above all others, the community that holds them all, is self-sufficient and contains everything needed for a good life" (Aristotle)

"At the time of city foundation, choosing a healthy place comes first (…) after choosing fertile lands to sustain the city, opening roads, spotting all nearby rivers or harbours opening onto the sea." (Vitruvius)

"Man is naturally made for a society or a Republic, says Aristotle; we can therefore consider it inevitable that man never stops building cities." (St Thomas Aquinas)
"Inhabitants living in the countryside limit themselves to the bare necessities and do not have the means to go beyond. City people, on the other hand, want to satisfy the needs created by luxury and constantly try to improve their living standards, ways of life and culture. Country life must have preceded city life: man first had to think of what was necessary before he could aspire to wellbeing." (Ibn Khaldoun)

"The smallness of this intimate fatherland [the city] does not cut us from the world; it on the contrary mysteriously helps us discern the great horizons of our time, Europe and the world, going beyond historically young national borders." (L. Benevolo)

Landscapes were tumbled in just a few decades. Cities become metropolises. Great readjustments are yet to be carried out: traditional architecture can contribute positively and actively, as an asset, an idea and a spirit, as an invaluable capital.

ALL HEIGHTS CAN BE FOUND (ELEVATION AT ALL POSSIBLE HEIGHTS)

"Since the appearance of the first archetypal shapes, human housing has never ceased to develop through a multitude of typologies: each shape is the result of a combination of long and hard processes, cultural improvements and a hearty adaptation to the environment. This abundance of shapes is the most representative spiritual and material production of man (...) each one of these elements has a meaning and a cultural value in itself, beyond a mere aesthetic and constructive fact". If that is the case everywhere, the remarks of Giancarlo Cataldi ring to our ears with outstanding and vibrant strength when speaking of the Mediterranean area, which is altogether a rather modest sized area.

This brief set of illustrations is merely a foresight of the CD-ROM. It shows the wide range of answers to how one chooses to lay out his dwelling and the rich diversity of languages and expressions used to assert and materialise housing. This is true whether in rural environment and scattered housing (Alella, Catalonia, Spain (1)) or in grouped housing and cities (Rashid in Egypt (2) or Provence in France (3)). Cultural interbreeding traces are omnipresent in the Mediterranean: the marks and deposits of each period are obvious, as in the Ottoman influence in Rashid, North Africa. Differences are just as clear: if rooms can be used in polyvalent ways in Turkish houses ("one can sit, lay down, wash up, eat, and even cook in each room" reports Reha Ginay) this is not at all the case in the masia, in Catalonia, or in a house in Provence, in France, where rooms are strictly used for an exclusive purpose.

This rich diversity tends to prove that, in our modern society of information and consumption, only a few models are exploited in the media as a Mediterranean synthesis, which is obviously distorted and unfortunate. Many are those who would neither recognise nor acknowledge the Mediterranean typologies we have listed, considering them way too far from the Mediterranean stereotypes they are used to. One common stereotype is the simplistic, elementary, whitewashed cubic house. It casts its shadow on the genuine "historical miracles", according to Henry Glassie, examples of which can be found in Rashid, rich with traditional Turkish Mediterranean architecture.

THE BASIC HOUSE

The shelter house, the storage house, a very simple house to accommodate everyone and everything, perfectly adapted to an outdoor life for families with few belongings. The basic module. A single bay. This type of house has existed since the first age of settlers. In Macedonia, remains of over eight thousand years old basic houses were found, built on a square plan with well rounded angles. The clear circular shape of conical plant roofings still exists today. The tendency towards a rectangular plan was, in most case, a stage in its evolution. The small dimensions of the basic house allows for all roofing solutions: flat, conical, sloped on one or more sides, arched. The separation of people and
animals brought about significant changes. The painting by Giovanni Segantini: The Two Mothers (1889), tells of the great promiscuity and complicity of all inhabitants, people or animals, in the exiguity of this tiny area in the basic house. Today, though exceptionally so, a few examples of this style of life can still be found in a few places of the area.

In the examples hereafter, we can see a basic house in the area of Ouarsenis in Algeria. (1) Though it has a single room and therefore a single living space, the house is reorganised according to activity, on a hierarchical basis, contributing to an immaterial interior distribution of the whole space. The second house, in the Balearic Islands, (2) is a more explicit single unit. In this example, “basic” means that no evolution is possible: this type is to be taken as a whole, finished and closed, without any further development.

THE COMPACT / COMPLEX HOUSE

Two words moderate the same stage of a dwelling development. Both correspond to a house with specialised areas that clearly separate people and animals, although the same volume is often divided and most of the time used simultaneously for professional activities and residential purposes.

In the compact house, these roles are grouped in a same volume, sometimes on bumpy ground but nonetheless linked in a clearly single unit. The borderline between a building and a "grouped housing," built around a central unit with projecting extensions, is sometimes subtle and difficult to define. This metamorphosis of the original structure, medieval for example, is cleverly explained by J Miguel del Rey: the concept of compact house is well illustrated by the popular expression "under the same roof": all specialised areas, purposes, inhabitants and products have a specific place.

Although complex is often used as following a basic stage, the word is used here as a nuance of compact. When the notions of unit and compactness "blow up", specialisation is enhanced by a broadening of volumes, in multiple stages. These modifications may result in a longer continuous volume, beyond “the scale of a house”, generating a unit for both dwelling and production. It is actually a “grouping”, a "complex". The complex house is an answer to the trend of "large farms and their need for labour" as noted by P. Defontaines. It can be found in the Andalusian plains and in the vineyards of Languedoc.

Examples of compact houses: Murtoa, Portugal (1); Compact and complex house in Luberon, France (2); “Blown up” complex house in Montoro, Cordoba (3) and complex house in Ain Lakova, Morocco (4).

HOUSE WITH A PATIO

The patio has appeared or been transferred on to all great Mediterranean civilisations since antiquity. The west ed-dar (the centre of the house) of Arab-Moslem people already centred houses in Mesopotamia, Egypt, Phoenicia, Etruria, as well as Greek and Roman homes (whose domus was probably already inherited from an Indo-European model, and has influenced the Latin Middle-Ages and the Arab-Moslem world). Besides, the patio was a first rate referential element for great XXth century architects, amongst which Mies van der Rohe, who incorporated the patio with most acute wisdom. The history of each of these houses is different and varies through the ages: probably as far back as Etrurian times for the Anatolian iwan, or in the wake of the multiple thousand-year-old Ur for the Greek house in Perinea. The final household core achieved in each culture was expressed with a wide palette of colours. It respects the same vocation and spirit, the same feeling found in words of George Marçais: "You are at home in your house, at home in your courtyard, with a piece of sky which belongs to you only". The patio hides nothing, it emphasises the intimacy and connects you to the sky, the spiritual world, the cosmos. It guards inside life, in the way, in Antiquity, it helped create a reassuring and domesticated area in an often shaken landscape, stranded amidst miles of unknown horizon.
The two examples hereafter, a house in the Kasbah of Algiers (1) and a house in Chefchaouen (Morocco) (2) bring forth two significant features. In the Kasbah, the force of tradition and local ways dominates: typically local houses soar gracefully towards the sky, although we can spot Turkish traits and craftmanships here and there. In Morocco, we could call this type of architecture a “to and fro” architecture; it travelled from Maghreb to Andalusia and back so often, and is so intimately blended, it became a harmonious, a literally woven testimony of Mediterranean interbreeding.

**HOUSE WITH A COURTYARD**

It is no coincidence French, a most accurate language, integrated the word patio to its terminology to express the subtle difference between courtyard and patio. We find the same attempt in confining an outside area in a particular way, but with a definitely less compact and certainly more indistinct result. Certain elements create and reinforce these differences:

- the size of a courtyard deforms or distorts the scale of both material elements, (body of the construction, relativity between people and building) and immaterial elements (view and gaze, the sound of voices),

- sometimes the position of a courtyard is off centre, which complicates and may hamper the equilibrium between the various areas and individuals),

- the presence of a fence (i.e. the absence of a continuous surrounding dwelling wall, which is a most outstanding trait of a patio as defined by Hassan Fathy),

- the promiscuity and number of activities (farming, production) and individuals (people and animals) who cohabit and generate a very different pace of life.

- finally the processing of this area, which differs from both a composition and texture point of view.

The courtyard remains a common shape in all areas. In this example of a farm in Cyprus (1), the fence is more decisive to demarcate the courtyard than the building itself, while in this other example in Jordan (2), a house with a quasi patio-type courtyard is another clear attempt to domesticate an outside area and make it into a more specific private area. In light construction, even in nomad camps, this need is expressed and various solutions are implemented. The courtyard certainly evolved from a primitive yearning of all men to create a private space for themselves, using stones, branches, etc.

**HOUSE WITH A GARDEN**

In spite of meagre, irregular rains in many zones of the area strewn with dry, thirsty landscapes, gardens, trees, flowers and exuberant colours and perfumes have always sprout from Mediterranean soils since Antiquity. They have been associated to dwelling and construction in more or less fine and discrete ways: from the gardens of Babylon, that the Greeks considered as one of the Seven Wonders in the world, through the plentiful scented Egyptian gardens and the gardens abutting Roman galleries (peristyle), to the large gardens of the summer villas of Pashas or Rais of North Africa, Mediterranean houses have always first domesticated the land before pouring in colours and flavours. In this garden, often a larger stretch than the house itself, traditional economy has indeed found pleasure and an effective bio-climatic regulation system, but also a means of survival: vegetables, plants, medicine herbs, and fruits, are plentiful in this private, individual oasis.

The house with a garden in Mugla, Turkey, (1) and the Turkish house in general, embodies this concept of a completely functional, generous, beautiful and exuberant garden. The house opens fully onto the garden through its sofa.
It is surely no coincidence that this house with a garden, whether modest or noble, is expressed with such abundance in Turkey. The influence of civilisations just beyond the Eastern Mediterranean has been of primary importance. The “silk carpet gardens”, the beautiful floral motive tiling, or the Persian coloured miniatures in medieval books where houses with gardens symbolise "paradise", are a most relevant source. Soliman the Great, who remarkably blended Turkish, Islamic and European traditions, revealing a fine line of artists and thinkers, wrote "...if you yearn to be allowed in the gardens of Heaven to find the love and grace."

SUMMER AND WINTER HOUSES

"In summer, the tent is too hot, the flij produces shade but doesn’t stop the heat. Therefore, semi-nomads fold it up and prefer to use a light hut made of diss on a carcass of branches, the khoçç. We found 17 khoçç near Bir Amir, of the Trarma population, who settled there in August, while we had found them under a tent, twenty kilometres further East, in late March." These few words by André Louis illustrate this rich and particular ways of Mediterranean people to adapt their house to seasons. Since Antiquity, countless documents have described the summer dwelling, the country house, which is often the counterpoint to rural and city worlds. In his Epistolae, Plinius wrote: "No protocol, nobody nagging at the door, all is quiet and peaceful. The goodness of the climate renders a more serene sky and purer air: I feel my body is healthier and my mind more free...". Although quite far from the luxurious Tusci evoked by the Roman historian, the examples of Ghardaïa in Algeria (1, 2) and Sfax in Tunisia (3, 4) also take us into an environment where calm, leisure and casual moral standards and less urban rigidity are predominant, making people yearn for this long desired seasonal transhumance.

In the case of Ghardaïa, the layout of the summer house is substantially transformed. The house is built at the heart of the palm plantation, created by the Mozabites from the very first tree to a plantation of over seven hundred thousand palm trees. This house is adapted and profiled in harmony with the palm trees: they are often integrated in the patio itself. Palm trees are cared for and cherished, becoming actual inhabitants.

In Sfax, the summer country house is far from the protective médina with its reassuring ramparts, and takes on a shape of fortress. The Arabic name for this house, bôrdj, reminds us of this fortification connotation. Its volume is compact, the façades are almost without openings and the crossings are arched: all these aspects clearly underline this fortress idea. In these two examples, although the patio is rather small, it is ever so present.

HOUSE AND DEFENCE

Though we may not have many historical chronicles, traditional Mediterranean architecture testifies to the history of the area: it bears the marks of many invasions and upheavals, in that defensive concerns are obvious and numerous in the very construction of buildings, throughout the area and at all periods.

A large variety of solutions was implemented to try safeguard and defend the house or city. Ramparts have been used since Antiquity: it is the “protecting city”, in all shapes according to civilisations and times. Grouping was already reassuring. When speaking of scattered housing, the tendency was to build a fortress house. In both cases, camouflage and difficult access contributed to efficient defence. Sea side villages were often duplicated, further inland at the time of pirate raids, and on the littoral at quieter times. The watch point has always been present and predominant, a primary condition for many settlements and a decisive factor for a number of typologies.

But if seclusion in resistant, powerful cities or fortress houses was a common streak and the strategy adopted by sedentary societies, they were not the only ones. Traditionally nomad societies have a
completely different view on the issue. In his History of Turks, Jean-Paul Roux describes this other angle: "Fascinated by sedentary life, nomads, on the contrary, have had to resist its appeal, as for them, it was a source of so many dangers. As we could see in the VIIIth century, when Bilge Kaghan was so eager to build a city and lock himself up in it, and yet yielded regretfully to the insistence of his counsellor Tonyukuk, who considered cities to be a major threat for the survival of the empire".

Tower-house in Mani, Greece (1) and a favé with a medieval tower in Huerta de Murcia, in Spain. (2)

**THE EVOLUTIONARY OR FINAL HOUSE**

Two ways are sought here in the design and construction of the house: one is “embryonic” and the other “comprehensive”. Indeed, in the Mediterranean area, we find the house which starts from a basic matrix and evolves through a multiplication process of this base unit, and the house which is “achieved from the start”, a complete house according to the corresponding model (examples in Acre, Israel (3) and Bodrum, in Turkey (4)). In the first case, it tends to extend and complete a certain program towards a final stage, generally never modified afterwards, and differs substantially from a house enlargement. In the second case, the house will seldom tolerate any significant modifications.

The term “evolutionary” can be ambiguous according to the construction. The two following examples hereafter illustrate two radically different ways. In Makrinari, in Cyprus (1), we start off with a basic module with a single bay, a discrete, unspecialised area, to an area which gets increasingly specialised, multiples spans. The floor area increases substantially, the number of bays is extended, following the same module but with diaphragm arches, therefore opening generous spaces to the point of “absorbing” the basic module pattern. What we observe here isn’t a mere unit multiplication, but rather the creation of a new inhabited unit with new areas, new purposes and new techniques: "From an all-purpose area, “the basic type”, where nothing is differentiated and all activities are mixed (…), man gradually separates the activities he considers must be separated, granting a specific area to each activity…" G. Canigga explains.

As for the house of Safsafat in Morocco (2), the basic module is "unfolded" from cultural and traditional heritage, gradually satisfying new needs and possibilities. The bit (room or element) is multiplied, altering neither the original module nor the spans, subtly keeping the same versatility in the process: the fence is gradually replaced by "living walls", which are not made of masonry but of life.

**NOMAD HOUSE OR TROGLODYTE HOUSE**

In Arabic, we can designate nomads with the epithet rahâla, whose root means: “to move”. This is precisely the idea expressed by A. Louis: "the tent is a most mobile element, a dwelling for lands of travel". Ibn Khaldoun wrote: "...he (the nomad) lives under his tent, raises his camels, rides his horse, transports his residence from one place to another, spends summer in the Tell and winter in the desert.” For the nomad, this style of life is the only one worth living. For him, village life is imprisonment; a spiritual and material degradation. According to Ahmed Najah, in the eyes of nomads, villagers are perceived as "domesticated mice". The tent is shaped with long bands of fabric that are sewn together by the women, then tied and taught with ropes on wooden stakes that are driven in the sand. The inside area is divided up into two areas, one for men and another for women, using carpets or bags of supplies.

If a tent, here a tent and a camp in Palestine (1), represents lightness and a mark of fugitive seasonal presence, trogloodyte housing incarnates the most intimate communion of man and earth: jhar, a "den", is the Arabic word used to designate a house in Matmata. Between these two extremes, we can find a rich array of housing (huts made of branches, semi-trogloodyte housing…), nomad and settling trends, which testifies to the way these men have made shy, reluctant attempts to let go of their cherished mode of life.
The layout plan of a house in Matmata (Tunisia) (2) with three fundamental parts, the entry, the basin and the rooms, illustrates the specialisation and profusion of areas around the mihres (literally translated, the word means mortar, evoking its morphology), where a few rooms can even extend into an alcove or a room for storage and supplies. In areas where these houses are inhabited by completely sedentary populations, the furbishing is clearly careful and comfortable.
Chapter 3: BUILDING ARTS, THE TECHNIQUES AND THE MEN

We see that local craftsmanship can be revived rather quickly; the priority is less to resume its teaching than reclaim its former prestige.

Hassan Fathy

THE TECHNIQUES AND THE MEN

Two key words: local and ancestral

The building arts include materials, technique and know-how. This means both the construction and the competence of the builder are involved. We are in the field of the house built with local materials.

The notion of living space cannot be dissociated from economic concerns. The materials used are extracted, produced and processed near the site of construction. In this respect, the Mediterranean area conceals a very large variety of environments (relief, sub soil, climate, etc), providing a multitude of resources, in addition to consequences in terms of construction constraints. In a pre-modern community, prior to the introduction of the train or truck, heavy construction materials could not be transported except at outrageous cost, and were thus out of reach for traditional architecture. This constraint of minimum displacement lead builders to adapt the materials they had at hand, whatever their quality or performance, in an area limited by the effective range of an animal-drawn cart. The resulting problem is an imperfect material, sometimes imposed, sometimes chosen, that must nonetheless result in a good construction. This encourages builder’s ingenuity in developing his implementation technology: a defect is thus compensated by an added value.

The techniques are ancestral and their evolution is slow, as long as new materials or new influences do not intervene, or as long as none are assimilated by the community. These techniques are characterised by simple systems of implementation and a constant attention brought to economical and efficient solutions. They can vary, adapting to the local needs of the area where they are executed. In exceptional situations, they can include prefabricated products produced far from the site. (1) Know how is transmitted orally through training and experience. Generally no written track is kept, but a continuous use ensures a natural transmission from one generation to another. It is appropriate to distinguish two forms of building arts know-how: trades and practices. The trade results from training, and defines a commercial professional business. It includes all the tasks carried out by the same individual. (2) The practices / crafts are a subset of the trades. They are based on proficiency. These segments of competence are used to carry out work outside a market spirit, as in self-construction for example. (3) Thus, competence is distributed between the builder and the user. This pair gave birth to both prowess and simplicity, as well as great continuity, a homogeneous bond in the very matter of housing that represents over nine tenths of all old construction.

CORPUS focused on the envelope and structure of a construction: the wall and the rendering, the floor and the vault, the frame and the roofing. Our target is, as a result, the main parts of a house. The corpus documentary does not include anything on pavements, for example, nor equipment such as doors and windows, nor decorative devices. These choices were made right from the start, in accordance with the means at our disposal for gathering information. It is thus a question of gathering and describing all the information in the same data base; a thorough range of constructive devices which were developed and used throughout this extremely varied area, pointing out the common characteristics, the possible analogies and the true points of difference. We also try to find the reasons that explain the abandonment of simple and satisfactory practices. But this approach necessarily projects us into the future, by trying to understand the mechanisms of technological developments and new practised trends.
While the main traits and shapes of a construction are the result of culture and tradition, building arts condition the aspect, texture, and colour of a house

A language, an ambition, an abundant source of travelling techniques.

Building and image are always intimately interrelated in a construction. All we need is to imagine a structure built with other materials, other techniques and other final touches: the result would be entirely different. This proves that building arts are not neutral, that they are one of the determining points of traditional architecture, that they are one of the vectors of architectural expression. This world of construction is a world of means. The builder adapts to what is available to dispatch loads, to cross space between two supports, or to ensure the waterproofing of the building. The builder chooses his solution impregnated with local standards of architectural shapes. There is no technology which would bring a single formal solution. A builder from another culture having the same technical means at his disposal, would produce a very different building from his counterpart. Each builder is rooted in his own traditions and architectural reflexes, in an implicit and powerful way. Building arts are more a tool at the service of a project than an actual language that would determine architecture. This applies to traditional architecture which does not seek technical innovation. It is adapted to current constraints of materials available, and with a modest budget it is restricted to minimal thickness or maximum spans. This is not true for monumental architecture which - successfully building larger, higher and broader constructions - seeks technological performance as a way to renew shapes, while freeing itself from constraints, thus developing exceptional solutions. The common house then copies and uses these solutions, adapting them to its own scale.

The opinion we cast on old, traditional construction is no longer strictly "a developer’s point of view". It is henceforth seen through the eye of a historian, sometimes a patrimonial point of view, acquiring a value of testimony. Seen this way, building arts are an indicator of evolution, enabling the interpretation of the layers of a building. Its “in situ” analysis is an invaluable guide through construction campaigns, but, even more importantly, the ambition of the builder. Popular habitat coincides with modest means. But limited means do not imply indigence. In substitution for expensive materials, the builder compensates for what he lacks. He imitates and produces a replacement solution. When supplies are not within reach, a construction requires more labour and effort, therefore cumulating added value. Stone or brick loses its banal connotation and achieves the level of a nobler material.

No money for marble? A polished stucco will replace it. The know-how of the mason will enable him to proportion, draw up and shine this paste making it as admirable as the inaccessible marble.

Not only is there intelligent labour and performance, but there is also the will to recreate a palace at home. The rich, aristocratic or princely house is only a partial model for an ordinary dwelling, an inspiration (through the elegance of its solutions), and at the same time a sign of freedom as it represents unlimited means. This is one of many veins. The inspiration of a builder does not result simply from adapting to a wealthy house concept. We insist on the social dimension which often entices the European builder. Through a play of effects, composition and finishing he invents construction solutions that he would never have imagined had he been possessed of greater means. (4) The interesting point here is how the building expert, the sole actor with his building arts as his only tool, reaches a level of cultivated and elaborate architecture.

Such observations prove that the trilogy, materials + techniques + know-how, produces far beyond a simple piece of work; it can bring immaterial assets to the work of the craftsman.

This value is engraved in the very matter of his construction; it is a testimony to richness that gives more meaning to his accomplishment. Considering the many civilisations that it contains, the Mediterranean area is narrow. It nevertheless concentrates much of humanity’s building arts (all that
could be used to build was used). This variety of materials used is evidenced both through influence and availability. The conquests for economic, political or spiritual control conveyed solutions: but are they alone in determining a local use? We see the techniques of Ottoman wooden framework as far as Algeria, Phoenician mud techniques in Portugal, Roman techniques, followed by Romanesque with the crusades, small stone material in the Middle East, techniques of the Arab arch as far as Andalusia. These techniques were imported and integrated by local populations who in turn exploited and adapted them to their way of living. Here, culture dominates geographical identity, which explains why Portugal, in this view is more Mediterranean than Atlantic. These contributions, merged but visible, create a technical syncretism that redistributes a nomad know-how in a widely travelled Mediterranean area. The shape of construction follows cultural schemes: organisation of the layout, relations between "necessity, convenience and beauty" according to Vitruvius. The shape of construction is not universal but corresponds to the rules and models produced by a community. The construction of a house adapts to local materials (the variable element), and techniques + community know-how (the unchanging element). (5) Thus, the multiple physical resources (stone, earth, sand, wood) imprint a variety of aspects to small, very homogeneous construction areas that are very clearly differentiated from one another by different supply resources, while at the same time, common models prevail throughout large areas.

VERTICAL STRUCTURES: THE WALLS

Stone Walls

• Masonry laid in mortar

The variety of aspect is tremendous with regard to the types of walls and the finishing. In areas with rather soft limestone and sandstone, one finds ashlar and hewn stone, carefully sized (the stone cutter can replace the mason, for shaping and for laying). This beautiful style of cutting is found in commissioned or prestigious constructions, insofar as abundance and quarry proximity make building affordable. Less regular and extracted from a harder material (limestone, basalt or sandstone), dressed quarry stone is found in every country. Quarry beds often determine the height of the block; only four faces are reshaped. This technique produces straight laying courses, which are sometimes identical and regular in size.

The dominant material is rough stone laid in mortar, which requires little sizing. Dimension, shape, and nature of the stones produce a considerable variety of aspects for different kinds of masonry that belong to the same family. The shapes of the stones, ranging from random loose stones, rounded by stream currents when they are extracted from a torrent, to pseudo quadrangular when extracted from a quarry, generate a type of masonry that requires wedging in small elements making this a highly mortar consuming masonry. Walls range from more or less straight laying to perfectly adjusted courses of regular, bare material. (6)

In the Mediterranean area, the most common wall is made of stone.

It is usually thick, laid with mortar, and built by a mason.

• Dry stone

Dry stone is rather often used, mostly for small buildings. No mortar is used to correct faulty laying, obliging to a very good internal organisation of the blocks, with a slant oriented onwards for rain, and an excellent adjustment of the modules ensuring good stability to the elements: this is pure, native masonry. Rustic in appearance, sometimes even coarse, it is actually a great achievement, a summit of building arts.
Black, red, grey, ochre, white: the colour of the stones increases the materials collected adding aspects to the facing: a touch of variety and aesthetic vibration. (7) When the material is left bare, it brings forth all the richness previously evoked. But the builder can also point, hollow out, bring relief, change colours, add fragments of red tile (Turkey), always introducing a very beautiful play of shade and light which changes according to the positions of the sun. Wash rendering or painted rendering applied directly onto the stone, enrich the language of wall finishing.

Bare, pointed, painted or rendered, there exist two approaches. First there is the waterproofing of the facing for the inhabited sections, and second there is the aesthetic approach. Very regular courses are visible from the start, whereas less regular courses are washed, rendered or both, to obtain a visual unity of the construction. But with fashion and styles, or the wish to renew the wall, "to change skins", the best masonry could be coated in a second campaign, without technical justification or necessity. Strangely enough, a wall that would require protection will sometimes lose its rendering without it being restored (voluntary chiselling or natural wearing).

• The Technique

Unless the wall is built directly on a natural rock base, one seeks good ground, digging a trench foundation. This buried work, seldom deeper than 50 to 70 cm, goes from the simple pitching of stone, the same width as the wall above ground level, to greater sized systems, built with large stones laid in mortar: a solid course which can be twice the width of the wall. A stone wall is seldom thin. It is only thin if the material allows it without compromising stability (for example: stones are cut with contact surfaces that are regular and adjusted) and it is not used for constructions higher than a single level, that is to say it should receive neither strong loads, nor thrust. (8) Stone walls are mainly thick, from 45 to 100, sometimes even 120 cm. Two facings linked or not with header binders, with a filling in the core of the wall, made of small elements and of mortar (more often earth than lime). (9) The carrying out is realised by laying horizontal courses: the two faces and the core are built simultaneously, on a bed of mortar spread beforehand. The largest modules define the height of the course, smaller modules are piled up in the same way to correct the level, and the joints are crossed to avoid long vertical cracks along the pointing sabre-like vertical splits. If need be, because of the random shape of large elements, very small modules wedge large stones so that the load transfers onto an incompressible material and not on mortar which is liable to distort. (10)

Well erected and well sized, all these alternative stone walls are very solid. Their only enemies are earthquakes, badly mastered thrusts, and water. Capillarity brings water from the ground and goes up in the bottom of the wall, slowly solubilising the binders (earth and lime) by corroding mortars and joints, thus creating empty spaces: this can disorganise the stone elements of the masonry to the point of instability, sometimes even ruin. From a seismic point of view, the main risk is brutal splitting. The areas concemed invented very smart and effective systems of horizontal wooden anchoring (throughout the Eastern Mediterranean), incorporated within the wall, that interrupts the course of the wall and can withstand violent quakes without compromising balance. But seismic interpretation is perhaps an overly mechanical view of this type of system: the traditional builder knows from experience that his construction is ensured of better stability with a more flexible, elastic-like device. (11)

The basic tools are extremely simple and common: sometimes only hands, a plumb line, a levelling tool and a chalk line for the geometry, trowels for mortars, and percussion tools (chisels) to shape the stones. Only cut stones require a more specialised range of tools to downsize the blocks and to finish the facings.

In a stone wall, everything is load bearing. But certain parts are more solicited than others, and they must perform (corners, lintels, jambs of openings, base plates). This in combination with the stock of available supplies, leads to the creation of many mixed solutions: stone and rubble, stone and pebbles, stone and brick, stone and wood. The distribution is done according to a kind of specialisation. For
the wetter or the more structuring parts, the best (more regular or dense) materials are preferred, while for the remainder a logic of mortar laying with filling is applied.

**Mud walls and terracotta brick**

- Earth, plentiful and universal (12)

Earth deposits cover the alluvial surfaces of the Mediterranean banks. The muddy basins near rivers produce fat clay, which is appropriate for the moulding of adobe bricks. Thinner grounds where sand and gravel are naturally present, provide materials for compacted earth construction, made dense by a systematic ramming of the earth material between forms. Because mud is easy to use, abundant and inexpensive (easier to carry out if one compares it with stone masonry, when the site allows for both choices), mud construction goes back far before historic times. The preparation tasks of mud material can be done by the user, making earth construction more readily available than any other technique requiring more expertise. The drawback of mud is that when it comes in contact with water, it becomes dangerously brittle. The construction will attribute durability to an absolutely compulsory protection against capillarity and rain. On the ground level it is stone which isolates from water, be it on a rock base, a stone or a brick foundation, or extended into a base plate above ground. To complete the protection, vertical facings can be rendered and often protected with a wash. (13)

Lime is not cheap: good stone, a furnace, fire, extinction and transport make it expensive. The concern of the builder is to use it sparingly. He either thins his mortar by using a maximum number of aggregates (sand, broken tile, gravel, rubble or broken brick) with finely adjusted grading, or switches the binding material to earth which is less expensive. Such a system makes it possible to erect very high walls: up to 6 m, a thickness of 60 cm is sufficient. Beyond 15 m in height (sometimes 6 levels) the base of the wall is at least 80 cm thick, and can be up to 120 cm. The wall is frequently thinned down while heightening, to limit downward loads, and to size the wall per level in accordance with what is later built on top. More attention is given to the contact between stones for corners. Larger modules are used, sometimes made from a different, better and more regular cut stone. They are harped (toothed) to bond this piece of work: it is an anchoring between two planes as well as an anchoring to the course of the wall.

In mud systems, earth plays all roles and functions. It constitutes the body of the wall (brick or compacted earth), the mortar, and the protection rendering. It is both the load bearing material and the binder, the hard and the flexible. So it is necessary for earth to have sufficient body to satisfy the pressures it undergoes: downward loads, hygrometrical variations, desiccation due to the sun. Mechanical constraints that affect mud in both its mass use and thin layers, the difficulty of guaranteeing cohesion and resistance for a material from a plastic state to a stabilised state, make it necessary to add inert loads or reinforcements, sometimes both. The builder selects the site from where he will extract his material, according to a good balance between the binding material and the load (clay/sand). If the properties of the subsoil are unsatisfactory for his construction, he corrects the material, incorporating a wide range of other materials: sand, gravel, ashes, stone powder, chopped straw, lime. Fibres are used to obtain flexural and tensile strengths; the loads guarantee good compression performance.

- Compacted mud walls

Compacted mud walls are implemented by compacting earth in wooden formworks. Each formwork unit is between 1 and 3 m long, and around 50 cm high. The significant thickness (usually 80 cm) compensates for a relatively low resistance and hardness of the compacted material. It is almost always thinned down for higher floors. Its porous structure mass confers good acoustic qualities and a thermal inertia which turns out to be very useful.

Indeed if the areas where it is used are subject to strong variations in temperature, hot, sunny days and cold, nights; mud walls accumulate and restore heat very effectively. The construction material is
perfectly adjusted and sized, the joints are crossed, and the corners processed like the course of the wall. The facings are roughened freshly after unmoulding to favour a good clinging of the rendering.

Primitive in appearance, this technique is nonetheless used for noble, public and religious buildings. Its longevity is subordinate to precautions taken to compensate for its three weak points. First, a base plate is built that is isolated from moisture, then the roof is given a good overhang to cover the building, and finally, periodical maintenance of the renderings is carried out. It is precisely when the latter is lacking that one recognises the building art. One perceives, for example, the width of the openings and a base plate in apparent stone. Otherwise, when a construction is completely rendered and upkeep is good, the building art can be difficult to identify.

- Adobe brick or terracotta brick

The two techniques follow the same principles for carrying out small, identical and graded elements. However, three characteristics bring forth significant differences.

- The lesser resistance of mud brick does not allow for the construction of small pillars, as they would be unable to withstand concentrated loads.
- More resistant to water, terracotta brick can be left bare, even horizontally for sills, cornices, plinths, and any such structures liable to get abundantly wet.
- Lastly, thicker earth mortar is used for mud brick, and lime mortar is used for thin terracotta brick: well bound it is of equivalent resistance to the brick itself.

For the remainder, brick walls have the geometrical qualities of the module (14): the thinnest are 20 to 30 cm thick on average, corresponding to the length of the brick. The thickest seldom exceed 60 cm and can be higher than 10 m, showing that the brick technique uses substantially less material than the stone (up to two times less). It is homogeneous and continuous in the core of the wall, with its parts laid in alternated directions, perfectly overlapping each other, with a regular bearing pressure on the whole surface. (15)

For the course of the wall, brick is always laid flat. One finds a very large variety of modules according to the thickness of the wall. The greater dimension of the module (between 20 and 30 cm) sizes thin walls, the largest layers are made by the alternate assembly of a length and a width, two lengths, two lengths and a width etc. These dimensions are naturally adjusted by the very geometry of the module which is very often two widths long (with every confers good acoustic qualities and a thermal inertia which turns out to be very useful. New floor, when there is thinning down, the withdrawal is half a brick long). All pattern variations are possible on the facing, from large apparent facings only, to the alternation of large and small sides. The systems of laying are systematically opposed in the organisation of the thickness and course by course, aiming for the cohesion of this extremely resistant masonry. To reinforce it further, one also finds (in Fès, Morocco) a piece of crossing wood, as header binder, which anchors thick walls.

There are three main techniques: rough mud rammed into formworks, small moulded mud brick elements and terracotta bricks

As the technical origin of brick was the Mesopotamian area, with the same hot climate and dryness as the Mediterranean, mud brick was satisfactory for the builders of the whole area up till the middle of the XXth century. It will thus have cohabited for thousands of years with the more powerful terracotta brick. (16) Indeed, firing is already a proven reality of the Babylonian household, more than 3000 years BC. At that time reserved for exposed facings such as defensive walls, these bricks were manufactured thanks to a technology which survived until the middle of the XXth century. The great advantage of brick techniques, mud or fired, is the possibility of extracting, moulding, drying, and firing when necessary, in situ, on a building site or its immediate surroundings. Clay is available at the surface, just underneath the arable layer. The production of elements is made at the pace of
construction, mixed manually or using animal labour, with or without incorporating sand or ashes to regulate a material that could otherwise crack by shrinking. Bricks are shaped in two-part, bottomless wooden frames. Basic furnaces are mounds of bricks plugged up with earth which cover the elements to be baked and fuel wood. As early as high antiquity, this simple technology made possible temperatures of 800°C and soon afterwards 900°C. (17)

Thus the heritage of the fertile crescent, which spread out and built cities and houses by the thousands, survives in spite of the invention of hollow brick in the mid XIX° century. Even now with the industrialised production of solid brick, it still survives.

Brick is shown with its beautiful course, its mouldings and profiles which can be worked like stone, with its regular, adjusted pointing, sometimes also profiled, and its flattering shades of colour. But brick can also be rendered either for protection or decoration. Its perfectly straight facings make it an ideal support for thin, even, stucco renderings. In this case, it often imitates the elaborate stone course: harped ties with profiled joints, play of the friezes and protruding columns, cordons and frames with mouldings. Its geometry of small modules allows for baroque and neo-classic effects, largely enhanced by the polychromy of painted renderings.

**Woodframe Walls**

The wall is composite with wooden elements that bear and transfer the loads. They are built on a continuous masonry base; the filling between the wood frames is usually made from mineral materials. The structures are apparent or rendered.

In Greek and Turkish environments a more expert and refined technique is implemented in the structural concept, divisions and facade appearance. Very often used for floors and noble dwelling rooms, receiving decoration, mouldings and profiles, it is an element "for show" which is exhibited, while the bottom of the building is protected and, therefore, hidden. In the Mediterranean area, the wooden structure produces a composite architecture that allows for an extremely varied range of expressions, playing on volumes and facings. Projections, withdrawals, overhangs, design of the openings, launching of the corbelling, closed or open volumes, bow window or overhang of the whole floor: these elements are elaborate, complex in their construction and spectacular in their architecture.

The skins also exploit all the possibilities that the constructive materials allow. There is the apparent framework version - generally preferred when the frameworks and the fillings are flattering to the eye - which shows the woodwork and its beautiful horizontal vertical and oblique patterns, that play with the colour and the drawing of the panels – schist, limestone, groin bricks, adobe, pebbles. There is the covered version, sometimes of the whole unit, sometimes only of the panels, which proposes a full range of renderings, textures, whitewashing and decoration.

*From East to West, woodframe walls display or conceal their flesh and skeleton in an infinity of variations*

We must also add the contrasts of the lower part of masonry, stone or brick, very often taking up the whole first level, the powerful play of joineries (the technique makes it possible to multiply openings, division patterns, stained glass, shutters), and the oblique caressing of rays which sculpts the facade with light and shadow across the relief.

In zones with strong seismic risk the assembly of masonry + wooden formworks (for inhabited parts) can be interpreted technically as a wise precaution of the builder. In Greece, for example, one finds a system of wooden framework all the way down to the ground, which doubles the lower wall inside the building, allowing for this wall to collapse without compromising the stability of the building in the event of a quake.
Certain alternatives are controllable by the masons when the fillings are assembled with rigid materials constituting a stable body. Conversely, when the fillings are either left out (only lathings and renderings are added) or liable to distort (cob type), calling upon a carpenter is necessary as he masters the adjusting and assembling of panel divisions and wooden wind-bracing. According to availability, one uses oak and chestnut wood, pine for secondary parts and lathing, but also cypress and eucalyptus wood. The sections of wood are a thickness from 7.5 to 14 cm; lathing rendering increases the total thickness. Houses with these relatively thin walls generally do not exceed two levels. Many combined systems, usually with brick, range from 25 to 40 cm thick. Lastly, in Portugal, one finds a totally wooden type of construction in coastal areas; framework and facing, used by fishermen for a short season. On piles, the house is a braced and faced carcass of boards.

**Plant Walls**

In the same range of rustic housing we find huts built with plant walls (cereal, reed...) in certain rural zones of the area, especially in delta zones. The plant material is found on the spot, generally bound and assembled around a basic wooden reinforcement (angle posts, horizontal support elements). (18) These small-size constructions, rendered or not with earth, require regular maintenance. They are living testimony to a prehistoric type of construction. The hut made of branches, with all its variations around the world, is what historians of architecture consider to be the starting point of human construction.

**Openings and arches**

Two different situations: one where the opening in the wall is a simple gap in its continuity, playing only a role of opening, window or door; and the other where the opening is a structure – generally a traditional arch – substituting the wall, when it is a support. Sometimes very similar in size, the two situations can display the same type of arch; it is their function that distinguishes them.

- **Openings**

  The empty gap left by an opening in the wall is a weakness. The loads superimposed on the width of the opening will have “to flow” onto the piers, which in turn pressure the jams, even more so when the piers are narrow. The mason is perfectly aware of this constraint, and it naturally leads him to laying jams more carefully than the course of the wall. In almost all cases, the pier is carried out with higher qualities, which sometimes combine several aspects: larger gauge stone, harder material, better shaping and fitting of the faces for a better contact between the stones, a careful harping with the remaining masonry, a projection which increases the section of this support... The crossing, lintel or arch, is the first element withstanding vertical loads. It is conceived with particular attention brought to resistance. Either it is itself well sized and effectively withstands constraints, without deforming (19) and breaking, or it is assisted by a relief arch which allows the crossing to be less resistant to inflection. In thick masonry walls, windows are under the lintel, it being the more rigid face of the façade. Rear lintels are less elaborate, and often closer to a formwork than a beam, often made with simple branches, for example.

Two types, three materials: lintel carried out with a single element, and lintel made up of separate elements; wood, stone or brick. In fact the five variations can produce all sorts of assemblies. With ashlar there is unity. Lintels will be cut, either a monolith stone, or a separate element arch, a Roman or low arch, or a flat band. (20) From hewn stone to rough stone everything can be found: the above, but also brick and wood. The brick wall more often uses a brick framing, but we also find ashlar, as the two accurate, square shapes associate well. All these types of masonry make large openings possible, builders don’t appear to be held back by technical impossibility, only by provisioning or budget (21) constraints. Up to 2m in width and 3m in height, the builder controls the execution and stability of these large building frames perfectly.
We also find two opposing tendencies: first, playing it safe, when using an almost oversized lintel associated to a relief arch, secondly, boldness when using a simple board lintel very often surmounted by a crack. The crack shapes naturally as an arch, attesting that the loads running down from the top of the opening are distributed laterally, isolating this pseudo pediment not resting on its own weight on a sagging formwork. Other types of masonry are less perfect in texture, cohesion or solidity, generating limits and thus smaller openings. It is the case for adobe brick, compacted earth and dry stone. Dry stone is only found in monolithic shape for floorings. It is usually thin and short and not very resistant; openings must therefore be rather narrow. A relief arch is necessary as soon as one tries to widen the opening. (22) In mud techniques, a full wooden frame is often used. It is a pre-assembled and rigid device which compensates for a material that is particularly fragile when exposed to moisture, and which can soften and deteriorate, notably on support levels and arrises. With these three techniques, windows are narrow, well under 1m, the door being the only large opening.

Finally, in a wooden framework technique, openings are constructed with wood and the juxtaposition of a series of windows doesn't pose a problem, as many horizontal elements bear and distribute vertical loads.

Whether they be Roman or Arab, our Mediterranean arches are both shelter and opening:

a borderline between blazing exposure to the sun and soothing, welcoming shade,
as well as a proud achievement

We cannot close this structural description of openings without mentioning that very small windows (for ventilation, thermal protection against wind, cold or sun) are much preferred in the Mediterranean area. We must also add that the door is for both show and protection, playing a highly symbolic role: it is monumental by its dimensions, the framing and often the crowning are made with nobler or more architectural materials (mouldings, sculptures), ornate door frame and powerful iron fittings. (23) The opening isn’t only to give light, it is also an observation post, a social watchtower, the last private zone, sometimes exteriorised by overhanging onto the street. Balconies, low round belly Andalusian grids, are partly to allow a lateral view, a version where watching is reciprocal. But the corbelling in Ottoman and Arabic traditions allows for quasi strategic watch points from the openings onto the streets, hiding the observer behind the grids of the “moucharabieh” or the windows of the living room. A savoury mixture of privacy, from my intimate space, and at home but in the midst of others, an ultimate borderline between outside and inside... (24)

Arches

The large arch, when it is a support (with pile, capital or bases, alone or in series) is a carefully drawn and adjusted body, freeing space by effectively replacing a wall or a beam. We refer here to the arch, which crosses a span between two specific supports. We further develop this when studying arched areas, vaults and cupolas. Intended to undergo significant strains, the arch is made of hard and regular materials like ashlar and fired brick. (25) Widely used in monumental construction and structures, which is not the subject of this project, the arch is also present in traditional housing architecture. Although smaller in size as it does not carry massive masonry, it remains a highly technical job requiring great skill.

Plain (semicircular) and segmental arches are of Roman (an Orient legacy) and medieval heritage. They give preference to stone whenever possible, resulting in a heavy technology and the use of formworks, which are essential for realisation. The variations of the arch design and shape are liberated from simple forms thanks to a technique using brick, which gives the builder considerably more freedom. It uses light modules combined with appropriate mortars, enabling the skilled mason to build without a formwork. This is an Arab-Moslem heritage which derives more from Eastern tradition for the segmental arch, and more from Western tradition for the Moorish arch.
Among the great variety of our area, we will study two examples. In Morocco, incorporating both influences, we find several basic models with very different heights for a same opening. Two slender models are the kharna and the mechaouk. The first is a Moorish arch with a height/width ratio of 7/10, the second is a segmental arch, even higher with 8.5/10. (26) A “bâtière” model, nakhouï, 5/10, equivalent to a semicircular arch, and another even flatter, mekhaoussar with a ratio of 2.7/10. These profiles are made of curves and counter-curves, very often being denticulate. The realisation of these four arches, including the hanging parts of their cusps (one speaks of an arch with 3, 5 or 7 "noses"), is executed without formwork, sometimes using a simple temporary wedging to hold the otherwise unbalanced element while the mortar dries. In the North, three-hinged braced arches, semicircular arches, straight or three centre arches (basket handle arches) are comparable in height ratios, but they are assembled using a formwork.

The North African examples have spans up to 5m, for a thickness of 60cm. In the North and East, you can also find spans of a similar size. On a smaller house scale, large Middle-Eastern iwans develop on two floor levels, often with spans exceeding 6m. The large medieval arches supporting staircases or opening onto court yards in Rhodes or Acre (the former Saint-Jean-d’Acre) are also quite ambitious and impressive. (27) Various simple tricks are used with brick to improve strain dispatching and to help the mason build without an arch formwork of any kind. The mason widens the top of the pillar by making a trencher with several corbeling bases, next he assembles as many overhanging horizontal bases as possible, trying to start the radiant laying as high as possible. In so doing, the thrusts of the arch are at a level where the solid mass of abutment is much broader, assuming the strains, and making it unnecessary to over-size the pillar.

*Renderings with lime or earth are found everywhere. This essential characteristic, strewn throughout the Mediterranean area, reminds us of a technical culture shared by all.*

Similar in function and scale to the riwaq (gallery) and iwan of Palestine and Syria, examples in Cyprus provide a good illustration of how arches are used in a traditional house. Large segmental arches are used in two parts of the construction. First, to carry the external gallery on a series of arcades; and, second, to double the span of the living room, as in the case of a hollowed partition wall. In the second example, the arch is an intermediary support which compensates for the shortage of wood by replacing a beam which could measure from 6 to 7m. The curve of these segmental arches is created by a constant ray proportioned to the crossing distance, with a ratio of 2/3. As the height available varies according to each building, the general profile of the arch is more or less streamlined, narrowed or shaped to an almost semicircular arch. This adaptation is decided on by an expert. He traces out and cuts (both done on the ground), and assembles the structure. He builds as high as possible without a formwork, then, when balance is compromised, he erects a brick formwork, which finishes the shape of the arch up to the key. The stones of the arch are then laid with plaster, poured in channels that are dug beforehand on the contact faces. In order to release as much space as possible, the arch does not go down into the ground, but is pressed onto two bases in side walls, approximately 1m high, just enough room for a piece of furniture. Outside buttresses are essential to retain the thrust of this great structure with broad legs that are not locked into the house. Moreover, for good linking, walls, arches and buttresses are assembled simultaneously. The keys are not shaped on the extrados, allowing for a better harping with corner pieces of the masonry.

Porches, gates, European covered streets, souks and galleries are all built with arches throughout the Mediterranean area. Their profile is conditioned by the available height and bestows their elegance. (28) At the end of its life span, when a building is down to a ruin state, the arch is the last standing element: a proof of its sturdiness and technical mastery.
WALL COATING: RENDERINGS AND WASHES

Renderings

If the wall is rendered, it is initially for the functional purpose of preservation. Thereafter, this layer which is applied and finished in a variety of ways can become the vehicle for specific ornamental expression. The need for coating is directly proportional to the resistance of the materials of the wall support. The masonry most sensitive to water is found in systems using mud, rammed earth, cob (earth and plant mixture) and adobe. These systems are generally coated. (29) Then we have bare stone masonry. Due to the irregular shape of its modules, a significant part of the mortar, whose porosity to water is great, is exposed in the facing making it all the more necessary to render the wall. Also, protecting soft limestone is essential as this most commonly found stone in the area is quite porous and, therefore, sensitive to water.

We observed that since immemorial times, Mediterranean masons have used this waterproof rendering on soluble, porous or heterogeneous supports to stop beating rain before it penetrates and wets the wall. This concern is present everywhere but in varying degrees: from rather thick rendering covering the whole support, to rendering which fills the gaps and keeps stone heads visible. We also find thousands of square meters of bare stone wall which were carefully rendered in the beginning, and later lost this protection with time and wear. Patches of rendering are still visible in scraps under roofs, which were not deemed necessary to reconstitute. The technical perspective, implying that brittleness to water makes rendering necessary, is therefore contradicted by reality. We can probably interpret this as a competition between two time scales: a man’s life is only a few decades, whereas the degradation process of a poorly protected surface is sufficiently slow in these climates to go without maintaining perfect waterproofing over extended periods of time. Since we can do without rendering, we must also consider that it attests to an ambition of another kind. When stone masonry with sharp joints or with fired brick is rendered, it is more to satisfy an aesthetic intention than to answer a real need for sanitary protection.

The thickness, grain and colour of the aggregates, the tools for applying and finishing, produce a great series of aspects that we can classify in four families.

First, a minimum version starting with a simple joint (30) goes all the way to projected/intersected mortar. The mason throws mortar with his trowel, covers the whole surface and levels, removes the surplus with the edge of his trowel. The result is a rather coarse aspect, without any concern for surfacing. The colour is that of the binding material, and of the slightly unsieved aggregate, coarsely granular. Fast work, completed in a single coat that ensures the protection of the support. It is the strategy used, with minimal effort, when one does not want to leave the facing bare. A rather rural and rustic system which isn’t very common in cities where a more urban quality is desired.

More elaborate and very present in all the Mediterranean countries, we find smoothed renderings - very ancient - sometimes replaced by floated renderings with the emergence of cement. They can be applied to the rendering described previously, and are in that case used as finishing. This version has two layers. Smoothing is the obvious stroke and skill of the mason since Antiquity. He applies materials with a trowel, a tool with which he can tighten, level and obtain this inimitable finish of fake flatness which sings with oblique light, delicately animated, like the surface of water or sand. He gives this firm touch of the tool whilst keeping the softness of plastic-like mortar when applying. He reveals the coloured grain without pasting it. He has an elegant, elaborate, yet natural stroke. Every day in our contemporary world, masons smooth and caress their wall when they use this traditional lime, fat or thin, which has defined the trade in the Mediterranean for ages. (31) Cement used as a binding material dries more quickly and doesn’t allow this stroke. To level and finish, the float replaced the trowel: the flat surface is parallel to the wall, a circular rubbing spreads grains, producing a stiffer impression. (32)
Stucco renderings are even more elaborate, though far less frequently used than the two preceding categories which are dominant in the Mediterranean area. These very thin renderings - never more than 3 mm - are very carefully proportioned in binding material and incorporate fine grading aggregates (marble or stone powders, crushed broken tile). Vigorously compacted with a metal smoothing tool or sometimes a pebble, they are always applied on a prepared rendering. They can be carried out in a single coat, simply to fill the grain of the support layer, or in two, three, or sometimes even more coats. These very sophisticated Mediterranean renderings produce alternative stuccos. The sgraffito, Italian Catalun, but also Greek, superimposes two or three coats, each coloured differently, then partially scratched according to a motif, thus forming an image with two or three tones of grey (vind black, ashes..) and ochre. The adak, more often applied indoors, produces a North African, monochromatic white stucco, polished and shiny. Or when tinted in the mass of the material, stucco renderings can imitate brick, with re-carved or painted joints.

From a basic single coating protection to the affirmed multi-layer stuccoes, renderings can be applied for strictly functional reasons or be the expression of a delightful and elaborate architecture.

The rendered coating is a fascinating piece of work, as it enables the builder or user to alter everything: to remove the bare aspect, to give unity to the structure, to play with the colour of local sands, to show what doesn’t actually exist - using all the tricks of fake materials and the drawing of architectural elements - in short he can "display" in order to show the building in a most spectacular way. He does so with ordinary means - lime and sand - accessible to all. The humblest builder can develop and afford an elaborate, noble architectural language.

It is precisely in this field of powerful expression that we find the fourth family of renderings: projected rendering (33), which seeks textures modelled a la fresco, mouldings and profiles. With this type of facing, the mason associates an elaborate composition of plinths, base plates, friezes, entablatures for the horizontal lines and corner anchors, frames for openings, and panelling for the vertical patterns. Projected rendering is of European inspiration, and quite widespread. With it, we exploit the juxtaposition of the smooth and the granular. Though the surface remains flat, the mason models a relief in order to: imitate the embossing of stone in rustic or granular facings, profile the framing and cornices, create the illusion of columns by the play of protrusions and withdrawals, and engrave fake courses. The Mediterranean men of the art are so familiar with mortar, so convinced that it is as expressive as cut or carved noble materials, that they invented and spread this art of imitation and erantz. They brilliantly demystified the inaccessible by showing that one can be modest, perhaps even illiterate, but worthy of a brilliant and erudite architecture at home.

The Levant, the Arab-Moslem world, does not use this showy external ornamental language for its facades. It gives preference to a single, sober expression, saving modelled, decorative, engraved, or extremely elaborate renderings for private indoor rooms.

A few gypsum based renderings can be found (34) in Algeria and Tunisia. One traditionally uses these in very dry areas (M'Zab, Nefzaoua) where gypsum deposits abound and where wood for fuel is rare (the calcination of gypsum uses 5 to 6 times less wood than lime). Named timhent in Algeria, gypsum is alternately both binding material and rendering. It produces grey, ochre or pink tone renderings, today usually covered with washes. (35)

Many earth renderings are used to protect masonry built with earth, like mud earth buildings. The rendering is applied either in one coarse layer, or in two or three layers, with finer aggregates for the final layer. Thickness is variable, 3 to 9/10 cm, flatness is only a mild concern, it is applied with hands or a trowel. (36) Sometimes the finishing layer is a clever application, adding plant sap to the rendering, and smoothing it with a pebble or a flat stone. The surface then possibly creates the illusion of stucco rendering.
Washes

Every Mediterranean country uses white-washings. They are generally made with lime, but also with earth and organic material (cow dung). Renewing is a continuous necessity, often carried out by a non-professional household member. Washes are basic, you only need water, binding material, and a brush made of animal silk or plant fibres. Where animals are present in everyday life, one whitewashes with quicklime to fight against organic infestations. A regular hygiene applied with the cycle of the seasons.

Man’s mind is compelled to whiten, wash, clean and refresh his environment. He even limes the pavements in several areas. (37) The religious, family celebrations are a regular occasion to perform this cleaning and resurfacing in the Moslem world. On walls, porches and ceilings, the cyclic repetition of whitening superimposes layer upon layer, by the dozen, multiple coatings as in pastry making, like strata of attentive Mediterranean care, a rendering of homes and buildings that one can read like the rings of a tree; a testimony to the age of the house. With such great attention, masonry is indeed protected! Whether for bare material, stone, brick compacted earth, or rendering, a wash preserves, makes the wall uniform, gives the final touch and impression of a building. It adds this sufficiently waterproof film to endure times of rain without ever wetting the wall in-depth.

On the southern bank, we find a rather basic whitewash whereas on the northern bank, whitewash expresses a more elaboratemixture of colours, a more decorative tendency

Though at first a barrier, the wash becomes ornament. By diluting it further (liming is almost pasty with one volume of lime per one volume of water) with three water shares, the fluidity brings it closer to a paint. Consequently, it is almost always dyed and becomes the instrument of a true resurfacing campaign, playing with local colours. The subsoil of the Mediterranean is a mine of deposits for coloured earth; the finest particles are extracted, decanted, and will constitute the mineral pigment. We are accustomed to the best known of these materials: the ochre yellow of Provence, the golden earth of Sienna, Umbra, Cyprus brown, Verona green and Santorin white. We know that by “burning” pigment we double the colour pallet which results in ochre reds, burnt shades and vine blacks. (38) If these beautiful names echo through our reports, it is because they were specifically identified, and were also the basis of a great historic trade which transported and supplied raw material for the world of Fine Arts. They were products that were distributed through the ages like spice or fabric. But these mineral deposits also provided supplies for construction. Each area has deposits that contain fine enough mineral products for construction: they can be used as miscible pigments for preparing whitewash. Effectively, the chemically basic environment of lime requires using mineral products for the colour to remain stable and persistent: plant or organic coloured products are therefore rarely used for washes.

These coloured washes are more frequent on the northern banks of the area. Do Christian countries like to display and assert their difference, or change skins more radically during each resurfacing and cleaning campaign? The sure thing is that the care and attention brought to the aspect of the façades in Southern Europe are tremendously eased with the multiple solutions of a wash. It enables builders and users to express and reinforce architectual expression. We almost always find at least two tones, a first coat in a pure colour, being more diluted and milky if the surface is large, very saturated when the surface is small, and a second coat of a clearer tone at the contrasting places (framings, ties, frieze). Simple popular veins that bring out the pleasure of the colour for itself, without reference to the colours of the building material. Blues, earth reds, and many among of the fabulous range of yellows, contrast with the off-white of mouldings and profiles. Another more elaborate and realistic vein tends towards trompe l’œil where architectural elements are drawn in thin lines, displaying shade and light, multiplying the colours to the point of imitating stone veining and grain. On the one hand, the mason’s awkward and rustic taste when he swaps his trowel for a brush, and on the other hand an
extreme mastery of the real painter: a wide range of qualities and strokes contained in a technique that, all things considered, is accessible for all.

This matt or velvet quality, this range of mineral colours, though the thin film of lime wears down with slow erosion, always expresses the beauty of substance, making washing an irreplaceable technique.

**Other wall coatings**

In certain situations, a facing out of ceramic or terracotta brick effectively replaces rendering and wash. Nearly an inalterable protection, ceramic remains mainly decorative, as in the North African Maghreb where it is especially used for patios of large Algerian and Tunisian residences, for base plates and wall crowning. Similarly, Portuguese ceramic, "Azulejos", is developed in an infinite pallet of colours, figurative patterns and decorations nowadays considered a true collector's item. Today, however, natural mineral and oxide pigments are replaced by synthetic colours, and the manufactured hand crafted materials tend to disappear, replaced by thinner industrialised tiles.

Terracotta brick surrounding walls, in the Tunisian Djérid (Tozeur, Nefta) display a rich composition obtained with bricks used as modular elements. (39) The geometrical patterns thus produced generate a play of light and shadow which refreshes façades, a great functional purpose in a quasi-desert climate.

**HORIZONTAL CROSSING STRUCTURES**

**Floors**

When not resting on a vault, traditional Mediterranean floors always have a wooden framework. Two main types can be found:

- A thin floor, with joist and boards (or flagstones), where the visible material of the under face is also on the surface. This is always used indoors and very carefully adjusted.

- A thick floor, with a system that superimposes the roofing between joists, a heavy masonry structure, a surfacing or extra rendering. As it is a good insulator, it is found indoors and on roof terraces.

The second model is the most common. The builder must extend a horizontal surface between walls, stable and resistant enough to withstand loads related to housing or storage, massive enough to be more than a mere partition membrane and to effectively isolate two levels. To meet these requirements, the floor is designed as a system – structure, thickness, walkable area – made up of several materials: crossing, linking, filling and finishing. Therefore, one assembles dry and wet materials, a light skeleton and a mass. As for all the other building arts, the same principle using local materials is applied, determining construction solutions and tricks that tend toward the most economical and efficient results. (40)

1. Superimposed flooring made of jointed wooden boards perpendicular to the framework, either left bare (this is the case of wooden architectures, many in Turkey and Greece), or used as a sacrifice formwork supporting a mortar of earth, plaster or lime. a basic role of formwork for the mortar of filling. (41)

2. Between two joists, a short crossing material is laid, a stone slab type (thin like "lauze", schist or slate slabs), tile, terracotta brick, or small wooden panels. This material also plays We find four great systems whose main frameworks are made of wood in the Mediterranean area. What distinguishes them is the way they cross the area between joists.
3. A secondary average sized section framework is laid, perpendicular to the first, in order to reinforce a poured mortar (lime or sometimes earth as in the Maghreb), constituting the heart of the wooden floor. (42)

4. Similar to the example above, a secondary framework made of very small, tight elements makes both the formwork foundation layer and the reinforcement of the earthen filling (either poured mortar or hard-packed earth). A large variety of materials can be used to cross the case-bays and reinforce the mortar: small section branches, vine stocks, a blanket of linked reeds, palm tree leaves in oasis areas, or bunches of graminaceous, perennial plants.

The floor is therefore a three layer complex:
- the main wooden framework
- floor blocks (in concrete technique, we would speak of compression slabs) which shape the actual separation – the mass producing the insulation quality between the two floors (the formwork and mortar mass, reinforced or not, make up a distinct unit, separate from the crossing framework: a secondary internal framework).
- the finishing coating, not always carried out, is often substituted by a surfacing and whitewashing.

For the primary structure, span and wood sections are obviously proportional. It is rare for a section to exceed 20 cm in the most common dimensions: 4.50 m to 5.50 m. Squared or rough wood, pine, carob, olive-tree, thuja or cedar. The wooden structure is spaced or tightened according to the nature of the covering material between joists, and also according to how the structure resists the weight of the masonry complex:
- around 60 cm for 3 cm board floorings,
- no more than 40 cm for case-bays made with stone and terracotta,
- up to 90 cm when average wood sections reinforce the mortar,
- tighter for systems using small plant material.

A system of embedding always connects the load-bearing wall and the floor: it is a mason’s logic that prevails.

The central layer, a heavy poured or compacted construction, is never less than 15 cm thick and generally comes close to 25 to 30 cm or more when a terrace is present. The technique of superimposing a load-bearing structure, formwork and filling, leads to greater thicknesses than the technique combining the mortar and its reinforcement (secondary framework). This thickness is great in all cases and indicates that, contrary to modern concrete floorings, which are sized down and consequently thin, the traditional builder doesn’t skimp on thickness: this ensures a good coating of the aggregates and reinforcements, as well as greater comfort (less vibrations, better thermal and acoustic insulation). As the builder is constrained by availability of materials, he invents steel fabric with flexible fibres and short pieces of wood before its time, using an intelligent and effective grid which thickens the unit, as it isn’t using the strongest material. But as this floor is sometimes elevated into a roof terrace, separating interior and exterior areas, this thickness becomes an asset.

The vault is a great cultural and technical accomplishment: the mason must cover a maximum area between two walls using the only mineral material at his disposal

Though less common, traditional floors can also cross large spans: 7 m to 12 m. The simplest solution is to install intermediate stanchion points with posts or columns. If one wants to free floor space, an additional horizontal row is added: a large main beam which supports two spans of shorter joists. (43) But one can also use an arch (Cyprus, Greece) to double the span of a joist module. Other solutions to compensate the loads and avoid sagging include multiplying joisting elements, increasing sections, or connecting joists two by two. (44)
Woods and plants are prone to organic attacks from insects and mushrooms and they also risk rotting (badly ventilated embedding, defects in the waterproofing). To solve these problems and to minimise these pathologies, we find many white-washings and coatings on the frameworks with lime or gypsum plaster. Consequently, the rough, rendered, painted or decorated aspects are not necessarily the result of a more or less noble processing, but an answer to a sanitary requirement to protect structures from dust and to encapsulate constructions which vibrate and suffer from humidity.

**Vaults and cupolas**

- **Vaults**

The alternative to the wooden framework to cross the area between two supports and to cover an area is the vault. This vault can constitute the support of a passage or crossing area, a floor or terrace, or be the roof itself, instead of a framework + roofing complex, with integrated waterproofing.

As for other types of construction, vaults developed because of a combined situation of wood shortage and plentiful clay supplies, generating a technical solution and building art intelligence. The vault was born in the East, in the alluvial plains of Mesopotamia and Egypt, a cradle for so many inventions, amongst the civilisation of the mason, the very subject of our book. It supplanted the preceding system, found in various places in the area where stone is used: a corbelling system which of course enabled covering, but with average results. This obliged constructors to build high, since the flat overhanging projection was limited to the point when the above piece would fall. (45)

The considerable innovation of the vault - we could say "modern" although it is fifty centuries old - is its key system, the organisation of its elements in a volume. Each element taken individually would be unbalanced, but assembled, installed and blocked, elements make up an extraordinary balanced unit. The top of a radiant vault defies gravity. It finds its balance by transmitting forces onto a support - either by its trapezoid shape as a keystone or by an equivalent system - loads are transferred to the neighbouring support element and so on, until finally reaching the stable support of a horizontal base which resists thrust. The problem for the structure is that it is heavy and overloaded. It can collapse at any given moment if the assembly of so many elements is not perfectly executed. It requires great skill (46): we will see how masons gained this extraordinary mastery.

The system first appeared in approximately 3000 BC, with dried mud bricks reinforced with straw: the first ever modular and regular material. In the marshy areas of the Tiger, the Euphrates and the Nile, it replaced vaults made with curved reed stacks that were rendered with earth. (47) The Greek, Roman, and then Arab worlds became vault users, dispersing it to areas of the Western Mediterranean through their conquests and influence. But it was much later, after the re-conquest of Spain in the XVth century, that the Andalusians introduced the brick vault technique to customary architecture in Tunisia. The Byzantines and Ottomans developed cupola techniques during their presence in Palestine and/or Algeria.

There isn’t a single country in the Mediterranean without vault systems. Each construction area adapted the vault to its own materials. We can find these structures carried out in stone – ashlar, rough stones or flat – generally limestone but also schist, mud brick, solid fired brick and modern hollow brick, and in rare cases with wood. Besides ashlar, where the contact between keys is excellent, stone to stone and barely requiring mortar aside from a core channel, vaults are bound with same diversity of mortars as for walls: earth, lime, and plaster. Many small elements as rubble or broken tile are wedged in to lock the angles, holding the square modules (bricks). (48)

As the vault continues the wall, and is very massive at haunch level, it is a solid structure, interdependent with the heavy structure of the building. This is why we most generally see vaults used as a base for several lower levels of construction: basements, ground floor passageways, and mezzanines where it bears the floors. These perspectives of the large arched ground levels are
extremely common throughout the Mediterranean. When it is a superstructure, either the extrados is most important, carefully built and protected with a waterproofing system (tight mortar), as in certain Greek island areas, or its haunches are filled to constitute a roof terrace (Tunisian "stuah"). This construction system is well adapted for linear structures: one can multiply it, for the roofing of large public areas on pillars, for example. The Arab-Moslem world uses it extensively to cover mosques, caravanserais, hammams, and souks, while in the Christian world — apart from churches and monuments — arcades and galleries are often arched.

In customary architecture, the most common architectural technical shape is the barrel vault, with its more sophisticated alternative for the builder, the arris vault or the interconnection of two barrel vaults. The barrel vault is generally a semicircular arch, simply because the profile is a half-circle which best transmits the loads vertically onto the support walls: it requires the least bulky possible abutment masonry in order to withstand the horizontal thrusts of the vault at the springing of the arch. Conversely, a profile with a straight arch or basket handle arch obliges the builder to thicken the load bearing walls. With the barrel vault, aside from structures with two parallel walls that cancel lateral thrusts, allowing thinning the support wall, systems are thick and walls have few openings. On a static level, the interconnection of two barrel shapes crossed perpendicularly — theoretically on a square level with two protruding groins projecting in two diagonal lines of the plan — functions differently. Each triangular section of the vault, (two points of support at the springing of the arch connected by diagonal lines at the key, the very top, at the junction point of the two vaults) transmits loads onto pillars and no longer on the walls.

*Barrel vaults, basic or crossed into arris vaults, enable generous heights and allow for greater volumes where various bays are juxtaposed*

This allows a complete hollowing out of the four vertical panels; the arched area is limited to four well-sized angle pillars. It is thus a possibility to bring light and exploit the full height of the volume's sides. The now free and open area is quite elegant; it gives an impression of liberation from construction constraints, and at the same time reassures with the strength of its pillars.

Barrel and arris vaults are two regular, symmetrical types. Their rigorous geometrical layout brings forth beautiful, pure lines. Dimensioning is empirical, and know-how is inherited through tradition. The relations between profile, span and thickness were mastered well before engineers validated them scientifically. But customary housing architecture does not attempt great technical performance. The mason does not take risks beyond control. If the spans of the vaults extend from 1 to 7m, 4m being the most common span, it is seldom under 30cm thick at key level (except for ashlar fittings, that enable thinner results). The mason knows from experience that the work will owe its stability only to a perfect cohesion of its elements. When materials are uncut or approximate, the mason adjusts elements according to the profile sought, with precise juxtaposition, tight blocking and crossing of modules, he excels in filling with mortar, owing to the fact that these are the essential conditions for successful realisation and achievement. Elements must not slide or slip: it is the bond between the faces and the mortar that guarantees against risks of displacement. A well erected vault is real masonry work, quasi monolithic, withstanding almost any possible movements that could affect the building, without compromising the structure. (49)

There are several alternatives for the assembly: without formwork, on a basic shape or a wooden arch. Large springers (made with ashlar), as well as irregular stones of all types require a formwork. This formwork generally consists of two strong wooden frames; trusses whose main rafters are round with tie beams resting on supports, making it possible to adjust the level. A bottom layer of boards or reeds connects the two trusses, and makes up the foundation layer of the formwork; they constitute the radiant floor whose regularity conditions the visible face, the intrados of the vault. You move this formwork at the pace of construction when mortars are dry and hard. (50)
Certain areas of the Middle East, due to wood shortage or because effort and energy were not spared, never adopted this system. They proceeded by piling up all materials between walls, and by outlining the template, a full and solid pre-vault shape on which the actual vault was then built, and that had to be fully dismounted afterwards, which meant handling a great volume of materials. Contrasting with this and for brick only, mud or terracotta, masons developed very clever methods of assembly without formwork. This system is based on a construction by section or slice, along a tilted plan; the adherence of the mortar on the face of the brick is enough to hold the element, it doesn’t slip and can then receive elements on top. To shape the arch, it is necessary to trace the profile, but not in space; on a support, a vertical support structure, the pinion wall. A radiant wire extended from the centre of the arch produces the slope angle and position for the elements. This very clever trick is still used in Egypt and Morocco. In Portugal, Spain and Tunisia, one uses the same systems without formwork, but also an alternative which positions bricks flat, in particular for cloister vault arches, a pseudo cupola with a semicircular profile arch and four panels on rectangular or square plans. (51)

• Cupolas

Cupolas and all dome shapes (52) are roofings whose profiles are semicircular arches, drop arches, lancet arches, and Moorish arches attaining parabolic profiles which are adapted to cover a square area. The structure is conceived from a vertical revolution axis positioned at the centre of the volume. The technical problem for the builder is to go from a square plan to a circular plan. The transfer starts at the springer of the arch where the angles of the square are cut and go into an octagonal plan. This geometrical shape approaches that of a circle. (53) Four new supports thus created hang over the empty space and are built like a structure in the area volume. They can be carried out on a support arch, built on the faces of the two right angle walls; this structural element is called the inlet. They can be assembled as a pendentive, a concave triangle built with a gradual corbeling, from the lower angle of the two walls to the base of the cupola whose layout is a quarter of a circle. The pendentive solution makes it possible to cross over directly from a square plan to a circular plan.

As for radius vaults, all materials and mortars are used. For housing, the vastest covered areas are made with brick, up to 12m in Algeria. Stone cupolas seldom exceed 6m. Egypt, Palestine, Jordan and Tunisia are common users of this technique. Today, its technicality and slowness of implementation limit it almost exclusively to restoration. Small openings can be made for light, either at the key, or at the base of the cap. (54)

It is primarily for large public monuments (mosques, khan) that Ottoman building arts, inherited to some extent from Byzantine, produced ashlar cupolas of exceptional dimensions and quality. The qualities of brick, a relatively light element for a great sealing surface, a powerful adherent element thanks to the moulding roughness (formerly handmade) or holes today, make it possible to work without formwork: the element is almost instantaneously held into position, clinging to the mortar (sometimes a reed temporarily holds the element in place, a precaution until the mortar definitely adheres to the brick). Another technique consists of making the four arches on an octagonal plan, then filling the eight panels with material, flat or in an "umbrella" shape, revealing the lines. The other system, without formwork, piles up concentric bases and finishes with an annular key, an opening that lets light in.

On a different scale, we find cupolas in all countries, used in the manufacturing of all kinds of ovens, but usually in quite smaller dimensions, between 1.5m and 2m, sometimes with uneven profiles which do not display the splendid technical control of the South bank.
Frameworks

• Stacked Systems

Flat roof systems are described in floors and flat roofings. Here, we focus our attention on frames or frameworks that bear sloped roofings. The most common situation by far in the Mediterranean, is a tradition of stacked frames. It is only in the past two centuries that the influence of A-frames, well established and mastered in septentrional Europe, spread moderately throughout the Mediterranean area.

If Tunisia and Morocco do not report any traditional frames, all the other countries of the area do. From very basic systems as in Jordan, where a central post receives the main rafters: we could say it raises the floor of earth roofing into two pitch slopes (system introduced in the XVIth century, in the Ottoman period and later given up, because of wood shortage). Builders used wood to bear the roof, seeking minimum functionality, without exploiting the range of the material's potential that elsewhere generated highly sophisticated building arts. Even under Ottoman influence, which used wood with refined technology, the stacked frame seems a relatively oldish type of building, a kind of slackly used process limited to efficient roof waterproofing. It is clear that the builder concentrated his know-how on large and carefully braced vertical frameworks, and on floors, particularly all the corbelling systems of wooden floors on a masonry base, on crafting ceilings or multiplying openings for the façade, on integrating furniture elements within the structure. The area of the roof is not regarded as a useful or exploited space, nor is it a display of technical expertise. It is not a question of skill or proficiency; these are clearly expressed elsewhere in the building, at a very high level. Perhaps one reason is that slopes are weak in the area, and the building undergoes little strain due to direct exposure to wind. The frame profile of slopes is a mere limit for rain drainage: it is just a question of raising the roofing with any system of wedging for the sloped framework. The builder apparently worries neither about habitability or circulation in the roof area nor about a systematic wind-bracing of the unit (in these areas, a system of roofing with four slopes produces a rather good natural rigidity of the unit). The situation is different in Southern Europe, where the roof is often used for storage: one is more attentive to limiting the number of posts supporting purlins or main rafters.

The simplest system is with purlins only, restrained in the peripheral pitch walls or on intermediary supports. In both cases, the space is divided at the maximum length purlins (beams) allow, though seldom more than 5m. The intermediate supports are sometimes posts, freeing space on the floor, as we can see for sheep-sheds in Cyprus.

The more elaborate stacked truss has two oblique principal rafters assembled on a vertical post (king post), resting on the centre at tie beam: the longest element which crosses the area between the two runoff walls. The king post carries the ridge, the principal rafters carry the purlins. Sometimes two struts relieve the sag of the principal rafters, and are assembled on the king post or the tie beam. The characteristic of stacked trusses is that the whole weight of the superstructure rests on the tie beam.

The mastery of mortar (thickness, layer, compaction, and protection) enables the mason to make a horizontal waterproofing using porous materials

These frames in “tas de charge” (load mass) consequently imply using a large tie beam (greater than 30cm) requiring the purchase of an expensive tree. For this reason, this element is very often undersized and tends to sag: it is preferably used in the roof attic space where these deformations are not disturbing. The spacing between trusses is equivalent to the span of the purlins: these horizontal elements used at maximum span sag under the weight of the roofing. The result is a picturesque deformation (caving in) of the roof, where trusses look like vertebrae, which makes them easy to spot from the outside. The multiplication of trusses frees large areas as no lengthways supports are
required, while the maximum length of the tie beam determines the transverse limitation. Depending on the availability of wood in the area, ordinary buildings seldom exceed 6m for the inside thickness (4.50m is most generally found). An alternative consists in concentrating the load of the tie beam vertical to the partition wall. (55)

Aside from exceptional buildings which require importing large wooden elements, only local species are used such as oak, chestnut, cedar, pine, ash tree and sometimes olive-tree. Very often the frame does not produce a regular squared wooden pattern, but an assembly of stripped trunks. The assemblies themselves are relatively basic: half-lap, simple notches, nailing, or simple binding as in Algeria. Although these trusses are assembled in triangles (the etymology of truss, femr = femmé = "closed" in French), looking like A-frames, they by no means have either the performances or balance of an A-frame. Visiting these basic frameworks brings forth their limitations: many elements are broken because of bad sizing, bad sags are more or less compensated for, by impromptu day-to-day reinforcements using splints, adding braces, posts or additional struts.

• Assembled Triangulated Trusses

Elaborate frames, developed as of the late Middle Ages in a Northern Europe widely covered with leafy trees, where constructions have very pointed roofs for climatic reasons, and where the roof attic space is both used and lived in. These frames were developed by the art of the engineers of the XIXth century, which made them considerably lighter: they were little found in the Mediterranean area. The rigid and resistant frame of the triangulated truss, where assemblies are very finely adjusted, where the balance of forces is calculated with extreme accuracy between compressed elements and extended elements, where there is no more inflected element, will develop in colonial times for new and very specialised buildings, with regular geometrical shapes, such as factories, warehouses and large public buildings. The use of this technique, notably more elaborate and which results from calculation, calls upon a trained and skilled carpenter, with an expertise that the general mason generally lacks. (56) Moreover, our Mediterranean roofs have few problems with complicated openings like windows or attic windows, whose framework and waterproofing generate complex connection problems for a non-specialist.

If restoration conforms with the original systems, rehabilitation does not always respect them. The modern world of components prevails today. Roofs with concrete floors are made with metal beams, hollow modules and slabs; slimmer trusses are made with pine boards nailed or stapled to pre-shaped metal connecting pieces: these illustrate a similar process of a standard, simplified, if possible maintenance-free technology.

ROOFINGS

In the Mediterranean we find two types of roofing profiles: flat and sloped. Vaults and copulas are a third category, described above with floorings and crossings, as they are both load bearing and covering systems. For flat roofings, we can distinguish systems including a terrace and for sloped systems, those having tiles, stone, and on a small scale, metal sheeting and plants.

Round tiles have been anchored to the Mediterranean landscape since antiquity: their colours, graphic undulation and shades perpetrate a powerful emblem of our architecture
Flat roofings

Flat roofings are found in the driest areas, having very weak slopes, under 5% to evacuate water, and requiring permanent maintenance, which is also the reason for regular transformations. Flat roofs go back as far as antiquity, even if some local introductions are in fact Arab, Ottoman, or Venetian contributions. Among flat roof characteristics, we can also note the necessity of high skill and proficiency on behalf of the mason as well as the particular thickness of the waterproofing complex.

The technique of compacted earth is still commonly found in Morocco and Palestine, in rural plain environments. (57) The earth floor is laid directly on a wooden floor or a bed of branches, leaves, algae, or clay, often mixed with lime and reinforced with fibres. Realisation is carried out in layers. Compressing and protecting the roofs with a wash contribute to the waterproofing, but as all these materials are soluble, a regular checking to fill possible cracks is essential. Nowadays, we can find an intermediary plastic film or bituminous material under the blanket, to delay and reduce maintenance.

The system using lime mortar differs very little from the previous one. It uses aggregates for the solidity and the compacting of the layers. (58) These works, intended to withstand stress and pressure, are very carefully prepared, dosed and implemented. Globally, this system is more resistant and tighter.

The know-how with earth or lime necessarily got more and more elaborate with time, to obtain better waterproofing from porous materials and for horizontal shapes. Here we reach one of the highest levels in traditional building arts. This mastery which calls upon permanent maintenance, disappears with concrete, as concrete requires little or no maintenance. Finally, we find many other systems still in use: covering blankets with calcareous flagstones, terracotta terraces built on earth, sand or mortar. Traditionally speaking, porous products can be rendered, but today tighter materials are preferred, like terrazzo cement (Algeria).

In flat roofings, we can find two methods for connecting wall and terrace. The most common is a pitching of the roof between acroteria. A peripheral channel towards the gutters then collects rain. The waterproofing and top of the walls are particularly carefully implemented and maintained. The other type of connection is a cap covering, with a slight overhang of the roofing for drainage, throwing rainwater as far as possible from the wall, and avoiding runoff on the wall. In Morocco, this is a very protruding complex of branches (almost 1m of overhang) that reinforces the earth blanket, with slightly drooping edges: these look like huge brooms and they drain rain. This is a rustic and efficient version of a fascia board.

Sloped roofings

- Roofs with terracotta tiles

These roofs were developed as early as antiquity and result from the simplification of the Roman system which used an imbrex, a large U flat-bottomed tile, and a tegula, a half-round top which covered the joint between two run off tiles (this system is still very common in Italy). The Mediterranean opted for a system of round (Roman) tile which uses the same module, alternately laid for both drainage and covering roles. Only the dimensions vary according to areas (from 18 to 60 cm). The average tile is from 30 to 50 cm long, slightly truncated to ease covering, the best slope profile is 25% to 35%. (59) It is laid dry or built with a thin lime mortar, on wooden battens or a vault. It is a very adjustable product, which can adapt to a series of constraints (irregularity of the support, insufficient slopes, strain, or correcting bad squaring). Its shape allows for play in all directions. Tightening rows, covering tiles, shaping them into bargeboards and shortening them for waterproofing... this flexibility is a quality and a defect: elements can be blown away by the wind, they can rock, tumble or loosen. The manufacturing itself is often heterogeneous in a pre-industrial tradition, tiles can suffer from porosity and weakness of thin terracotta, undergoing the combined
damages of sun, water, freezing, or organic agents. Roof upkeep and maintenance are consequently essential on a regular basis and especially after bad weather. (60)

The builder traditionally does not use a gutter, but always prolongs the sewer beyond the wall in order to keep it as dry as possible. The overhang is made with a jutting out of rafters and battens, with a cornice of stone, brick or plaster works on lathes, or with a Genoese cornice. (61) The vast variety of provisions for overhanging wall/roof connection, which are first a purely technical obligation, produce an architectural language of great quality. Since the jig-sawrafters, sometimes radiant around the hip rafters, to brick lining with corbelling cusps in the Western Mediterranean, to painted cavettos in the Ottoman tradition, roof connections are a sign of dignity which refers to monumental expression.

All these alternatives express the traditional crowning of a building in their own way, a common heritage of the cornice, final moulding of the entablature, which projects its mouldings surmounted by a fascia board outwards. The powerful shadow created by the structure further enhances this summit line.

The family of round tile roofings is one of the trademarks of the Mediterranean landscape. Everyone is sensitive to its amazing beauty, with delicate nuances of colour - straw yellow, ochre, red - expressed by the hand crafted earth, the lichens and moss which creep across it with time, over the regular and nevertheless random waves of its shapes modelled with light and shadows. The sight is both uniform and varied, across these roofs that seem swept like fields. Persistence is the most striking and manifest evidence of its qualities.

Yet another mineral product, tiles are closer to the field of a mason than a carpenter or roofer. It changes little in shape. Industrial production (62) manufactured a thinner and more regular module, with a much smaller range of colours. For the restoration market, Europe now manufactures artificially weathered tiles, incorporating oxides and pigments. Its industrial heir appeared in the XIXth century, the so-called mechanical tile, named after its interlocking system. Marseilles was the main centre of production, and it was massively exported throughout the Mediterranean area. Used as ballast for ships at a very competitive price, it was quickly distributed and is therefore presently considered a material of the Eastern Mediterranean tradition. In Europe in the other hand, it is seen as a product for suburb construction, and in the Maghreb, a survivorship of the colonial era. It has the qualities of all manufactured goods: it saves on material and, therefore, on weight (35 kg/m2). It is more solid as a result of controlled firing and provides a wide range of additional elements like half tiles, ridge sheathing angles and ridge tiles. The esthetical defects are an overly uniform colour, and poor flexibility to accommodate imperfections of a support or shape. Yet it is still laid 150 years after its earliest implementations.

Traditional and modern construction techniques still co-exist:
we still find men of the art who master both. This constitutes a major asset to train the next generation of builders

• Stone roofings

Roofings with schist or slate slabs are especially present in Spain, France and Greece. (63) This technique has been in practice since the Middle Ages. It adapts to strong slopes, usually ranging from 25% to 40% in the Mediterranean area. Depending on the local subsoil, slabs are made of schist or slate and are thinner than limestone slabs. On the roof, one uses a naturally broken or split material, both heavy and fragile, in large modules. (64) It is reshaped as thin as possible to the breakpoint limit in order to remove weight and the irregularities on the surface. These slabs can be laid on any support, on large frames, or vaults. They require a strong covering of approximately two thirds, either on a stacked system, wedged or blocked with mortar, or on a pierced/nailed or pinned system.
The bargeboards, ridge sheathings and sewers get the largest modules, all other surfaces are equipped with average and small size modules. The challenge for the roofer, stone cutternason, or nowadays specialised craftsman is to obtain efficient waterproofing from a product which is irregular in size, side, surface texture and thickness. For the ridge sheathing for example, no shape can cover the connection of the two faces. It is therefore necessary either for the slope exposed to rain to overhang the other, or to harp the higher elements of each face, notched one in the other. That generates very astute technical details, as in the great overhanging of the bargeboard with an interrupted slope to slow down water flow towards the sewer, and to make it possible to butt the smaller modules against the largest flatter element at the bottom of the steepest slope.

Large limestone slabs are perhaps the roughest, least man processed product used in the construction industry. Their use for roofings represents a borderline technique that implies a regular control of stone position, wedging and sealing, as well as a checking for pieces that might have slipped or split by freezing, or that porosity does not compromise the waterproofing. In spite of these constraints, this work is still enormously appreciated: it is rendered elegant by the beauty of the material and the vibration of its modules. Moreover, it gains qualities with time, imitates wall patterns, wall techniques, and natural surroundings, blending it incomparably in the landscape. It brings forth a powerful and reassuring vision of a strong construction, decorated with emerging stone chimney stocks and crowning. It is however a heavy and imperfect product, and will perhaps be saved by the vast modern range of reliable waterproofing products (a range of ribbed metal or bituminous sheets) that one now places under roofing materials to free the user from constant maintenance.

• Plant Roofings

Very rare examples of thatch roofings survived in the area, primarily in plain or littoral zones. We find them on very poor and often only seasonal housing of farmers or fishermen. Quite sloped, (from 45% to 120%), their balance is between a reasonable exposure to wind and the need for quick water run off to avoid getting drenched and rotten. According to availability, one uses gorse, sea reed, wicker, graminaceous plants, corn, rye, or rice straw. Flattened thick bundles (10 to 25 cm) are quite insulating, 40 to 80 cm long, covering length is at least one third. The weak points of plant roofings are clearly fire hazard and the brittleness of the bonds that fix the bundles to the frames. On the ridge sheathing, mortars can improve the waterproofing. The technique was used in prehistoric times; the restoration world considers it as a surviving testimony.

• Sheet roofings

We are only listing and quoting here: we will further develop the subject of sheet roofing in transformation processes as they are not yet “digested” within traditional architecture, unlike flat mechanical tiles which have been used by over six generations of builders. (65)

THE MEN

Living skills and proficiencies

Traditional architecture is built, maintained, and today rehabilitated by men. Construction such as we described in this building arts chapter has become confidential; from now on, the stratification of the models and traditional constructive processes is primarily used to maintain and adapt, sometimes to restore. Questions of skills and proficiency, the capacity of experts to assure a technical and cultural continuity obviously raise the question of training – training would be the most appropriate modern word to describe the system by which one acquires knowledge and know-how.

We must immediately declare that training specialised in intervening on old constructions is failing in the Mediterranean. In terms of quantity the poles of specialised training are far from numerous considering the cultural challenge and market activity. But also in terms of quality due to a tendency
to reduce traditional architecture to a sum of technical characteristics instead of a built work considering a construction as a whole entity in itself. If training enables to master ancestral techniques effectively, and consequently allows for satisfactory work, it only acts very little on the whole construction action and the final quality of a completed project. (66) Should this surprise us in any way? Training is a tool, it is related to demand. It has no memory, and only reacts to the energy of the moment. And nothing today shows any clear social pressure to trigger the creation of a series of places dedicated to training, when such centres could try to constitute a supply for a demand targeted specifically on the characteristics of old construction.

Probably also because of the surprising and innovative aspect of the subject, there are very few sectors adapted to initial, professional training leading to specialising builders in traditional construction. It is indeed the first time in history that construction completely renewed its ways of building, creating a new trade replacing the former one (we develop this idea in more detail in the chapter dealing with processes of transformation). Moreover, for only a century, public systems have replaced corporations or professions in organising training in all the western states studied. Indeed in the past, the world of construction used to transmit know-how directly to its manpower, adapting day to day, adjusting skill and order to the demand with trades’ great flexibility, compared with national systems of training. As the market is directed towards the production of residences, using massive and modern techniques for about fifty years, the world of trades has had to adapt: it no longer needed to fill young people with local construction tradition, letting traditionally trained manpower get old. It is they only who hold the richness of traditional technical culture in their hands.

There remain enough of these men today for us to recover skills, materials and practices here and there, when a clear need for this type of skill and proficiency is expressed. But the age of this population should alert authorities in the educational world, and stimulate perpetuation (67) at a time when restoration will become (and already is in Europe) the second largest market in construction. A market which must establish its own rules for quality. The fact that the rules of traditional construction arts are little or not put into writing reveals how much a reference code describing the good methods, and why choosing this or that one, establishing the standards of quality is necessary in order to control results. This function used to exist in North Africa, through a man having professional authority: Alamine. The traditional world standards will probably no longer be supervised in the future, our societies must find an equivalent successor of this knowledge, with both ambition and result. The challenge for traditional construction, which conquered a patrimonial level in terms of interest, knowledge, respect or sometimes preservation, is to reach quality evaluation and assessment in a corpus which would be based more on a sociological and professional consensus, rather than a regulations system which always proves less efficient.

Marginal and scarce, retired craftsmen who are the heirs of our building arts are often the "last chance of survival" for a tradition which no longer regenerates naturally. These skills are fragile, and because they are so little represented, certain countries try to collect, integrate and maintain them within their monument restoration services (Greece, Cyprus and Tunisia): (68) preferring this system to calling upon private companies which has long been the strategy in Europe. These secluded systems are effective for exceptional heritage but do not apply in an unprotected restoration sector. (69)

Along the same lines, it is interesting to consider which majority of actors profit from superior training dealing with architectural heritage. We find many in subjects such as history of art, civil engineering, community services (town planning, patrimony and heritage preservation or development), generally options in specialities, but laid for designers, researchers or managers. Which means in the end that there is no actual training for the workman who works with his hands (except for restoration of works of art, a confidential and high level scientific population). This clearly means that within states, departments in charge of education from lower education to university privilege enlightening their elite group of decision-makers, transmitting heritage related knowledge to them. They do not understand the need to address the world of trades, representing the largest troops working on traditional architecture.
This draws up the trend for national academic systems. For the past one to two decades, failing state systems have been compensated by a rich expansion of continuous training, developing a broader offer of training, perfecting or specialising trades related to heritage, especially in Southern Europe which found the means to finance them. "Lifelong training" is a flexible tool in itself, in tune with trade environment, constantly adjusting to a general market trend. Day to day, it invents new formulas of training and accompaniment for professionals. Quick and creative, innovative and mobile, continuous training is no doubt the best chance to stick to daily evolutions in the field. While addressed to the active professionals, it simultaneously can work near the actors of the command, the design and the execution, consequently embracing a whole task, in a coherent way, from prescription to scaffolding. (70) This is a first draft for a global solution of requirements in training actors. (71)

A mason for the mediterranean

All the diversities pointed out in this book are those produced by men. If a certain pre-industrial society way of manufacturing buildings definitively disappeared, the remaining construction stock is our concern. Today, which expert intervenes on these buildings? What must he do? Is this so different – if one reasons in terms of skill and proficiency – in the four corners of the Mediterranean area? While raising this question in thirteen countries we have reached a common, regional position presented hereafter. On location investigations have revealed a situation we summarised in three points. CORPUS proposes to react with three orientations followed by a conclusion.

Knowing the art of a builder and broadening his scope of skills are two keys to help a man of the art adapt to the rehabilitation of Heritage.

First report: the borders of traditional trades in construction, in a disappearing process, characterise many smaller subset specialities. It is a tendency, which is especially true when a very high technicality is necessary. In parallel, we observed that if simple techniques constitute a local practice, the same individual masters many and becomes the sole builder of the house. First answer: in rehabilitation, it is irrelevant to reconstitute narrow micro-specialities, but better to direct towards a wider profile, which embraces a maximum number of capacities in the hands of a single professional. This is in order to answer the multiform demands of the market since repairing interventions goes from small scale works up to works mobilising a vast range of techniques and materials.

Second report: contemporary construction calls upon almost no knowledge in traditional building techniques. The effect is that ancestral know-how is no longer transmitted naturally to professional corps as a whole. However, pockets remain in areas preserved from modernity, and that didn’t substitute their practices. Second answer: there is no definitive crisis in skill and proficiency. In each craft environment, one can find experts perpetrating a traditional know-how: scarce or old, but not vanished. They can be identified, found and mobilised in a transmission network as soon as we act. (72)

Third report: interventions on architectural heritage do not call upon new professionals specialised in traditional construction, but on a corps of general, basic professionals present in the market. It is thus necessary for us to evaluate if these new trades are liable to retrieve the necessary know-how to maintain and adapt to housing construction techniques of a traditional nature, on the basis of current skills and proficiencies. Third answer: recovering a technique or the use of a forgotten material is easy for an expert. This can be done with improved proficiency courses (short, highly specialised, practical). Indeed, a practising expert controls his craft, the pace, behaviour and assets on a building site; he is by no means disturbed by the introduction in a new skill: because it is practical and natural to acquire.

Consequently, introducing speciality segments in "traditional techniques" must become a priority to the benefit of a man who already has a basic trade even if it is modern. The momentum of this
proficiency is motivation. Bringing these principles together would thus be enough – a broad technicality, with experience in traditional construction, or integrated in a building trade – to create a single profile, a working actor, adapted to heritage architecture. This is the mason. The chart hereafter lists the skills of a mason, and draws contours of his proficiencies so we will not enumerate them in the text. Under the effect of our common land and roots, profiles vary little in the Mediterranean area. The only differences to be introduced are the specific alternatives from each local tradition. Thus, between a Portuguese mason and his Turkish counterpart, there are more common capacities binding them than there are differences in the practice of their trade.

In order to sketch the profile and training of a craftsman who is supposed to intervene on traditional architecture, CORPUS used a system of "job benchmark description" connecting two parallel approaches:
- tasks and functions, held by this expert in the frame of his work, and his level of autonomy,
- itemised capacities and proficiencies he must acquire to fulfil the tasks entrusted upon him.
(73)

To a professional profile there is a corresponding level of skills and proficiency. Our analysis of the Mediterranean area positions this profile on a customary level: neither at the height of excellent specialists, nor at the bottom of excessively unskilled workmen.
Notes:

1. Mechanical tiles of Marseilles arrived in Cyprus by boat at the end of the XIXth century and were used as ballast by trading vessels on their outward journey. Local craftsmen covered thousands of buildings with this product.

2. Borderlines between trades vary tremendously from one country to another from the mason who implements all mineral materials, including roofing, to the professional bricklayer.

3. Certain maintenance tasks like lime washing of facades or checking a roof, are practices which can be performed by a user or a craftsman.

4. Rough, primitive supports (wall, partition) made from the poorest quality materials and assembled without any particular care, can be finished with splendid rendering, spread perfectly, and decorated with a fake regular stone course, sculpted, modeled or painted. This difference between very modest means and a sophisticated, elegant result informs us of the intention of the builder who uses all available tricks to beat his budget, to produce maximum possible dignity in spite of limited means.

5. Building a vault rather than a floor to cover or cross is not only a question of shortage or abundance of brick, stone or wood, but also a reflex on the part of the builder who implements a predefined solution. For a specific place, specific resources: because there are small differences in available means, an alternative expression in building arts is developed rather than another. A complex, two sided mosaic rich with look-alike and difference.

6. From 3 cm thick schist plates to large granite 50 cm thick blocks, and all the way to limestone or volcanic stones in all intermediate heights: masons use stones which range from 2 to nearly 100 liters in volume and remain nevertheless transportable.

7. Let us stop and reflect, nostalgia or necessary beauty? We grant modern materials "neither the right nor the grace to age well" F. Choay, "The Allegory of heritage", Le Seuil 1992.

8. Very thin wall, 20 to 30 cm, the same stone can constitute the two facings. Less thin, 25 to 45 cm, the same stone is visible only on one facing. Long and short stone patterns are alternated.

9. For the solidity of the unit, the mason is careful to leave a maximum piece of tail on the inside portion of the stones of the wall so the filling can play its blocking role by fastening with the protruding stones properly.

10. The facing of cut or dressed stone wall is not laid in mortar, but laid dry with a space between the blocks which makes it possible to pour fine, fluid and very thin mortar. This guarantees a perfect and regular adherence between the elements.

11. In Algeria, in the Aurès area, these elements of wooden anchoring or damping inserted in the wall are described by the word soumitt whose literal translation is "cushion". A lovely image for a work of support and laying.

12. Earth, a noble and invaluable material. Such a privilege to bear the same name as our planet. Today, however, we tell children: "don't sit on the ground! (earth in French)". "Don't play in the dirt, it's dirty!". How can we claim to re-use earth as a building material, if the message transmitted through upbringing doesn't change.

13. Annex buildings, surrounding walls can be built without a rendering for protection.

14. Modules of adobe bricks range from 20 x 10 x 3 cm to 40 x 20 x 20 cm in Jordan (0.6 to 16 liters). For terracotta brick, if Antiquity produced many square modules (15 x 15 x 6, 45 x 45 x 11), sometimes re-cut diagonally in 4 isosceles triangles, it also inaugurated the rectangular format still preferred today (26 x 13 x 9 in Egypt, 66 x 33 x 9 and 33 x 16 x 8 in Persia 600 BC) and according to the following ratio (length = width). Thickness is between 4 and 9 cm.

15. These qualities of regularity are exploited in mixed systems of stone and brick where one can find a brick row determining levels controlling the level with a regular material, this row sometimes crossing the wall in its full thickness to make up an anchoring of the two facings.

16. Jean-Pierre Adam (Roman Construction, Picard, 1989), points out that Vitruvius, in the first century BC, only mentioned mud brick, considering that fired bricks were only developed to improve the waterproofing of specific elements (tiles, pipes, cisterns/ tanks).

17. Temperature is comparable to that of firing lime, allowing for mortars to reach a resistance level comparable to brick. We notice the same parallel concern in the XIXth century, when the control of higher and constant temperatures made it possible to produce more powerful, resistant bricks, but also cements; first mixed to lime, cements supplanted lime in order to satisfy this equivalent block / mortar resistance.

18. The "life duration" of plant constructions is weak. In the Delta of the Nile for example, a fisherman rebuilds his house approximately every five to eight years; this rebuilding is carried out entirely in less than eight days.

19. Indeed, openings equipped with joineries are mechanical structures that are handled daily, and will dysfunction at the slightest warp or deformation.

20. The flat bed is a flat arch, installed with radiant keys. It is the method (Roman) that makes it possible to build a long horizontal lintel, often around 120 to 140 cm, that one could not draw from a monolithic stone; quarry difficulty, risk of breakage or obligation for a higher springer, handling difficulty due to weight.

21. One could wonder whether a small window is synonymous with lack of means or technical incapacity, if it is considered useless to over-light an area or if abundant outdoor life and light suffice against frustration.
(22) The Tunisian masons overcame this limit by building trapezoidal openings, broader at the sill than the lintel.

(23) In the médiins, there are few or no openings onto the street, the door is the only sign of dignity or social status of the inhabitant.

(24) “I can watch you whilst you cannot see me, I can contemplate the frenzy of the street from above. From my home, without your being aware, I am filled with city life.”

(25) It is true that high antiquity, Mesopotamian or Egyptian, which created key vaults, used mud brick.

(26) In the mechaouk principle, the profile (shape) of the arch is obtained by subdividing the cord (the span) into 3, 5, 6, 7 points, acting as centres for the tracing of the arch segments: 3 points produce a very slender profile, and 7 a very wide profile. These adjustments within the same morphology are invaluable to the builder.

(27) Baylés, warehouses found in the suburbs of Damascus, are vast naves with two sloped roofs resting on perpendicular walls spaced at purlin’s span distance. These walls are hollowed into large semi-circular arches which can cross up to 9m.

(28) An arcade frees the house of its walls, allows for new volumes. The resulting space becomes a transition between the outside and inside, a place both for living and wandering. The arcade stretches into pillars, raises into vaults, defies the weight of the building: it is a proud representation of mastery.

(29) There are however many exceptions to this principle: appendices, surrounding walls or façades without any exposure to rain.

(30) The Greek-Turkish area in particular exploited expressive, ribboned protruding joints, and as they are modelled on rough stone, they have random graphic designs, looking like a labyrinth.

(31) Local performance improvements are sought. For a better cling of the rendering to its support (which becomes the weak point of this technique) (time and wear) masons of Santorini and also of Majorca “nail in” the rendering with small apparent stones. This measure for durability became an aesthetic trademark connected to the territory, reproduced afterwards as a sign of identity, but with different rhythm and density: the original reason has been forgotten.

(32) The float also makes it possible to finish renderings with lime. In the Western Mediterranean its use spread for a century, producing flat facings, losing the trowel’s flexible smoothed vibration of traditional masonry walls.

(33) One projects the mortar using a broom made with branches of cypress, boxwood, or date palms, striking it against a stick to obtain a projection with a swift and precise movement: from a coarse alveolar grain to a “Tyrolian dotting”, the range is quite vast. One can also whip fresh rendering with a branch to even the texture while tightening it.

(34) In Cyprus, plaster renderings called plaster “of Paris” or French plaster, have been used for a long time and are an older process than we would imagine: a privilege of the islands who benefited from modern goods coming by sea at a very early stage.

(35) The travellers of the XIXth century described urban environments as bearing earth and rock-colours: “In Ghurda, and in Beni-Isguen, all the arcades are lined up one on top of the other, some whitewashed, bleached houses contrast with the greyish tone of those that aren’t.” Trunclot, 1854

(36) In the area of Siwa in Egypt, salt stones (kershet), very porous and random in shape laid to a construction system with 50% earth mortar. The surplus of this mortar is re-projected on the masonry to fill all the gaps and protect it.

(37) Either a simple, specific sign of the framing of the opening or door is processed (white, bright white: bluish), or partial surfaces (whitewashed only to chest height, or only the more exposed base plate, more regularly maintained). It can also be limited to the main façade or used on all façades, including roofs and terraces.

(38) In the middle of the XIXth century, in Lyon, Guinnet developed a chemical ultramarine blue that was compatible with lime. Produced industrially (an abundant, powerful and cheap dye), first exported from Marseilles, it eventually conquered the whole Mediterranean, making it possible to use this colour in construction. Before, it could only be obtained by crushing lapis lazuli or azurite (brought in from Orient: “ultramarine” means coming from “beyond the seas” in Latin) at an outrageous price and was usually reserved for fine arts.

(39) Taking into account the tourist attraction of traditional façades in Tozeur, the local authorities imposed the covering of façades with brick in relief. The result was the plating of traditional decorations onto hollow industrial brick or concrete. A showy dramatisation occurred simultaneous to a progressive disappearing of the less maintained original construction, in spite of commendable efforts by national authorities to preserve a few highly emblematic buildings.

(40) In Tunisia, 2 alternative floors exclusively use palm tree in all its shapes: sized in joists (zouaz) and boards, downsized in radial portions (sannour), or made in mats (If sira) using the vein and foliage. After chopping and pre-drying, the palm tree is soaked 6 months (tangui) in a naturally wet and salty environment in order to tighten and compact its fibres. After an additional drying phase it can be cut to size. A sophisticated process to prepare the only available local material, adapting technique to performance.

(41) In Algeria, palm tree feather-grass (seins), curved and forced between 2 joists in a continuous carpet, form the intrados of a small vault made up of stones and plaster (timbent). This type of work braces joinings very effectively.

(42) In this alternative, when the secondary elements are not jointed, a formwork support is used and dismounted after pouring.

(43) One finds cedar imported from Lebanon in countries like Egypt and as far as Portugal for long beams, which are not available locally. They are noble elements that are often reused. Shortage and scarcity in Jordan, as of the end of the 19th century, in road rails compensated for the lack of wood; they were in turn replaced by industrial metal beams.

(44) These processes are often used subsequently, as reinforcement.
(45) For corbelling vaults, the overhang of a stone must be compensated by its counterweight, a long and heavy tail, to keep the stacking stable. In such a static system, the loads borne by the vault necessitate solid abutment masses, very large buttressed masonry.

(46) Beyond their construction performance, vaults develop in height, producing greater habitable volumes than floors. These vaults increase inside comfort for inhabitants: the heat can elevate in the volume of the room, keeping ground temperature lower in hot areas.


(48) Reducing weight is the reason for using materials such as coal, hollow materials (amphoë, cylindrical brick) and low density volcanic stones.

(49) Carefully filled and mortared haunches associated with a minimal load on the key make it possible to improve keying-up and solidity.

(50) Most vaults are built with bricks laid on their sides. An alternative technique inherited from a Roman method consists in doubling the formwork with a sacrificed layer of bricks laid flat. Rubble and filling materials laid in mortar constitute the actual vault on top of this kind of hull. This system requires excellent mortar and has the advantage of a beautiful regular intrados.

(51) Beyond regular shapes and horizontal generators, the vault technique enables rampant positions, for example, to cover a staircase or to widen into a truncated shape. These surfaces cannot be calculated easily and require a more complex geometry.

(52) The Mediterranean is strewn with cupolas, especially on the Southern and Eastern banks. Cupolas can be spherical or with multiple faces, introducing sumptuous spaces and volumes into homes or public buildings; this splendid geometry combines squares, circles and tall vaults.

(53) This zone of transition can be built in several stages and courses, from 4 to 8 sides, then 8 to 12 or to 16. This is a heightening of the vertical section, a kind of succession of panel drums, always narrowing as it heightens.

(54) In hamams, hollow pottery is incorporated in the assembly, making up a series of light funnels, an analogy to the stars in the heavens.

(55) In Greek and Turkish environments tie beams were made of 2 elements resting on a partition wall: the thickness of the building can be doubled.

(56) Large spans require a supply of powerful materials. Thin sections and industrially sawn materials are not found on local traditional markets. Another type of economic organisation in construction must therefore be mobilised.

(57) Pockels also survived in Egypt, Tunisia, Algeria and Greece. In Lindos, the island of Rhodes, the patella are maintained yearly by small heaps of clayey earth stored on the roof terrace: rainwater dissolves them; the earth runs down and clogs the cracks. In Turkey, people leave stone rollers on terraces to facilitate maintenance.

(58) In the Greek kourasani, for a better casting of each grain, broken tile in three different gradings is integrated in the lime paste for five to six days. Once spread, the mortar is beaten and strengthened several times (up to twenty times!) with a piece of iron to compress the material to one third the thickness of the layer poured, from approximately 7 cm to 2 cm, until the most coarse grains are apparent. One uses this technique both for a floor and terrace blanket, and the extrados of external vaults. A layer of thick olive oil residue is applied every 2/3 years, producing additional waterproofing varnish.

(59) The proportions are always comparable: a 50 cm long tile has an opening of 15 cm at the top and 25 cm at the bottom, its total height is approximately 10 cm, its thickness ranges from 1,5 to 2 cm. A round tile roofing weighs from 35 kg to 65 kg/m2; the gauge (the visible part) ranges between 2/3 and 3/4 of tile length.

(60) Sorting and testing of the good tiles: the tile must produce a clear sound when it is struck: it must withstand the weight of a man.

(61) A Genoese cornice is an entablature of juxtaposed tiles crowning the wall in several parallel rows (1 to 4), each one corbelling on the previous row (photo necessary).

(62) One also finds concrete tiles, interlocking terracotta tiles with all kinds of alternatives making better fixings and consequently reducing maintenance, improving ventilation of the complex layers which now include a thermal insulator. Corrugated fibre cement plates are also found, which make it possible to save on the lower row (channel) while ensuring perfect waterproofing. The glazed tiles in the North African Maghreb are often green and became a sort of trademark for certain buildings.

(63) Besides earth roofings, stone roofings evoke the mineral aspect of the Mediterranean world.

(64) We find a wide range of faces and thicknesses for schist or slate slabs: from 10 x 10 x 1 cm up to 150 x 80 x 6 cm, producing roofs weighing from 100 to 300 kg/m2. More or less rough or reshaped with a tool, schist or slate slabs are pseudo quadrangular or with a round fish-scale or triangular shape.

(65) In the Moroccan High Rif, the abandonment of cereal farming rendered traditional materials unavailable: plant roofings, like thatch, therefore disappeared. Metal sheeting became the new basic accessible covering material.

(66) The questions related to assessing quality are complex: is what constitutes quality space or volume? Is quality the refinement of an elaborate architecture or the taste of a more modest construction, built without an architect? Is it simply the age of a building and the poetry conferred by the years? Is it the case brought by the builder to his structures, to an extent that they still fill their role today? Is it necessary to change a two hundred and fifty-year-old window that still opens well? In other words: what confers respect to one building rather than
another? And what purging, mutilation, or substitution would be harmful? This reasoning, “by default” works rather well in a field where subjectivity weighs heavily. It is necessary to give priority to the construction based on what it evokes and imposes.

(67) It is crucial to revive binds and links: we must gather the elder craftsmen who are still working today, because oral tradition is irreplaceable. Beyond the transmission of know-how, there is an initiatory dimension: everything revolving around a technique can only survive with human relations.

(68) In the same spirit, the stone cutter school of Tinos in Greece trains workmen later integrated in the restoration program of the Parthenon. It is a purely internal school within Historical Monuments services.

(69) In the CORPUS network, several NGO, training centres, professional organisations became consultant and/or trainers, fuelling all the fields of rehabilitation.

(70) Professional training can also bring architects and craftsmen together, for example, as they always need to understand the gap between what’s on paper (plan, reports…) for some and the real situation on location for others.

(71) Many partner countries in CORPUS seek to establish integrated systems of professional training which link and contact the various actors in restoration: Turkey is ahead in this field, with many interactions already in place.

(72) Certain partner countries in the CORPUS network listed these “resource-media”. We listed all the ways to mobilise them in transmitting initiatives four young people, in every imaginable training framework.

(73) A comprehensive profile chart is also an opportunity to indicate the systems and limitations of knowledge acquisition, formulas for training, control and evaluation of practical know-how, helping to define them all.
Chapter 4: TRANSFORMATION PROCESSES

Yesterday is but today's memory and
tomorrow is today's dream

Khalil Gibran

A CHANGE IN SCALE. A CHANGE IN RELATIONS

Traditional construction, as in architectural heritage, is a full and living part of “historic acts” (1). It retains traces of the periods it went through, revealing the foundations of the society that created it. The architectural heritage that has reached us communicates a long and rich history of individuals and societies. Like any architectural inventory it sustains the influence of different periods, relations, and events. We will thus regard the term “process” as a sum of the facts and phenomena which influence a construction and integrate transformation. Transformation can be progressive or abrupt, superficial or deep.

Changes have always been deep-rooted in traditional construction.
They are a sign of its vitality

By transformation we mean to say a sum of all the changes that can be found on a construction for a given period of time. These changes are evident in use, form, or aspect. Such transformation can be reversible or irreversible.

Both process and transformation are deeply associated with architectural heritage. Throughout the ages, change has always marked buildings and constructions. Of course these transformations were generally quite slow and often distant in time: “very seldom perceivable in a single generation.” The exceptional circumstances of our contemporary age are speed and concentration. The capacity and force of today’s transformation processes are faster and more drastic than ever, affecting our entire perception: the healthy, energetic traditional building now seems flawed, sick, even boring. What was previously an understandable evolution of housing, is likely to become - and often does become - a brutal transformation, an entirely new construction both in nature and technique. It is now flawed and difficult to comprehend. Transformation processes which were considered normal and natural have become a burden, disproportionately so because our view and scale have changed. Without exaggeration we can say that the phenomenon has become monstrous in the literal sense of the word. The damage is visible today. It is so widespread and dramatic, so common, it is an indisputable reality. The rate of construction renewal is so frantic and accelerated that entire blocks of architectural heritage have been swept away, losing their appearance of only 30 or 40 years ago. The material landmarks (town planning, architecture), and also the immaterial (know-how, techniques) have been vanishing. The first emergency measure should be to keep records of former layouts, before too radical a change occurs, in order to understand the keys of architectural heritage. This includes both real estate and cultural value. The ultimate achievement would of course be to rehabilitate heritage today. Though this objective is indeed a tough one, we should never give up.

The transformation processes presented here are the result of powerful means of transportation and distribution, in addition to standardisation and industrialisation of new materials in mass production which lead to the inevitable and violent disappearance of traditional know how. In practice, it led to a banning of traditional, local materials. The criteria is no longer proximity or practicality, but rather profitability: low cost combined with easy, ready to use materials. What used to be a blessing has become cursed and doomed, what used to be loved is now hated. However, after only five decades, many questions and concerns have arisen on all the levels of this insane rushing venture, which spare no culture and recognizes no boundaries. The Corpus Project is a testimony that all Mediterranean
people, without exception, share a common sensitivity: they are all alarmed by the same serious concerns.

This chapter emphasises the causes and the effects of processes, and, as we will often plead the case of traditional architecture, it is important not to confuse this with an adhesion on our part to any traditionalist current. Moreover, synchronicity and dialogue with every historical period, far from useless nostalgia, are the key to a worthy future for this architecture.

The keys to a new horizon

Although the 19th and early 20th centuries introduced significant changes, triggered by the industrial revolution which spread unequally in time and space throughout the Mediterranean, specialists unanimously agree that the 1950’s were the real turning point for dramatic changes. From this period onwards we find a combination of determining and major factors: demographic growth, a bursting of the traditional family cell, great migrations, rural drift, urbanisation, a new system of work organisation, the global economy, and mass tourism.

We must be brief on these issues. There are numerous valuable studies on the subject, and we would lack rigor in merely repeating the same ideas. We must, however, insist on the direct manner in which the above factors weave their way into the processes of transformation in Traditional Mediterranean Architecture. It would, moreover, be illogical to analyse the investigation results and research without setting them in a more general frame.

The demographic factor is most important, and it did not go unnoticed by ancient Mediterranean thinkers. Thus Plato in his Laws recommended an ideal city of 5040 citizens. A perfect number according to him, allowing for a rich variety of divisions and groups. In the 14th century, it was Ibn Khaldoun who saw a sufficiently dense population as an advantage to improve specialisation. Since then, theories have tried to explain, forecast, and organise population. In December 1966, the UN officially stated that "serious problems (have) arisen from demographic growth". (2)

The Mediterranean was not spared by this phenomenon. From 1970 to 2000, the population of bordering countries grew from 285 to 427 million (a growth of 50% in 30 years!). For the next 25 years, the Blue Plan forecasts an increase of 97 million, including 92 million for the south Eastern European countries of the Mediterranean and only 4 million for the north. These figures show the significant repercussion of average annual increases in almost all countries, compared to the past few years. (3) In certain areas, a drop in birth-rate is linked to the breaking up of the traditional family cell. It is especially connected to changes within the female population. In some more modern areas, women have changed from the established "woman-mother" statute to an equal-to-man social role. Women are now independent from their families, freed from financial, social, professional, or educational stereotypes, upsetting and transforming the traditional "market of marriage". They often postpone the date of their first childbirth. The new family structure leads to a crumbling of former social cells. An overwhelming youth increase in the most traditional countries contributes to the breaking apart of these cells through two phenomena: the abrupt loss of influence of older generations, generally the most conservative element of a society, and a transformation of the roles within a family group and of its individuals. (4) This considerable and swift growth and transformation caused significant population migrations. Among the most notable, the exodus (5) from rural areas to urban environments.

De-colonisation, military or industrial wars, intensive construction and agriculture in the countries of the northern bank, all forced population displacements and created an increased need for labour (often unskilled). This great need for unskilled labour was sustained by the intense demographic growth and high rates of unemployment in less developed areas. Three factors contributed to these displacements: modifications of space/time vectors, as distance was no longer a constraint; mobility which has become a fact; means of communication, which have become quasi "instantaneous", cheaper, therefore more accessible to a growing number of individuals.
Consequences didn’t always have the same causes. Nationals generally come from rural environments and are mostly young people, leading to a "de facto ageing" of the population back home. The older ones are less open to risk taking and innovation, which causes stagnation, impoverishment, and a recession of their environment. We can also consider that the money sent home by the migrants has contributed to a decisive improvement of living conditions and means of production, therefore bringing a new dynamic to certain areas. But we must not be blinded by these rare mirage-like exceptions. Most cases unfortunately lean in the direction of the first tendency. Undoubtedly, a new trend of exchanges – with pain and inequality – has developed in the Mediterranean: cultural mixing and intermingling persist.

The mechanisation of the rural world, the technical advancements that invaded agriculture (6) drove to property concentration, a "rationalisation" and productivity logic (cereal, sunflower, beet). An agricultural market competitiveness resulted in the exclusion of millions of peasants, pushing them towards large urban centres. The concentration of industrial activities in urban environments and increase in construction contributed to attracting populations from the countryside, triggering a local depopulation process and, in many cases, abandonment. (7)

_Galloping urban development and a collapse of the rural world created new strains that traditional construction failed to withstand_

The urban population grew from 94 million in 1950 to 154 million in 1970, and to 274.5 million in 2000. Forecasts of the Blue Plan predict an urban population of 379 million in 2025. Although slowing, the urban growth rate will increase by 60% over the 25 next years, faster than the growth ratio of the population. Over this period of time, the southern bank will become more urbanised than the northern bank (74.4% in the South, 69% in the North).

As for the littoral, it will follow the same trend. But this band of the Mediterranean area is very narrow and fragile. It is, therefore, more of a concern. The population on the littoral grew from 58.5 million in 1970 to 96.1 million in 2000 and, according to forecasts, it could reach 127.5 million in 2025.

The yearning for concentration causes tremendous flows of populations in cities, and is not without damage. The absorption (8) of farm land by the expansion (9) of urban areas, a horizontal growth over huge areas, especially on the southern bank, the illegal occupation of grounds, unauthorised construction, the emergence of suburban districts which lack equipment, infrastructures, and planning, or the squatting of town centres, are among the most dramatic examples. We see an “under-integrated growth” to quote the Moroccan geographer Mohamed Naciri. The most recent migrant waves suffer from the worst conditions, settling in the most precarious and unhealthy zones. Often only "in transit", with very limited means, neither they nor the owner invest in construction.

The introduction of this population leads to less and less attention being paid to environmental parameters. Here too, a significant change took place compared with the harmony traditional societies used to keep with their landscape. Questions of climate, soil fertility, energy, and water supplies (10) no longer play the same role as they did previously in determining the localisation of the population: they are suddenly replaced by strictly economic criteria. The concentration of population required by a task-divided work organisation, as well as the need for a more fulfilling social life facilitated by easy and efficient means of transportation, have drawn man further and further away from nature (11).

The relatively modest dimensions of the Mediterranean favour concentrated urban strips (12) which are literally sinking the littoral into concrete in certain areas. Two major phenomena coexist: metropolises and tourism.
Nearly twenty large metropolises can be found in the Mediterranean. They are spreading and gradually absorbing average or small surrounding towns and cities, making up enormous urban agglomerates. If it is true that the reinforcement of these Mediterranean metropolises is decisive for the future of the area, many internal difficulties must be managed and solved.

A phenomenon goes back as far as the XVIIIth century with the advent of the first social practice spread for therapeutic and leisure reasons: tourism. Tourists settled discreetly in few specific spots on the French and Italian Rivieras in the XIXth century, and then again in the 1930's. Mass tourism only really developed forcefully after the 1950's. A new system of work organisation and paid-leaves, together with the creation and improvement of road infrastructures, popular affordable cars, and cheaper air transport all brought a boom in mass tourism. The Mediterranean was, and is today, one of the favourite destinations in the world.

The Mediterranean area has since never ceased to grow in the overall, international tourist flow. It accounts for one third of the total number of tourists, and 30% of international tourism income (55% for Europe). Within the Mediterranean area, coastal tourism is also very significant (70% of national and international tourism in Spain and Italy).

The Mediterranean area is the largest tourist centre in the world with 140 million tourists per year. Some countries of the area are among the largest tourist hosting countries in the world: France 1st, Spain 3rd, Italy 4th, Greece 17th, Turkey 22nd, Tunisia 30th.

These figures show that tourism is unequally distributed according to areas and that a considerable discrepancy exists between North and South. After a first stage of a strong littoral trend which is ongoing, interest for inland discovery (13) is consolidating a complementary tourist offer. Countries with significant archaeological resources (Greece being an excellent example), have long benefited from this richness. Insularity is a major asset when looked at from this angle. Cruises with stops, together with a certain "concentration of the genuine Mediterranean touch" in restrained areas, and a significant amount of "local colour", make islands and modest countries like Cyprus desirable tourist destinations.

*With over 140 million tourists per annum, the Mediterranean area is the largest tourist centre in the world*

The exploitation of the littoral did not follow the same pattern throughout the area. In Spain, the littoral was almost totally constructed in a continuous strip of urban structures and seaside resorts. In Turkey, whose great tourist centres concentrate the majority of visitors, the littoral has remained practically unaltered. Tourist access can also be restricted for political and safety reasons. This is the case for Libya, Algeria, the Balkan countries, and the Middle East, which all have little or no tourist activity, at any rate much less than their hosting capacity would enable.

In these great changes, which have come to pass at a speed never before experienced in history at varying levels of growth and progress, we find the new, generalised exchanges between the entire planet: the global economy. As Michel Beaud suggests (14): a change of worlds. In any case, the novelty of today does not imply that traditional architecture will not continue to play an essential role in our heritage as a memory for humanity, said François Durand-Dastès. The “local” heritage will continue to be significant, even irreplaceable, as proximity is essential, and bonds will consequently tend to get tighter. Emerging regionalisation, based on common interests for all countries, is the sum of the regional partners’ assets. The capital of one cannot be destroyed without endangering the whole group. New means of communication have reduced distance to almost nothing. It would be absurd to deny the world has become a common area of exchanges. It seems intelligent and essential to include this parameter in the elaboration of our strategies, asserting the right of Mediterranean traditional architecture to preservation.
This brief overview of the predominant phenomena which has marked the past five decades of transformation in the area should help us connect the data on the processes of transformation of traditional architecture, to the context and conditions in which they took place. Finally, and equally important, this illustrated recollection of figures can help grasp the power, hierarchy, value, nature or meaning of these phenomena, not forgetting they are liable to change. Understanding such characteristics or dimensions will be highly relevant when trying to set up future strategies.

We can distinguish two scenarios: world-wide and local. On the one hand, the phenomena which we are constrained to take part in because the planetary trend exceeds the single state, bearing its logic, nuances and characteristics. On the other hand, the places where these large currents are managed locally with more or less difficulty and success, sometimes transforming reality in a clear and measurable way. It is the world-wide scenario which is often used as an excuse to justify resignation or awkwardness. It is the local level - of course fed by the first - that we will develop.

The diversity which we so often evoke in this project, is found on political, social, and economic levels. The process of transformation in traditional architecture – following similar patterns throughout the area - is managed in various ways and has seldom been commented upon until now. This project – together with others which have been launched in recent years - should contribute to opening up discussions. Therefore the initial situation, the ways, means, approaches, and even results can be quite different from one area or country to another. In this instance, cultural diversities and economic variations are quite revealing. Consequently, we must discard a global analysis and comprehension which would be exclusively based on the more monochrome North Western model. This possible similarity in processes leads us to presenting them as sets of themes, adding characteristics gradually as we go along.

THREE LEVELS OF TRANSFORMATION

We can say processes of transformation affect traditional architecture on three levels. Of course, this schematical and theoretical dividing is much more relative on the spot, and sometimes hard to decipher along the winding roads of changes in meaning and orientation. These transformations often affect the three levels simultaneously, in a domino collapse effect. Traditional architecture must therefore not be separated into subjectively preferred items, but be considered within its global context.

The area/space

The area/space is the unit (the actual construction) constituted by a farming or city environment, with different populations and activities. Society and landscape. We will partially comment on this level, as it is geographical, historical, economic, and exceeds the field of our project. Additionally it has been thoroughly studied many times over. The great transformations of the rural world mentioned earlier, destroyed the harmony that used to exist between and landscape, found in a farming and village environment. The role traditional architecture used to play lost a good part of its meaning: heritage fell into uncertainty.

*When transformation works are carried out to "set buildings to standards", without discernment, just to conform to law, they generate considerable damage. This leads to a lack of discernment, and endorses the most inappropriate practices*. 
The spatial organisation of villages, cities and districts.

The rate of urbanisation and construction, the power and abundance of automobiles have often affected villages, cities, and districts both in organisation and morphology. Historical districts were disfigured and scarred by the creation of a multitude of roads and openings, "airing out" (one dies of an overdose of oxygen!) traditional neighbourhoods, widening streets to car size, or closing them with a belt of choking new districts. The construction, the house.

Building. The house

The house, whether considered from a formal, practical point of view, or from the point of view of materials, techniques, and know how used for its construction, the house, a second or third skin of the population, as certain authors defined it, automatically integrates and represents all the changes of the people who inhabit it. The house reflects the skill or awkwardness of its management, its values, the rank or the dignity it was granted or refused by each society and at any given historical period. This expression and connection to an era make it easy to interpret cause and effect, pressure and reaction. This is where we concentrated our work. We will try to point out and interpret the transformations and processes in these fields.

TRANSFORMATION TYPES

Formal transformations

• Those that modify the volumetric profile

In the field of shapes, we find three major groups of transformation. Here we face one of the most dangerous and destructive transformations, which can not only result in significant damage to the construction but also to its environment. Generally speaking, these transformations, through the degradation they impose on the construction's environment, are an excuse for even further new neighbouring transformations. The change of the volumetric profile can evolve in two ways: an increase in volume, in height and projection (overhang), while respecting the same layout in terms of ground space, or else a form of "colonisation" which invades free areas, building in normally preserved parts of the house's harmony (court, garden, etc.). In both cases a considerable increase in urban density and population bring about the following problems: equipment, infrastructures, the quality of neighbour relations and more generally the quality of living. This change of the volumetric profile sometimes causes the disappearing of essential elements in the typology definition. A typical example is substituting a sloped tile roofing for a flat roofing with a terrace. Very often, structural problems appear: increased loads or modified load bearing points accelerate the degradation of the construction. Of course, from a formal point of view, a very serious disfigurement of the typology and site is currently ongoing, most of the time in an irreversible way. Correcting this trend is unfortunately too costly and heavy to assume. On a practical level, non-existent or lacking administrative control but also inadequate legislative frame, migratory pressure or real-estate speculation, permit these transformations. Another cause is also the dissolving of traditional social relations, which had great influence on private individual choices; this frame has never been replaced. A cultural abandonment of traditional typologies and practices also feeds these transformations. This deterioration of the original volume can take on different shapes in different areas: in the Moslem médina it can grow in height, over streets, sometimes even grow into basements; in Turkish houses, increasing a volume will absorb the garden or semi-open spaces (exterior sofa). This can also be the case in village houses in the Western Mediterranean. This is a relatively uncommon transformation for the area taken globally, but is sometimes very frequent and concentrated in specific sites.
Those that modify the openings

This type of transformation significantly affects the aspect and the composition of the façades. It interrupts the original relation and balance between the empty and full spaces, disturbing the verticality, horizontality and hierarchy of the façade organisation. According to the degree of changes, this transformation can completely disfigure a typology. There are two basic reasons for these modifications: first, a contemporary aspiration for a good view and more light, and, second, a reorganisation of openings in accordance with a new interior distribution. Other reasons for these transformations include the desire to recover half-open areas and integrate them to inside areas in order to increase living space, improve thermal qualities, increase standards, and reach new fashionable comfort levels. Here again, we have a non-existent, inadequate or ineffective legislative frame, or, to say the least, a lack of pedagogy and ideal: all of these are highly responsible for this damage. It is quite clear that this type of modification transforms the character of certain typologies completely. An example is the open house with an inside court patio. In this case, the building has already been seriously modified by the roofing of the patio, which then loses its primary role: the house no longer has any opening on the inside, and one only finds new space for ventilation and light in façades. This type of modification is considered frequent throughout the Mediterranean area.

The so-called "adequacy" of these inside areas is sometimes the result of real estate speculation, voluntarily increasing density in certain districts. They are often encouraged by the arrival or displacement of a low income population which is re-lodged in "sub-apartments" resulting from the partitioning of an originally larger apartment. A certain incapacity of authorities to develop programs, or a lack of means to execute such projects, also contribute to worsening this situation.

We have often noticed that not only do the transformations not improve the quality of living in any of these areas but, on the contrary, they deteriorate them. Damage can also result from a lack of understanding of the original spaces, as well as from a lack of knowledge and know how in adapting these places to today's needs without disfigurement. All these transformations visible on the façade naturally result from deeper transformations brought to the inside areas.

Those that modify textures

These types of interventions, although apparently light, can radically modify the aspect of a construction, and generate pathologies which are serious and difficult to solve. We must evoke here the wide range of renderings using industrial mortar cement, but also a contemporary taste for bare walls in the name of a certain nobility of apparent stone facings, or sometimes the reduction and disappearing of maintenance for economical reasons. A range of alternatives complete these types of interventions: elimination of mouldings and profiles, flatness of the walls, removal of the ridge sheathing; or zinc works, laying of shutters, pallet of paint and colours. Once again, we must observe the same absent or inefficient legislation, the loss of traditional tricks of the trade, a lack of regulations, an invasion of new industrial products, a loss of know-how, a desire to be fashionable and "modern". (15) A wide range of pathologies is inevitably the consequence with these types of practices, due to the incompatibility of traditional and new materials. This is a common transformation in our view, even generalised throughout the Mediterranean area.

Other ailments

In the "unclassified" ailments we must not omit the last formal transformation, the most serious: destruction and ruin. The shape disappears to nothing, a well known reality in the area. This vanishing is triggered by four main causes:

- Military Conflicts + natural disasters: wars have unfortunately been eternally present in Mediterranean history. The recent conflicts in the Middle East and the Balkans were devastating for traditional architecture in the area. We can also add to these aggressions another dramatic reality
along the same destructive line: natural disasters (floods, earthquakes, volcanic eruptions) which have
ruined innumerable traditional constructions since Antiquity, and sporadically continue to do so.

- Colonisation and occupation: they have affected traditional architecture in certain areas, and in
some instances still do. In these cases, the damage and effects were and continue to be varied.
Regarding occupation, the major negative effect is the lack of access to the heritage, generating
obvious consequences. Despite a more or less interesting heritage left behind by the coloniser,
colonisation usually sets new constructions taking no account of local structures or values. The
coloniser simply imposes his architecture on the area. In many regions, you can find notable traces of
this phenomenon.

- Political decisions: they affect construction in rural environments (motorways, railways,
industrial complexes, condominiums, dams) as much as they do in urban environments (large
openings in typical districts, demolitions due to wearing or to “give traditional quarters oxygen”,
restoration—here is a word!—modification of alignments, yielding to automobile traffic). In all these
cases, traditional architecture is not at the top of the list of priorities, but more often than not regarded
as second-hand or disposable material. Behind arguments in favour of progress and through legal
decrees, this silent process contributes to breaking apart and reducing the stock of traditional
constructions.

*Traditional architecture can contribute to mitigate the
devastating roller effect of today’s global and standardising trend,
and preserve both local specificity and diversity*

- Abandonment: Here is what one could call "a loss by destiny". When confronted to this
situation, resignation, indifference, or a slack attitude all prevail in the fields of decision-making and
power. For some, infirmity. Others still—real estate developers— make a significant profit from this
lack of mobility: they build and exploit caricatures of traditional architecture. Abandonment is
constant and unfortunately significant throughout the area, although in certain cases, it has been
partially reversed. To make matters worse, abandonment seriously damages the image of traditional
architecture, by making it look archaic, obsolete, and therefore pointless. Recent initiatives, like rural
tourism or a slow recovery of certain local farming activities, can give us the impression the process is
losing momentum, which is significant as it confirms a possible improvement of this situation.

**Functional transformations**

* On the level of wall partitioning

On a functional level we find two great families of intervention. The idea here is to alter the
distribution of the interior area, for a variety of reasons: creation of non-existing rooms (bathrooms,
toilets, kitchens), modification of existing areas (dividing a room or connecting room), multiplication
of homes (family breaking up into smaller cells, or in most cases, real estate speculation), complete
change of use (offices, stores), absorption of external areas or half-outsides (court yards, patios). The
repercussions of these types of modification are extremely variable depending on the intensity of the
intervention and the quality of the areas once they're changed. We understand this phenomenon in two
ways: meeting new family and social needs, and a speculative strategy; the partitioning or increasing
of an area and rental units in the same volume, always causing denser lodging and inevitably lowering
living standards, sometimes even eliminating the most elementary hygiene. This intensive and
abusive use of volumes accelerates the wear and tear of the construction, sometimes even causing
dangerous defects. This is always a threat to traditional architectural values and use, therefore
endangering survival. These interventions sometimes associate structural changes, which are
generally light, but there are exceptions. This type of modification is seen frequently throughout the
Mediterranean area as it is the simplest way to adapt the interior volume. It also has very few administrative consequences, as it is invisible from the outside.

These modifications, sometimes considerable, are often the result of legal and regulated concerns. There exists an encyclopaedia’s worth of regulations, drawn up for new buildings and packed with very strong language such as safety, fire hazard. Language which ignores the specificity and values of traditional architecture, applied with much effectiveness, we would say impertinence, as it contributes to the destruction of this fragile architectural stock, with the authorities’ blessing for "setting it all to safety standards".

• On a three-dimensional level

These are generally heavy interventions generating serious typological consequences, although a relatively good façadism can give us the impression that everything is all right – as they modify structural crossings as well as vertical accesses, and of course the whole system of partitions. Worst of all, organisation, relations, and hierarchy in traditional space distribution are disappearing. The traditional area is so transformed it is becoming unrecognisable. Several motivations can be divided into two main groups: the goal is to obtain a larger, more useable volume (often to increase real estate profits) with less cumbersome crossings (demolition of vaults, of floors with earth or lime mortar), either rearranging levels or replacing structural elements and vertical accesses regarded as decayed or unstable. These are ultimate and irreversible losses of very significant elements at the heart of a typology. The immediate consequence for traditional architecture is that vaults, cupolas, staircases, beams, pillars are doomed and disappear. Some structural problems are also associated with these interventions: they often include changes to the openings in façades when the difference in height from the original to the new level is significant. This type of modification is like the work of a termite. It is silent, never ending, and attacks the core of certain typologies. Buildings gradually become a caricature of the original construction: a macabre décor. This threat to the diversity of Mediterranean traditional architecture is a particular danger to the rarest models. This type of modification is common throughout the Mediterranean, for both groups of interventions.

On a functional level, we must add closing down and new use, following a change of activity related to agriculture, livestock raising, and the craft industry. Besides workshops, the space originally devoted to one of these activities is usually a ground floor with small openings: it is merged with the new living spaces, causing more or less damage to the original typology. The frequent use of ground floors for garages implies a heavy modification in the façade, and this, maybe the most common modification, is found from one end of the Mediterranean to the other.

Obviously, we most frequently find these different types of transformations combined in reality. We separated them to ease analysis and interpretation. The results are generally heavy and quite diverse. An approach for restoration will therefore include just as many nuances and characteristics in foreseen solutions.

MATERIALS AND KNOW HOW, TWO WORLDS SHAKEN BY MODERNITY.

Regarding materials, techniques, and know-how, we shall try to specify those which are still in use, common and transmitted, as well as the most widespread new materials and techniques.

Two important points must be made on this level: the change in labour costs, and new trends on the market of building materials. In traditional construction, labour and time were non-constraining parameters. Nowadays, on the other hand, they have become very relevant elements. In the past, all the work was done manually. This was a limiting constraint, but materials persisted for several centuries, and any intervention remained in harmony with the environment as a whole. Today, the preference for new, ready-made materials and products is clear, for both simplicity of use and easy distribution. If modern components are more expensive, they are, on the other hand, considerably
cheaper in terms of labour costs: they save on construction time as they tend to require less know how and skill. Beyond a comparative cost analysis, which would surely shake off our set ideas on cost efficiency with surprising results, we find the forceful, ever growing image of a modern Western model which is the unconditional – though maybe questionable - winner. Distribution networks and markets did not only leap forward concerning materials, but they also leap forward with regard to craft experience (stokes, tricks, gestures), models, and homogenisation. This implies the eradication of an expressive diversity, making the Mediterranean landscape look banal and standardised, with two obvious effects on the environment:

Loss of skill. Easy, ready to use materials require no proficiency. As long as one remains on a single house level, the added value of an expert is no longer essential.

The temporary yet permanent. Indeed, if easy-to-use materials are enough to build the carcass of heavy works, finishing the works is an entirely different story. This often creates an image of unfinished buildings, resulting in a strange miserable landscape which strongly evokes a shantytown or poor slum area.

Many abandoned villages and houses disseminated throughout the area display the ailments in housing, and clearly testify for the poverty of projects and resources dedicated to traditional architecture

Today, the self-builder lacks the general-purpose technicality for his traditional environment and he is a banal layer of improved components, far from the know-how of an expert, who is able to realise the delicate work starting with rough materials.

These technical pressures transform practices and the stock of traditional constructions. Additional pressure comes from two very powerful social stereotypes: the idea of the outdated versus the modern. Two myths everyone seems to embrace. In this context, at least in a first instance, it is logical to see the progressive abandonment of traditional materials and techniques. It is a global trend, slightly contradicted, here or there, by a few surviving exceptions.

The previously evoked trilogy: local materials + corresponding technique + adapted know-how, used to be linked to a shortage based economy. Construction meant finding and provisioning for the least expensive possible elements, which generally implied using nearby rough material requiring either a transformation process or production before implementation. The indispensable expert in this process was also often the builder, sometimes assisted by the future owner himself. In this approach, the preparer/builder represented a considerable additional value associated with the act of construction.

The situation today is entirely different. An abrupt halt and discontinuity took place in traditional architecture and workmanship; the trade is slowly vanishing. We can find a coexistence of the two situations here and there in the area: on the one hand, the survival of traditional materials, techniques, and know-how which continue to be extracted, manufactured and implemented according to the same rules, with the same actions, therefore without discontinuity; and on the other hand, a resumed use of traditional materials and techniques reintroduced on the construction market, with a more or less industrialised production and more scientific and analytical application.

These two examples are marginal situations in terms of presence and regarding the actual total volume of materials used. Both are going in opposite directions: we must understand the first situation as a surviving but slowly dying process, the second as a certain rebirth, a renaissance in disguise, not always recognisable, which seems to be on the road to success. In spite of certain successful stages, the most highly symbolic being the re-integration of lime or the moderate reactivation of certain craft industries, progress and techniques are still fragile and looking for their landmarks.
These two situations are rather clearly distributed in the Mediterranean area. One finds the first in the less developed countries and the second in countries with more significant industrialisation levels. In the first, it is especially poor means of communication or distribution networks which allow for traditional materials and techniques to survive. As for the second, a certain reintroduction is based on a questioning and criticism of a certain form of development, together with a prospect for new markets.

Most of the time, materials of traditional architecture such as stone, earth, and wood, used as basic materials, have been substituted by new industrial materials, CPJ cement, brick/breeze blocks, aluminium, and PVC everywhere in the Mediterranean. From this point of view, there is no difference from one end of the Mediterranean to the other. The same materials are found everywhere, developing the same homogeneity in mistakes and banality. There are subtle differences and nuances: the more industrialised areas have a great passion for interpreted traditional architecture, whereas a greater eagerness for modernity prevails in the less industrialised areas. The main phenomenon remains the colonisation of traditional construction by new industrialised materials. Most typical of this phenomenon, we find CPJ cement and its derivatives, concrete coming in first place.

FIVE GREAT PRESSURING FACTORS, BUT SMALL REACTIONS

We have now seen the various levels in which modification occurs, and we will study these processes from another angle: the factors that lead and favour their use, in a wide sense, mainly practical and operational, observing facts bluntly and without beating around the bush. We can distinguish five pressuring factors, each containing a great quantity of items.

Structural factors

Considered here as those factors belonging to the global economy, markets, communication, the media, and social changes. We already mentioned the importance of social change on traditional construction and environment. We will concentrate here on the issues resulting from new markets, new systems of distribution and the effects of the emergence of new materials. We will also look at the capacity of traditional architecture to adapt to this new situation.

The impoverishment of an expressive diversity, the loss of genuine local traits and standardisation of Mediterranean landscapes are major consequences of traditional architecture abandonment

Shorter distances due to improved means of transport, powerful manufacturing, and distribution networks completely changed one of the fundamental parameters of traditional procedures: what was local has become de-localised. Thus, the practice of using local resources and nearby materials has become almost pointless. Everything can be made anywhere with any material. The local aspect is no longer essential, maybe not even important.

In addition, the powerful and generalised penetration of concrete and its prefabricated shapes on the market, has eliminated traditional materials and techniques. This phenomenon, with a certain time lag, took place both in the North and the South. In the total mass of construction, both traditional materials and techniques in use today are considered as absolutely minor. However, in certain areas, some traditional materials are still significant, and certain traditional techniques are widely used. As for know-how, it is a heritage many craftsmen in the Mediterranean still have. It is not apparent because it was either recycled by the new system, or rejected because it was considered out-dated or old fashioned. A knowledge exists, but it is no longer in practice, and we must note that it is only very seldom transmitted. If it is true that certain training centres and schools of building arts can be found
in almost all countries, it unfortunately does not imply a real presence on the spot; we will develop this point in the following chapter. Besides, we cannot expect traditional materials and techniques to be used spontaneously, facing the very powerful competition of new materials.

*Traditional Mediterranean architecture is an under-exploited potential*

We can ask ourselves whether this heritage of traditional architecture has what it takes to adapt to a real market, with today's social and family requirements, safety regulations and standards, not to mention the convenience and comfort sought. Generally speaking and given the significant variations according to typologies, the results we found reveal a strong capacity for traditional construction to be integrated into the real estate market and the socio-economic networks under normal conditions, without "heritage patronage". This capacity is also to meet the requirements of modern life, household comfort or public equipment. Moreover, after the inquiries and studies we carried out, we are convinced that traditional architecture is an under-exploited Mediterranean potential, or sometimes exploited in a perverted way.

Finally, we must not forget the substantial changes that occurred between the population and its environment under both legal and legislative pressures. This in combination with an ever growing population and shrinking space has melted away secular relations. Accessing supplies such as wood, stone, earth, and processing these materials have little in common with traditional means: today’s rule seems to be that this tradition is inaccessible. It is nowadays difficult to even carry out projects where the works would be considered as too tough and tedious. So constructions are only carried out when the industrial process proposed allies ease, safety, and profitability. This is true for the production and distribution of materials as well as actual building. Finally, self-building is burdened by heavy regulations and constraints imposed by authorities and construction corporations.

**Administrative factors**

They concern the legislative aspects of the subject as well as procedures, actors, but also awareness on the topic, both official and popular.

Here again, we find the same great differences between the two Mediterranean banks. This difference is especially obvious in the level of interest of local populations, the number of programs, amount of promotion, and how accessible they are, regularity of mortgage and loan paying, and finally technical or administrative support. Many aspects generate substantial differences. On the Eastern and Southern banks, there are problems of transparency and flexibility in the way help is accessible and attributed or not, together with excessive procedure slowness and complexity. These procedures are sometimes arbitrary, and always suffer from a constraining centralisation which hampers the autonomy that would be necessary for a broader dynamic of energies and local synergies.

As for the legislative frames — a highly important issue — they are slowly and gradually converging, though this point must be taken with all necessary caution, especially concerning procedures. The new legislation in south-eastern bank countries is often inspired by the legislation in the north. Great differences still remain: implementing the law, respecting the law and the means and rigour in its application. And we are aware of how much a good lawful apparatus is essential for proper law enforcement: if we do not go beyond a mere legislative rhetoric or a virtual world, it just stands as a set of good intentions. We also know the importance of providing adequate means guaranteeing effective application. On these points, the gap between North and South is flagrant.

There is a certain drift in the idea of traditional architectural heritage, it is too often associated with a monument, which creates a reflex of classification, a registration on a historic preservation list. Worse yet, this registration ends up becoming the only effect, the final goal in following the law. The objective, what is considered as a success, is to classify, to save: but no corollary can be found, far
from it. Classification is often confused with inventory, and perceived as the ultimate achievement when it is actually just the beginning of a tough and complex process. At this point in time, classifying takes all its forceful figurative meaning: putting away; arrange and forget. Because there is no systematic intervention, promotion, or restoration following the classification of a monument. This protection too often appears as a poor and misleading indicator of the vitality, health and management of traditional construction stocks. Moreover, a criterion of classification which is only interested in a single architectural object is no guarantee against collateral damage.

Classification only concerns a few units (buildings or sites), while the great majority of traditional architecture remains unprotected. This is reinforced by a lack of nuance and levels in preservation, leading to a standardised, homogeneous attribution of protection and related means, thereby excluding significant sectors of traditional architecture. Preserved units are seldom subject to any real major attention, and this is accentuated on the South-eastern bank. Notorious discrepancies can be found in the legislation of the north and the south as regards defining interventions with written authorisation, and presenting projects before undertaking works for a traditional construction. The results of the survey we carried out on "civil discipline", to see how people follow regulations and laws for building permits and authorisations were not very encouraging: throughout the Mediterranean area, almost two thirds of all interventions requiring an authorisation had none. This rate is three quarters for scattered housing and more than one third for urban housing. Obviously, the existing legislation, little sensitive toward traditional architecture, took very little account of its necessary preservation. This type of legislation encourages an absence of architects; it is too easy going for interventions, quality, and materials used.

More often than not, there is little difference between a "registration" and a mere "storage" of heritage

Another significant actor in intervention is the conceiver, the architect: His presence should theoretically guarantee reliability. However, many questions linger on this obscure issue. The legislation on the role of architects in traditional construction is varied and ambiguous, with great differences according to countries. Other technicians, with quite various training backgrounds, can often intervene and replace an architect. Considering the low rate of civil discipline, the owner or the mason are often the only designers. We estimated architects are present in less than 50% of the cases requiring authorisation throughout the Mediterranean area, which means that an architect is present in only one third of all the interventions carried out. And this does not account for lenient signatures or lack of follow-up on building sites, which is sometimes the case, and can be significant in certain instances.

Economic factors

They are considered here on national, local, and individual scales. That is to say on the three levels most directly concerning the problem (although we wish the regional scale to become increasingly important in a near future).

In the Mediterranean, we find municipalities, provinces, areas, states, with very significant variations in budget resources, which induce great variations in the means to undertake and carry out programs of preservation / restoration. Governments often have to face other priorities. However, the poorest states must face the same acceleration – if not greater - of today's degradation. Significant damage is inevitable, unless we consider acting at a regional level in the short run. Moreover, efforts are concentrated on operations concerning monuments. Countries with major historical monument sites such as Greece and Egypt, for example, are compelled to concentrate their efforts and budgets in this sector. Whereas traditional architecture, if it is not in the frame of protected sites, does not attract the attention of political power much, if even at all. The situation is structurally better for the countries of the Latin area, which benefit from a more comfortable economic situation, and have a longer history
of actions and programs, experience, as well as a greater population awareness. If this situation is
certainly better, it is just as true that a deeper evolution has uncovered new problems and that many
remain to be solved. Political and administrative systems are more decentralised than those on the
South-eastern bank: it is possible to monitor, follow, and manage programs more effectively locally.
It is much more difficult to deal with the same detail, accuracy and flexibility from a distant,
sometimes non-Mediterranean capital.

Beyond myth and prejudice, traditional architecture can provide
fully satisfactory comfort

The shortage of money is not only true for administrations, but especially affects populations lodging
in the most degraded districts or traditional buildings. On the South-eastern bank, official funds are
scarce and seldom managed clearly: the capacity to invest for the improvement of a building is
therefore very low.

The lack of economic resources was reported as the second most significant handicap -after the desire
to move towards new housing- slowing down the restoration process and investment in traditional
housing. Besides the lack of resources of the user, the lack of assistance in restoration is often
reported. Here again, great differences are found between North-western and South-eastern banks, as
regards rates, means, and accessibility to funds. On the two banks, we noticed that the economic
parameter is at the very base of many reflexes that condition intervention for traditional architecture.
It is here that traditional materials and traditional techniques are heavily penalised. Indeed, as labour
represents a great part of today’s costs, all the techniques considered as slow are automatically rejected
(rendering with lime, laying stones in mortar etc.). There is also a temptation towards simplifying the
models that adds to disfigurement (joinery, mouldings and profiles, ridge sheetings, zinc works etc.).
Industrial products are becoming increasingly competitive and override crafted products. The
promotion of energy saving, on the northern bank, has favoured the spreading of all kinds of PVC and
aluminium joineries or heat insulation, for a few years now. The roofing, a most essential element,
follows the same fate with a switching to plates, out of metal asbestos cement or metal sheets, in
substitution to tiles or plant roofing.

The cost of a rehabilitation project and the administrative taxes are reported as half as hampering as
those mentioned so far.

Factors of comfort

In a very broad sense, comfort also includes ideas of adaptation, relevance, convenience, and status. We
face a touchy issue, subjective and complex by the number of qualitative and cultural parameters
linked to its evaluation.

The idea of comfort (16) is to be understood on two levels: that of production, distribution and
implementation of materials - we evoked this aspect earlier – and the use of urbanised areas and
traditional buildings.

On a first level, the word comfort is used partly with its figurative meaning, which does not betray its
root definition: indeed, we now refuse certain working conditions (material extraction, production,
realisation…) which imply physical strain, risk, excessive slowness, and that do not guarantee
minimum homogeneity in materials and realisation. We demand comfort and regularity. We can no
longer ignore these requirements, even if this means calling upon heavy, local structures or more
elaborate craftsmanship. Therefore, the training programmes and projects that enhance know hows or
reintroduce traditional materials will have to take these fundamental aspects into account.
As for the level of comfort corresponding to urbanised and built areas, we must bring significant nuance. We dare speak here of direct discomfort and indirect discomfort. The first situation of discomfort derives directly from the essential morphological constraints of a construction: smallness, failing hygiene, heavy upkeep and maintenance. I.e. we would have to deal with significant constraints to adapt the spatial and functional characteristics. There again we should be attentive, because a good analysis and thorough, a well undertaken study and generous economic resources can bring solutions that seemed unimaginable at first.

The second situation of discomfort is on the other extreme. It refers to buildings which are presumably satisfactory as far as current socio-space needs are concerned, but whose large size is a problemtol finance restoration, upkeep and maintenance, in particular the cost of heating. This could be a Lebanese house in Israel for example, or a sofa court house in Turkey, or a farmhouse in Provence. Sometimes, given the size of the construction, its value – once rehabilitated – in relation to the price and size of land it is built on, especially in urban environment, can suddenly soar, making it difficult to master such real estate pressures, if programmes or laws do not accompany restoration.

In the idea of discomfort it would also be necessary to take into account connecting infrastructures, which are determining factors nowadays. Whether for accesses, communications, public and collective service equipment, or access to personal, social, and economic development networks: these living standards must be taken into account in parallel with heritage preservation. A lack or limitation of these parameters hampers the development of the population, thus leading to a rejection of this architecture and its environment. In addition to all these situations, we find the pressuring factor of stereotypes on what is perceived as modern, out-dated, and social standards in terms of comfort. This is true everywhere in the area.

*For a great number of populations, the media image of modernity and its models overshadows the values and qualities of traditional architecture*

However, the analysis of traditional Mediterranean architecture shows that a significant amount of its stock offers good cultural and comfort conditions and capacities, from the start. The negative image that nonetheless prevails is often due to poor information and pedagogy, and the persistence of awkward rehabilitation approaches.

Nowadays, the idea of comfort is a number one priority, a requirement for inhabitants, and should consequently be managed attentively, to successfully revive traditional Mediterranean architecture.

**Psychological factors**

They concern attitude, perception, scale of values of the users (an accurate word, though cold, to designate the people actually living in traditional Mediterranean houses), decision makers (politicians, developers), contractors and professionals (architects, various technicians). We can group factors in two groups: those which refer to the environment, the architectural space, the materials and techniques used, and those related to the dominant social models and stereotypes.

These models and stereotypes appear most regularly with users in similar ways, throughout the whole area. In the North-western area (France, Spain, and to a lesser extent, Portugal) awareness, reconsideration and changes have developed forcefully over the past few years. On the South-eastern bank this is not very significant. On this bank, cities remain the most spectacular areas of “concentrated modernity” for rural and suburban populations. We find a very basic aspiration to becoming "urban". The desire to change from traditional construction to modern construction is dominant. Not only for houses in precarious conditions, but also for rather comfortable houses, or houses that could become comfortable with a little work. Thus, this aspiration is not connected only to physical constraints of housing, but also to psychological pressure. The traditional inhabited area is
perceived as a heavy burden of the past, obsolete, antique, while modern housing symbolises a leap towards a certain freedom, a certain emulation: it is "the" model that mass media crystallises as an almighty reference. The same flaw affects materials. "Traditional" rings with a negative connotation, associated to out-dated, poor and void, while new materials represent progress, wealth, status, performance. The same applies to techniques. Traditional masons, recycled in the use of new materials and techniques sometimes refuse to apply traditional techniques, because they feel a certain shame or ridiculousness in using them. Nonetheless, psychological factors, such as the attachment to family heritage and home, to symbolic shapes, materials or environments, make populations preserve and invest in traditional houses: unfortunately, this group is little significant.

Tourism acts as an opportunity to revitalise this architecture, although its considerable side effects are not always under control.

Along the same lines, certain urban environments, districts or sites acquire such symbolic force, that it triggers political decisions and actions, guaranteeing a certain protection for their traditional heritage.

We have emphasised that traditional architecture building sites seldom benefit from architects and even less often from specialised architects. It is often the contractor/mason who takes a substantial part in advising and decision-making for rehabilitation works. They are generally enthusiastic for "novelty" and "technical modernity", they are suspicious of the performances of traditional techniques and prefer "rebuilding" rather than "correcting". A small and non-aggressive intervention will often be misunderstood and poorly assessed by the owner, and even the builder, who prefer a heavy intervention considering it as the only real change: a slight change would disappoint. Pedagogy is a more than welcome element to be developed. The lack of pedagogy brings about statements as: "concrete is more resistant than wood" and "it is better to demolish and start from scratch". Failed operations, ignorance and an incompatibility of materials generate poor results, conveying a certain number of negative stereotypes and reflexes. This situation is stronger in rural environments. On the South East bank we can see a slight persistence in certain traditional materials and techniques, whereas in the Northwest, they have practically disappeared; only today do we see a small re-introduction in certain fields. We find masons and builders who, as certain users, are attached to the symbolism of certain materials. For example in the use of round tile, and lime... The psychological factor remains a most powerful one.

Most cases are usually a combination of one or more pressuring factors we have analysed so far. This combination of pressures can vary in proportion according to region and culture: each has its own priorities and values, generating distinct reactions and answers.

SITE ARE IDEAL OBSERVATORIES AND IRREPLACEABLE LABORATORIES

As for the sites chosen for our project, they are marked by two large pressure groups: those gradually disfiguring built elements with all the alternatives of the processes of transformations we presented, or those generating serious upheavals in town planning, the whole construction itself and its relation to built and natural environments. These would be the consequence of all the great structural pressures and transformations presented at the beginning of this chapter.

It is through the sites that one really perceives the differences in interpretation of architectural heritage, the importance or ignorance granted to traditional architecture and the difficulties of its management in the various areas, because of the particular circumstances and problems of each spot. Sites are complex and integral subjects in themselves, and therefore better laboratories than a simple and isolated construction. It is here we assess the success or failure of: a municipal or national program or project, the evolution process, as well as the validity of the ideology behind these efforts. Many large vectors are present on the sites: political decisions, legal and administrative frames, public
resources, private interest, collective expectations etc. Many significant nuances can be found on the accompanying CD-ROM, developed in detail and local specificity.

However, a phenomenon is passing on a superficial homogenisation of gestures: tourism. Indeed this flow of visitors in the search of local colour awakens the rediscovery of the great potential of traditional architecture and its sites. Thus, the recovery of buildings and sites as an asset to tourism, as a capital made profitable, takes on a similar aspect. Differences mainly appear in: the depth of operations, the proficiency, the participation or adhesion, and the investments related to a project.

Admittedly, if tourism acts as a great "reviver" for traditional architecture, it is also true that it can become a terrible predator, when poorly oriented, and when there are no solid heritage protection structures. These undesirable effects are present everywhere in the Mediterranean. No area or culture is safe from this risk. Certain impostures and uncanny cases are cropped onto the natural vitality of some sites, favouring caricature and folklore, and contributing to further confusion and anecdote – sometimes to the extent of a certain loss of culture - in the knowledge and perception of traditional Mediterranean architecture.

The sites which become simple products for intensive tourist consumption, where all the other activities are sacrificed and given up. They often suffer from a certain social loss of energy, an exaggerated erosion, and sometimes become little more than a seasonally animated decor.

In addition, a significant number of abandoned sites, thousands, still exist, drifting towards ruin. Just as many sites are continuously depopulated and tend towards abandonment.

Beyond material transformations, it is in the sites that we can also find the questions and concerns of a population, of political representatives, and project designers who are generally architects.

We learn very little from preceding failures which took place on other Mediterranean coasts. We therefore often find the same errors repeated here and there, obviously resulting from insufficient communication, information and experience sharing. On the other hand, obstinacy in copying imported solutions, without adapting to local realities, always lead to poor results. There is a certain impotence among local authorities or architects. A lack of anticipation obliges a management of very heavy and difficult situations, in already advanced states of degradation. Lack of promptness in information and training causes impertinent or just wrong decisions and actions. All these problems result in too many unsatisfactory operations, sometimes just total failures. This causes discouragement, a drop in public investment and especially and more dangerously so, feeds myths and prejudice on the incapacity of traditional architecture to be reinstated in today’s world.

In countries with a longer tradition in protection of heritage in general, and of traditional architecture in particular, these errors are proportionately less frequent. Negative results are corrected and minimised, thanks to significant cumulated experience, more active and specific training, an adequate legislative frame and increased awareness, both political and social. In the other countries, the speed and extent of actions and needs render any anticipation of problems difficult, especially in the preparation of policies and attribution of roles. Limited resources are another major drawback, especially in South and Eastern bank countries.

*Traditional architecture has the right to adapt to changing realities. However, we could never accept a perverted and improper use of this right: this would cause its doom*

We must insist on the importance of the restoration sector activity everywhere in the Mediterranean, and the clear tendency towards growth. A growing market of restoration does not always imply a proportional increase in effectiveness, in particular when dealing with traditional architecture (and
this is too often the case). However, development in this sector creates opportunities for traditional architecture. Heritage awareness is growing: this is increasingly perceptible, at different degrees according to areas, and is still too weak in certain countries. A considerable number of successful achievements are unequally distributed throughout the area. Programs are set up with more or less intensity. A strong need for communication is felt, as well as the need for a development of a solid partnership that is making its way, and will have to be reinforced and extended. This is maybe the great future objective and the great hope to enroot the rights and values of Mediterranean traditional architecture, and fully benefit from all efforts and knowledge. Another positive aspect is flowing through the area: successful operations are speeding up enthusiasm and adhesion of the population, political deciders and people of the art. These operations have become most convincing examples, blending all materials with a considerable pedagogical force. This is a vector we must exploit in the future.

Today, however, protected sectors of traditional architecture, rehabilitated or reinstated, still represent a smaller volume than those lost or degrading. The termite-like destruction of traditional architecture is ongoing and critical. The reinforcement and multiplication of restoration programs such as these will help contribute to reverse this tendency.

This chapter observes and analyses transformations of Mediterranean traditional architecture, showing that transformation and damage are clearly on a same level. This is not a twisted view: it is an objective approach that points out all the non desirable and negative aspects, the traumatic and brutal transformations on traditional architecture. This perspective is deliberate as it represents the most general and critical trend - therefore essential for us to spot, emphasise, identify, in order to correct and stop the damage. This view is neither exclusive nor monochromatic: in this corpus, we have described how transformation pairs with construction from the very first day and through the centuries. Transformation, when appropriately used in terms of intensity, frequency and appropriateness, stands as a powerful sign of vitality. A construction has the right to adapt to changing and new realities.
Notes:

(1) La Production de l'Espace, H. Leviebe, Anthropos, 1981.


(3) The renewal rate of generations is generally estimated at 2,1 children per woman who can procreate. On the northern bank, lower rates are recorded (Italy, 1.37 or Greece, 1.59 in 2000).

(4) These changes in the composition of the population were not without consequences on traditional know how, or its transmission: “...the elder used to represent great prestige; they were highly considered, with good reason, as bearers of knowledge, experience, and wisdom, whose transmission could only be oral and direct (...) the development and renewal of technology and philosophy were extremely slow processes.” Démographie sociale, Roland Preslat, PUF Le Sociologue, 2nd edition, 1978.

(5) Migration was a new phenomenon neither in the Mediterranean nor in traditional societies,”...social mobility was a constant characteristic in the traditional society...” The world we have lost, further explored, Peter Laslett, Alianza Universitad, 1987. Both demographic expansion and migration are two phenomena known since Antiquity: examples of migrations are plenty and continuous: Valley of the Nile, Carthage...

(6) "...A rural environment becomes technically over-populated (...) according to the type of crop, a family of two or three people, old enough to work, could exploit from 5 to 10 ha. Today, large mechanized farms manage from 250 to 300 ha with three men.” Géographie sociale du monde, Pierre George, PUF. This family-sized farm, described by P. George, coincides with what is found in Tunisia (area of Goubelat) where the range is between 3H and 12H, and is considered exceptional beyond 20H. This process of mechanization and "technicality" of agriculture is very obvious in other examples, as in Turkey (40,000 tractors in 1955, 672,000 in 1989, cit. in Environment and Development, A. and Y. Bécharchenhou, Edisud, 1998.).

(7) The "urban revolution" appeared very early in the Mediterranean area: as early as 4000 BC, such a phenomenon occurred in Mesopotamia and in the valley of the Nile. In those times, however, it was precisely the organization of the agricultural area and the rise of agriculture that triggered such changes.

(8) Worldwide estimate of the FAO over the 1980-2000 period: 1,4 billion ha

(9) Everywhere in the Mediterranean area it has become impossible to outline the limits of towns and cities. Urban and agricultural landscapes and infrastructures make up a complex conglomerate. A few examples evoke conglomérates which several authors described as “Mediterranean-urban environments” or as “Mediterranean metropolis,” either extending from large cities (metropolis of Istanbul or Caro) or from very inhabited areas (French Riviera or Spanish littoral). There is a heavy price to pay: a 1997 report from PAM lists 109 "critical sites" having negative environmental effects on public health, quality of drinking water, leisure, and aquatic life etc.

(10) If water and other major issues are ignored in deciding localisation, water is becoming an increasingly scarce and critical resource, for the development of populations, agriculture and economy. South-eastern and North-western differences are significant (renewable water resources, km3/year: North 860, East 213, South 106) Mediterranean Institute for Water, 1995.


(12) “In certain portions of the littoral, an intense, concentrated frequenting and land speculation make it difficult to manage and arbitrate the problems between the various activities on the Mediterranean littoral.” Les Espaces littoraux dans le monde, L. Marrou, I. Saccau, Doc. Géophys, 1999.

(13) This inland penetration means more pressure on the landscape and an acceleration of urbanisation: it highlights the strong saturation of the littoral, and has a significant impact on traditional architecture, probably in all fields. Now is the time to anticipate: Corsica is an alarming signal of this trend: from 1973 to 1983 urbanisation increased by 17.6% on 0 to 1 km band, by 18.6% on 3-5 km and by a considerable 40.2% on 1-3 km. Ministère de l’Environnement. Cit. in Atlas ambientel de la Mediterrânia. Op. cit.


(15) "...“modernisation” is an ambiguous term and does not mean progress or better living standards, but only the emergence of new conditions...” Les Pays sous-dévelopés, Yves Lacoste, PUF, 7th edition, 1984. The positive and negative effects of these new conditions are by no means certain: they depend on how they are managed or integrated. This is clear in several areas: people give up good houses in a much more comfortable environment, for shabby new cubicles.

(16) In the Western world, the idea of comfort surely arises from domesticity and intimacy, asserted in Bourgeois times: "Ah! There’s nothing more comfortable than home!". Emma Jane Austen, 1775-1816. This "finding" is certainly older in the East Mediterranean.
Chapter 5: THE FUTURE

I am no longer at an age of expectations, I need certainty

José Saramago

"I am no longer at an age of expectations, I need certainty." These lucid words are by the Mediterranean Nobel prize winner José Saramago, and express the great need and opportunity for traditional architecture.

Traditional architecture constitutes an immense stock of buildings throughout all Mediterranean countries, representing an invaluable testimony of the past centuries and ways of life. It represents a considerable part of our civilisation and bears our roots. If the traces of change are engraved in the very flesh of its walls, traditional architecture nonetheless still represents what a century of modernity couldn’t alter in our taste, our models and our roots. What is at stake today? Will the ongoing processes of transformation succeed in accommodating inhabitants, will they provide a good quality of life for people who justifiably need and expect it? If the solutions are material ones, the matter which we must reflect upon is of a more global essence.

Policies to recover historical centres have been implemented everywhere for as little as one third of a century. They have been developing in each country, but in order to prove useful, they must become more harmonious, integrated and well defined social projects. From a young growing practice, an underdeveloped market, restoration could and should reach a more professional level. It needs to embody all the requirements and expectations of a modern society: culture and identity, economic prospects, social needs, and a longer breathed objective to preserve our real-estate capital. As for large urban programmes, traditional architectural recovery can be a wonderful project, a substance for great policies, both from a cultural angle and for housing objectives.

A CONTRASTED SITUATION

Combined assets

Traditional architecture possesses advantages that are in agreement with today’s sensitivity and consciousness. Its patronial value need not be proven; heritage awareness has evolved from the highly exceptional monument to a broader cultural territory and its building fabric: heritage is a living centre of reflection on preservation and use. The growing number of preserved areas proves this ambition. Traditional heritage is a centre of preservation despite the modesty of these architectural types; it has become a new field with prospects of wiser future developments. Less technical and restorative than a mere physical preservation of a monument’s materials, this potential can evolve and invent new ways to interpret, adapt, create and develop a more flowing expression of traditional architecture. A place of free expression that enables updating the past as well as nourishing the present with history.

On a social level, there exists an extraordinary stock of already built residences, woven throughout the core of cities and villages, rich with the past, part of the urban heart and pace, and with already existing nearby services. Often decayed or even ruined, compressed or sometimes too dense, nonetheless suitable for regeneration, a more satisfactory choice than rejecting its populations to the outskirts of the city. Moreover, these central districts are strewn with buildings that are easily re-adapted for equipment and local service necessities.

A great market provider of labour, the re-conquering of traditional architecture encourages the development of local small and medium-sized undertakings. It reactivates dying sectors of traditional production, transformation, material, and delivery. It generates stable and flexible economic activity, well adapted and in touch with the private individual.
Placing populations well within the heart of the historical centre and greeting patrimonial tourism are two great aspirations for a traditional architecture rehabilitation project

Tourism, a powerful economic asset, will probably become, after housing, the best activator although its forces require more monitoring. Indeed tourism, a phenomenon identified for the first time in the 1811 Oxford Dictionary, became the world’s number one industry in less than one century (according to data from the World Organisation for Tourism). The Mediterranean being the number one tourist destination in the world. The Conference of the United Nations on Environment and Development (Rio 1992) where durable development was legitimated at an international level, included neither tourism nor traditional architecture as a central objective. However it is "local activity" that feeds tourist industry! Let us look at the alternatives of littoral tourism more closely (1) and consider the conquests of eco-tourism or rural lodging, which bear promising potential, although we are still faced with major hurdles. We pointed out the extent to which tourism is precious to traditional real estate and heritage, whether in urban environments or immersed in genuine country strokes.

Beyond job prospects, these construction transformations for new uses create new income possibilities for local populations, maintaining them locally and stopping the exodus.

We can re-use material sensibly and create wealth by giving value to already existing substance and casting a new light on culture and heritage. These are the many arguments that lead to a powerful integration of local development.

Traditional architecture should not be understood as a particular or marginal issue to be processed in an isolated way. It should, on the contrary, be a full and substantial part of a social and economic corpus. Traditional architecture should not be stigmatised: it should be re-integrated in a natural, dynamic daily context, generating a future where it can both give and receive. Traditional architecture is not a problem, it is an enormous opportunity. A solution that contributes to improving territorial balance thanks to a better distribution of the housing offer and living conditions. It is a solution, a great market potential for construction. It can re-use technical solutions, materials, labour, existing structures, and contribute to reducing effects of pattern and monotony. A fully satisfactory solution that re-uses existing elements and preserves the environment (2), a durable solution that saves significant energy, and avoids a foolish waste of valuable land and space.

Either functional or patrimonial real estate, traditional architecture wavers between two alternatives: transformation, which is utterly uncontrollable, and preservation, which calls for specific measures and subsidies

Fragility and doubts

The modern industry has multiplied technical means by ten. These new construction materials and techniques produce a brutal impression of upheaval. The slow processes of transformation of the past with its handcrafts cannot compete with the massive power of today’s construction industry. Today, everything is a question of size and speed; thus, intervention sometimes means mutilation. Even when intentions are well-disposed to improve, equip and adapt traditional architecture, they end up costly and result in deep alterations. Formerly, a more natural evolution was practised: the same materials and means were used for additional modifications as were used for the original building. This harmony is tumbled by modern methods: a building, a small grouping, or a whole district can become unrecognisable. In other words, if the intervention is not supervised by a technically valid plan (a sensible legal project, with a trained architect or a skilled expert) it loses all control, and disregards local and patrimonial contexts, and will no doubt drift away from the original construction. This is
one of today’s greatest paradoxes: maintenance or heavy restoration must resist construction reflexes and standard solutions if we want to preserve the harmony of older buildings and their specificity. It is necessary to introduce new tools to reach a form of harmony with a traditional environment. We must overcome this contextual aspect and develop this project with the appropriate plan, right training of the actors and adapted speed. Unless we do so, the force of transformation or the effects of abandonment will eradicate the fragile stock of buildings, because these buildings will be choked between two different eras. We are faced with both emergency and danger at the same time. However, if transformation projects were appropriately appraised and channelled, the current means could be redirected and applied positively to safeguard and revitalise this architecture.

There will never be a systematic and overall preservation policy of traditional architectural sites in the Mediterranean area. The basic problem is: what must we absolutely preserve, and what can we afford to lose. (3) We must determine what can only be kept in records, as a satisfactory documentary memory before vanishing. In parallel, we need to define what must be undertaken urgently: what works of protection, restoration, rehabilitation and re-use should we implement now. We probably need both expertise and local responsibility to make this decision. The "Vernacular Architectural Heritage Chart" by the ICOMOS (ratified in 1999) proposes a collective approach for the short term, (4) although it doesn’t clearly state the points concerning selection criteria, a point we find most central. There is also a second issue: who will be granted preservation programmes and funds? As the first role of traditional architecture is essentially housing, it will have to serve the populations it shelters, it will have to bring them towards an improvement of their living standards, without obtruding comfort. It must guarantee a transmission of architecture to future generations, and, at the same time, exploit all the capacities for progress and quality of living. Policies for the revitalisation of traditional architecture must take into account both advice and assistance. If the market is not sustained, and the sector is not properly organised, we will never be able to effectively penetrate the areas concerned. Today, traditional architecture is between two waters: when plain it risks disdain or doom, and when valuable enough it is protected under a patrimonial wing. (5) The third part is how we can enforce preservation. Traditional architecture is built using ancestral techniques, rooted in essential cultural values we cannot give up, neither in terms of preservation nor in terms of use. Transmitting know-how to young masons is thus essential; but on the same token we cannot turn our backs on the qualities of contemporary materials and techniques. (6) A balance between traditional and contemporary is at stake in the recovery of traditional architecture, with patrimonial respect and a true concern to improve the living standards of local populations.

When traditional architecture is protected, national legislation is applied. The countries of the Mediterranean Basin have laws or codes for the preservation of architecture, updated or only recently created in the past decade, incorporating current views on the issue, sometimes with significant differences in definition. In each country, the greater the regional autonomy, the more preservation legislation is viewed in a regional perspective: this is better for traditional architecture as the approach is generic and more inspired by local realities. In more centralised states, laws tend to describe and assess architecture on a national level, making help and opportunity less available on a local level. As for the spirit of the texts, some have a conservative colouring while others adopt a more revitalising attitude. Decentralisation encourages the second tendency, probably because it tends to be impregnated with reality and use and has to integrate social and economic issues in order to find answers. On a regional scale, the time frames and priorities are determined in extremely flexible ways. This variable policy extends to determining the architectural stock to be protected, taking inventory and deciding the various levels of protection. But the major problem is the tremendous difference between legislation and application. The lack of tools (legal, human and budget) makes it very difficult to apply law in certain countries.

Moreover, when governed on a national level, traditional architecture is at the crossroads of several authorities: culture, lodging attribution, urban planning, regional planning, agriculture, environmentalism... traditional architecture is torn into fractional aspects and consequently never constitutes a whole coherent project: the older real-estate is sometimes functional, patrimonial or
additional. The situation and management are handled with very heterogeneous criteria, inspired by contradictory policies: they comply with either one ministry or another.

These three soft spots: physical when aggressed, existential when between dead and born again, legal when divided among too many authorities, endanger, but by no means doom heritage. On the contrary, they provide opportunities for creativity, as we can see throughout the area.

A Group of initiatives

Many aspects found in our study are dealt with from day to day. However when initiatives are only undertaken locally, here and there, more or less successfully, they too often remain isolated and confined, lacking continuity. They remain limited to an administrative territory or a single site. Although these interventions are irregular and inconsistent, they are brilliant and prove the excellent vitality of preservation, widening interesting perspectives on procedures, strategies or implementation. We won’t take a comprehensive inventory here, but shall point out a few bench marks.

*Three decades of restoration policies and reflection are the basis to succeed in integrating traditional architecture in our modern society*

- Restoration policies

Restoration policies are solutions to the degradation of our heritage. They have enabled very effective organisation systems for 25 years: area management, mobilisation of economic resources, investigation teams, subsidising (7), management and monitoring. A true operational spirit was initiated to improve housing, revitalise central trade and craft industry, and enhance infrastructure related to modern life and urban development. For example, stone is generally only recommended according to means and income. These experiences have often been undertaken in the richest countries; the resulting know-how circulates among operators, architects, and specialists in various disciplines. Grouping this co-operation contributes to constituting an expertise of a new kind, beyond bilateral exchanges. We are sharing and exchanging ideas rather than models and evaluating others methods using a more creative approach: this tends towards blending the approaches of the two Mediterranean banks and broadening networks. Our CORPUS network is developing incentives to prospect new ways, new systems and is also reviving former strategies that have been set aside or lost over the past decades; we are going beyond the perceptible and modest aspect of our subject to rethink the Mediterranean, as far as traditional architecture is concerned.

- International action

Innumerable conferences assert the importance of Mediterranean heritage on a daily basis. Researchers and intellectuals collect examples that prove the miracles of certain community efforts on the one hand, or the damages of a changing world on the other. This great volume of exchanges produces a certain level of tolerance and a number of poetic impressions or feelings of proximity. But these exchanges also result in texts, recommendations, and charts, bold compromises that show the way towards possible future trends. The men working on location would certainly regard these texts as most inaccurate and non-operational. Their criticisms are hasty. Their low opinion of existing documentation results from a certain misunderstanding: the goal is not to solve problems but rather to reflect and try to relate elements to context rather than act by reflex, without taking enough time for doubt and analysis. The reference nearest to our subject is the vernacular heritage construction chart by the ICOMOS, mentioned above. Beyond universal general information, this text sums up its ideas in four fields, four angles, which we have also used as our keys: area, studying the statute of an individual object in an ensemble, time, considering an object from points of history, evolution and contemporary use, value, seeing the angles of interest and beauty, responsibility, which tries to determine how to deal with the durability of this heritage. This text and other perspectives, are
appreciable contributions because they represent a balanced approach rather than just a competition. Though not sole representatives of the Mediterranean, and though they don’t reveal all its complexity, these texts propose a form of wisdom – nobody will ever carry out a particular work along those lines (As, for example, a handbook applicable to this whole area shared amongst three continents). A call for co-responsibility rather than a recipe. A civil proposition for decision makers “to think globally but act locally”.

For the past seventy years, (8) large forums for a universal awareness have produced and refreshed a reflection on memory and preservation, trying to keep it tangible so as to remain meaningful. This point should always be stressed. But one day we shall have to insist on gaps and remaining questions: we will have to connect cultural goals with the means allocated to preservation. We need to make a critical analysis, on a regional level, to assess what is being carried out in order to concentrate on future strategy and feasibility. We must evolve from a political point of view to a more managerial perspective. As regards heritage, we speak of “regional”: this word best characterises a level of policy and awareness. However when we want to speak of action, “local” is most appropriate. On a local scale, construction uses an operational logic together with regional principles that integrate elements of: area, time, value, responsibility. These are the determining factors of traditional architecture we evoked earlier.

*Associating everyone to the future of their living environment*

*and a better understanding of their area, always blending memory and project will develop a new form of citizenship in the Mediterranean area*

• Studies and publications

Parallel to universal considerations, local, national and sometimes regional reflections have produced a great amount of written material. This material constitutes a foundation layer: hundreds of good works and thousands of articles grasp traditional architecture in a variety of ways. We find all kinds of publications to the glory of our land that stimulate preservation and make knowledge popular and accessible to all. We also find university research materials, published or used for pedagogical purposes: information booklets, local monographs, restoration guide books, territorial description corpuses or scientific editions. We must also point out the extensive inventory and catalogue work undertaken in bordering countries, (sometimes over a sufficiently long period to have invaluable records describing long vanished buildings: a knowledge which is not hampered by a physical disappearance). We find a systematic inventory for preserved heritage, but only a random inventory for all other constructions. Traditional architectural types are now spotted and described for all main areas even though the subject is granted more or less priority according to countries.

• Training

Heritage is subject to specific training, especially in the field of monumental preservation and area protection. In many bordering countries, schools and universities of architecture created specialised credentials on this subject (9). These initiatives are gradually expanding from major heritage to include traditional architecture; though the latter is more often than not disregarded as a minor subject, and has yet to gain full acknowledgement.

In the more informal but very active field of professional training, we now see a significant amount of professional education being set up for the actors on the market: experts, architects, technicians and decision makers. This training is definitely aimed at the restoration of traditional architecture. Although this is a good omen for the future, this approach is found sparingly and unequally in the area. When training exists, it accompanies options to aid and support professionals: training cycles
organised on the sites, inside business training, technical expertise on building sites, fast technical improvement or skill improvement...

These initiatives open up so many possibilities, they contribute to defining intervention on traditional architecture. These growing and abundant trends assert a global confidence in the area. We must now learn how to improve their structure and put them into practice: on a local level for action, and on a regional level for reflection, partnership and co-operation.

FUTURE BEARINGS

A reference frame

Our proposals are articulated around five points all converging towards preservation, rehabilitation and re-use of traditional architecture.

1. - Pull traditional architecture out of today’s isolation and confinement. It is too often banished from great decisions and doomed, considered as a marginal, minor issue. Draw traditional architecture out of oblivion.

2. - Combine regional and local scales in an operational and effective way. The same actors can access and interact on these two levels. Go from a level of reflection, dialogue, planning, exchanges, to a level of astute project application. Collect all results and group all connections concerning evaluation and initiatives, on a local level, so as to take them into account for future strategies and decision making. Get ideas and facts to go both ways and convey on both scales, to guarantee a highlighted diversity and specificity.

3. - Dispatch assets in the fields of skill and proficiency; be present and influential. Interventions mustn’t be confined. They must on the contrary propagate through training and have stimulant effects. Arise and develop other centres of interest (ethnology, history, corporate aspects and training…) on a horizontal and vertical level, with market regulators and decision-makers.

4. - Hamonise decision centres and balance their strengths. They are the three corners of the triangle: the user, the rule, the originator. Essential dynamic elements (commission, administration, market, corporation, training…) can influence the energies between the three corners of our triangle.

5. – Ensure good "feedback" from a regional network grouping all Mediterranean countries. A network based on common and interdependent objectives, aiming at joining work and experience. All actions and results would definitely converge towards the preservation and restoration of Mediterranean traditional architecture.

Three narrowly linked lines of action

It is impossible to preserve the values of traditional architecture without creating new conditions and a new concept of this stock of architecture. This should bring us to dedicating as much energy to ideas as for action. Changes must first take place in people’s minds and habits. For example, this can be understanding the relevance of preserving genuine urban material, by making it adaptable. Knowledge and understanding of this "heritage without identification papers" must be encouraged, in order to establish local experts, expertise and activities. It’s necessary to conceive and introduce new work methods, after coming up with a better diagnosis and setting up better communication between administrations. We also need to broaden job profiles and define how subsidies or support are dispatched.
• Raising awareness

Making traditional architecture alive implies developing an identity network. This network should reach out to all social categories and infiltrate all professional activities with a new traditional architectural message. An efficient network will spread this message to the general public, making traditional architecture a familiar subject. It will be integrated to a level where inhabitants and users will be its first and best partisans. This effort to develop sensitivity is beneficial because traditional buildings are a common social object, used and shared by an entire community. It has a practical value, representing an environment that speaks to all and that all can relate to; it isn’t especially elitist and doesn’t characterise the overly elaborate aspect of more monumental heritage: everyone can relate to this simple, common construction. It is a familiar place where all find their identity, flavour and distinct characteristics. At a time when trends tend to transform old constructions, we must join two simultaneous needs: preservation and improvement. Both must be accepted and understood, leading to appropriate architectural solutions and still be culturally satisfactory in terms of quality. We must convince the professional actors who intervene on a daily basis that they can carry out initiatives and be responsible for the quality of their work, and proclaim that old construction is compatible with contemporary use. This sensitivity can be particularly efficient if we produce better informational tools that clarify another angle of reality: living conditions, buildings, materials and construction trades. The idea here is not to train but to shed new light on the issue.

It is possible to increase public awareness by extending the use of processes and tools, and improving the networks: schools and universities, professional architectural organisations, corporations, trades, state departments, local authorities, and civil servants. By relying on the media: press, television, video, and local events and councils.

Public awareness can take on many different shapes and use individual or collective tools, for specific targets or for a wider public:

- booklets on trades, architectural shapes, rules applicable to an area and a type of construction,
- a combination of local or regional thematic events,
- regional television programmes on the subject,
- a support network of workshops on heritage, permanent expertise offices on location.

This list could be extended, and the right tools should be adapted to each target. The key point would be to join the various groups and promote projects together in a concerted plan; the same groups are dedicated to developing awareness and training.

1. Community personnel

This group is made up of people in charge of intervention regulation and also powerful public property developers. This group controls the general trend of the restoration market. It draws the zones where traditional construction is concentrated, and determines whether they become forsaken or museum-like neighbourhoods, urban emigration transit areas or "high society" districts.

Way beyond an academic level, training must be persistent and at hand for the actors and users of architectural heritage

2. Professionals and students in construction

We need to develop the restoration market to elevate it to a level of substantive trade within construction and architecture activity. This implies mobilising a large range of specialised know-how, experience (observation and diagnosis), projects, regulations, and quality control systems. In this scope, it is no longer relevant to oppose the new and the old: the two fields play a full part in the training and credentials of an architect.
3. Trades, craftsmen, corporations, and trainers
Professionals must be the first representatives and users of traditional construction techniques, while integrating and adopting modern construction technologies at the same time. They understand the qualities and drawbacks of traditional and contemporary techniques; they can, therefore, appreciate them on an objective level and use them wisely in the most befitting situations.

4. Users/inhabitants and young people
The social role of senior and young users must be substantiated so they can be the first to appreciate and claim the qualities of traditional architecture. This group acts first; they are a force. They can best support the necessary investment in traditional architecture through popular lobbying, enabling a community to be involved in preserving heritage and architectural shapes.

5. N.G.O. preservation societies and associations
These civil actors need to be brought into contact with each other, to broaden sources of information, develop networks, and share useful experiences in order to play their role successfully as ambassadors to traditional architecture.

• Training

Training must be a knowledge network for the five categories above. At least one "à la carte" training product should be created for each group of actors on the restoration market. Working at first with practicing professionals appears most relevant as it concentrates energy on action. This system could be flexible, added on and adapted to opportunities, not requiring prior negotiation with education authorities. The ideal solution would be to work with specialised and professional training networks. However today’s need for speed, seems to prefer continuous professional training, primarily because it is flexible, easy and mobile (progress can be made in short and in situ sessions for men of the trade). Moreover it is simple to set up, owing to the fact that an identifiable network (architect society, attached state department or ministry...) manages each group. Each network can call upon a spokesman, an advisor, a recruiter or an organiser.

Several levels are to be considered when setting up training tools for professionals or other networks:

- teaching engineering to contribute to the development of new training centre resources, or to adapt existing centres by adding new activities,
- creating general purpose modules, linked to experience and management in restoration, (products for decision makers, site operators, NGO, in charge of supervision and strategy).
- creating thematic modules related to the fields of project and know-how (products for architects and high-school teachers dealing with global questions of traditional construction).
- creating specialised modules, linked to know-how, materials and techniques (products for trades and trainers, to improve their workmanship in traditional techniques).
- setting up workshops on building sites with revolving trainers who partly co-operate in the works.

This is one system among many possibilities. In each field, the goal is to create a more open interaction between all the actors on a project. We can assume this will have an impact on working methods, influence the compliance of rules and regulations, modify specifications, improve projects, change supervising procedures and quality control, and make technical behaviours evolve. As concerns discipline, this propagation process is turned towards the training of all other professionals who have to deal with any traditional architectural issue: economists, sociologists, historians... who are involved in the pre-intervention phase. This also concerns administrative departments, patrimonial NGO, tourist operators who play a post-intervention part in the management and future of traditional architecture.
• Research

There are two ways of interpreting the word research: collecting information for something that already exists but is under-documented, or working on a fragmentary subject that needs improvement, production, creativity and speculation.

In the first case, a vast data base could suffice. This is the purpose of an organised network which shares its resources. Such a data bank could be a sort of directory (listing actors, products, processes and work forces) giving information about a corporate trade or sector, as well as on production and market trends. But it could also serve a global agenda: a forum for discussion.

This research could be general material or associated to a specific project or intervention. In the latter case, it would collaborate with a professional training counterpart, and it could work on modules dealing with the same fields and centres of interest. General research should join four sectors:

- production and marketing of materials, working on the improvement of manufacturing processes of traditional materials, on the improvement of quality, on the adaptation of new materials to older ones and on opening up the market. (Improve mud brick, prepare ready-to-use mortars with lime, develop the wooden beam repair systems, fight against moisture.)
- building trades and businesses dealing with: work site management, application of traditional and modern techniques on traditional architecture, quality control, materials, distribution networks. (Small hauling and lifting equipment, scaffolding systems, mortar injectors, data processing tools adapted to site management.)
- design, to work on protocols, calculation, tests, monitoring, and theorisation. (Methodology for diagnosis and project; decision tools; inspection tools; technical software; restoration manuals).
- regulations and supervision to focus on: the legislative corpus, decision maker tools and procedures. (Inter-departmental co-ordination, teaching and training systems, technical supervision, financial support and grants, and guides to renovation campaigns.)

For each of these sectors, research is an executive decision, involving processes of analysis and sampling tested in situ, with a trickle-down effect, making it possible to correct mistakes, to patent or model effective solutions.

We insist on the importance of a full partnership with Universities at this stage. Universities are generally independent: they have great means and significant experience, and can produce a substantial amount of work on programmes established with pupils and teachers. This is a most precious intellectual potential.

We have evoked three ways to penetrate groups and ideas. Intelligence is shared and diffused: various publics, various roles, specific know-how, diverse sensitivities, multiformal practices. In order to prevail, restoration must cumulate and combine them all. The nature of revitalisation is to maintain multiple aspects and involve many diverse skills, joining all forces in a project.

The area and its networks must develop rehabilitation for reasons of identity, economic opportunity, and a better management of its exceptional assets

Our three lines of action, public awareness and sensitivity, training, and research guarantee stability. The joint effectiveness of these actions and a good balance shall fortify the recovery process of traditional architecture. These actions will suffice to produce a direct effect for the preservation of this heritage. However, they should trigger the necessary impulse and incentive to constitute the basis, the heart of our restoration corpus, producing the tools necessary to achieve valuable and coherent restoration.
The rehabilitation & revitalisation of traditional architecture

Improve comfort and preserve heritage
The ancient city shall celebrate its rite of spring
Rebirth
The old heart pulses for the future
Keeping the old downtown alive
Modern technologies and ancient solutions
Programmed operations for the improvement of housing, to preserve the “genuine” city

These are some of the slogans and publicity used for the multiple restoration initiatives developed in both villages and urban environments of the Mediterranean area over the past few years. In addition to these slogans, figures concerning the restoration in the various Mediterranean countries speak for themselves: in some countries the activity of the construction sector for the maintenance and improvement of existing buildings exceeds 60 % of all annual investments; in other countries, however, this activity barely achieves 10 %. We could say that an expansion in the field of restoration is a basic indicator of economic growth.

Traditional architectural rehabilitation is not only the concrete actions carried out to improve the solidity and services of a building, this point is clearly stated, even in preservation slogans. It is also just as important to keep restoration in close relation to a recovery of urban patterns and landscapes. This both improves the living conditions of the population and consolidates commercial and economic structures, which are often cast aside when they should be associated to every restoration process. This is the regeneration of the social fabric of a community. We could say that this is a question of durability. The fundamental objective of any form of restoration clearly consists in regenerating life and reviving energies by revitalising residences, trades, workshops for craftsmen, buildings, streets, districts, urban environments and anything that constitutes cultural heritage. It is vital to keep everything alive.

Looking at the figures we wonder why the restoration activity is developing with such vigour in certain countries and so feebly in others, considering restoration policies are all relatively recent. The determining factors are varied but nonetheless linked to one another. The first, most essential factor that fuels the activity is economic. The value of the hundreds of thousands of buildings constituting traditional Mediterranean real estate is absolutely inestimable. Today, re-housing the millions of people who live in these buildings would be exorbitant, even for the wealthiest countries. On the other hand, we can easily imagine improving the existing real estate, creating worthier living conditions for its inhabitants. This option is adopted by the most developed countries who have chosen to maintain, rehabilitate, and revitalise.

In addition, we must realise the considerable economic impact of tourism for a country possessing first rate sites and places of interest. Nowadays a well preserved historical centre of a town or city, combined with accommodation offers that are fully integrated within traditional neighbourhoods represent a major asset to tourism. We must acknowledge that economic interests are substantially linked to restoration activities. Many countries join private and state initiatives to make restoration a reality: they propose a true alternative to a systematic new construction reflex.

Despite the many positive aspects of restoration, we are very far from a standard of efficiency on a regional level. We unfortunately cannot contemplate the future with boundless optimism regarding the preservation of the traditional architecture heritage. We highlighted some of the main obstacles in the previous chapter: let us just recall that many buildings are rejected as they are considered outdated and obsolete. This is an obvious result of a lack of commitment on behalf of authorities, a tenacious trend for the use of new materials, imported construction systems, but also a lack of understanding and information on behalf of political leaders, technicians, and professionals. There is also a lack of
economic and practical resources available for appropriate operations, as well as many other minor factors that we have noticed on a local level.

An area, a matrix, a crossroad: words to acknowledge our regional reality. The revival of excellence is in our hands, sharing proficiency and yearning to assert our ways of living and transmitting our heritage.

Rehabilitation is neither risk-free nor exempt from drawbacks. We can learn a lot from the numerous attempts of these last few years, and better understand what is appropriate and what must be avoided. Nowadays, as a result of incoherent rehabilitation programs, many cities and villages (especially European) transformed their historical centres into museum-like places; they now look like thematic amusement parks, where souvenir shop salesmen and tourists seem to be the only occupants. It is no surprise to find urban environments where rehabilitation completely changed social life, pushing the original inhabitants out to the peripheral zones to create enchanted luxury districts in the very heart of a city. Another mistake in certain rehabilitation is a short-sighted approach, often disconnected from the reality and identity of a given location. This results in a standardisation of historical centres, with an indistinct use of materials, urban furniture, standardised decorative elements. The local flavours and colours of a typology are destroyed in the name of an allegedly universal tradition.

Facing such trends and difficulties is no easy task. The economic interests and capital gain prospects around a restoration program are enormous. The pressure of consumption and mass tourism produce contradiction in priorities; solutions are intricate and decisions difficult to make. Luckily, we can account for many successful projects in various historical centres, which prove that while restoration and revitalisation are never free from difficulty, it is nonetheless possible to find a good balance of action. The three groups we mentioned earlier on are the coherent and strong basis for any restoration operation. These actions are the solution. Prosperous restoration achievements and genuine revitalisation can only be the result of a good balance between political, economic, social and cultural factors. Success will be the result of a sustained sensitivity campaign and the result of a globally shared training approach, profitable to all actors at all levels, where all learn how to use the new tools and profit from the progress born from our research programs.

Today, two key ideas are fundamental: network and rehabilitation. Network defines a way of working, a structure, and a strategy. Rehabilitation guarantees a project for our architecture. Both have become inseparable, a necessity nobody can deny. Both crystallise the revitalising currents that will disseminate throughout our area of exchanges. The "privileged meeting places" evoked so vividly by Amin Maalouf in the preface of this work. This revitalisation could revive the past into a flourishing future. We have an echo from the Eastern Mediterranean, where our hearts began to beat, in ancient scriptures (10) over 2,500 years old and written in the Book of Kings:

This is the palace I built in Suss.
The people of Babylon dug the ground, cast the rubble, and moulded the bricks
The cedar wood came from a mountain called Lebanon; the Syrian people brought it as far as Babylon; From Babylon the Carians and the Ionians took it to Suss.
The Yaka wood was carried from Gander and Chamin.
The stone pillars were not taken from here, but from of a quarry called Abiradush, in Uja, they were taken there.
The stone cutters were Ionians and Sardinians. The goldsmiths who cast the gold were Medes and Egyptians.
The men who made the terracotta bricks were Babylonians. Those who decorated the wall were Medes and Egyptians.

The text does not end there; scores of craftsmen are listed, all from many different and remote areas! In spite of such a rich craftsmanship and their deep enthusiasm, the result was a splendid, coherent
building, bearing great qualities of unity and harmony in style. Only the extraordinary skill and proficiency of all those who took part in this construction and the extraordinary organisation of the works allowed for this diversity to be expressed, in such richness and harmonious excellence.

This example from the past shows the sort of network we wish to regenerate today. A network which seeks the best in everyone, everywhere. We are also taking part in a common objective: from now on we embrace a better quality of life for all people instead of the prince only. Time will tell if the Mediterranean people of today succeeded in using all their refined skills and arts for a better world. A transcended Mediterranean would be one that successfully and fully restored traditional architecture.
Notes:

(1) If we can acknowledge that over the past 10 years, efforts and progress were made regarding tourism and environmental attitude, we must also note that hundreds of thousands of square meters were built everywhere throughout the Mediterranean to meet tourist demands, and that at the same time thousands of square meters of nearly traditional architecture was given up, systematically endangered, or forsaken until it fell to dust.

(2) Rehabilitation uses up much less materials than demolishing and rebuilding, especially if we consider and compute the costs in terms of energy resources necessary to produce modern materials, with the use or re-use of traditional materials. The same applies to recycling or pollution issues.

(3) Claude Lévi-Strauss wrote "Cherishing local traditions will not suffice to preserve the cultural diversity in a world threatened by monotony and uniformity. The reality and the facts of diversity constitute what must be safeguarded rather than the mere historical contents produced by each generation, and that nobody could perpetuate beyond their time." Race et histoire, UNESCO, 1952.

(4) Excerpt from the ICOMOS chart: "...vernacular construction is an evolving process that requires constant changes and adaptation in accordance with social and environmental constraints. Throughout the world, economic, cultural and architectural standardisation threaten the perpetuation of tradition. How to resist these forces is a fundamental issue that must be tackled not only by the populations but also by governments, urban planners, architects, preservation institutions: grouping experts from multiple fields."

(5) We must not obsess ourselves in a quest or the "reconstruction" of the lost area, the lost society, the lost house, the lost man. Today’s world is confused and full of doubt: we have trouble determining what is alive or perished, modern or old, useful or useless.


(7) To stimulate private individual investment and helping the lower income populations, subsidy systems are common and found throughout the area: they dispatch between 10% and 70% of rehabilitation costs.

(8) Since the Charter of Athens on restoration (1931) we could easily list over two hundred texts: charters, International Conventions, resolutions, recommendations and reports from the Council of Europe, UNESCO, the UN, the ICOMOS and the ICON, that are in favour of heritage related activities. A lot of progress has been made since, and these long-bred considerations and recommendations have had a most significant impact on awareness, triggering the adhesions of many and leading to major achievements.

(9) Tunisia and Lebanon have created their own specific institutions, entirely dedicated to issues in traditional heritage construction, following the French and Italian examples in particular.

(10) Excerpt from the text known as the Document of Sass, told by Darius, king of Persia (522 to 486 BC), who self proclaimed himself King of Kings, at the time of the construction of his palace in Sass.