

CONTINUITY AND DISRUPTION IN THE TYPOLOGICAL PROCESSES OF THE ISLAMIC MEDITERRANEAN BUILDING LANDSCAPE

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I believe all of us feel troubled about the ever-increasing standardisation of European peripheral areas, the American suburban sprawl and the Third World's shantytowns. Contemporary urban development in the Islamic world is the result of a two-fold crisis of architecture. First and foremost, it is the outcome of a long-lived cultural crisis of the Western world, the origin of which can be traced back to the Enlightenment. Its ultimate result is the progressive fall of common architectural know-how and the rise of the 'designer', leading to the self referential statements of today's architectural star system. Contemporary architectural culture is no longer based on that collective spontaneous subconscious that had built city form for centuries, and critical social conscience no longer plays an active role in the building of society. The Modern Movement, despite its research on social housing, represented the lowest point of this crisis through its deliberate rupture with architectural heritage.

This process also influenced Islamic countries during the colonial period. Although it has never adopted Western technicism, nor the separation between sacred and profane, Islam went through its own cultural crisis at the end of the Caliph domination, which coincided with the fall of the territorial and political unity of Dar al-Islam. Western capitalism thus found an easier way into the previously impenetrable Muslim world, ultimately provoking a religious reaction that more and more is imposing a too literal interpretation of the Koran on all aspects of political, economic and social life. Nevertheless, foreign influence and cultural uncertainty have deeply affected traditional Islamic architecture, which had been trying to apply Western efficiency and new technologies to an a-critical recuperation of traditional values.

We cannot pretend to overcome a cultural crisis thanks to the work of a few renowned architects, no matter how spectacular. The opposite approach follows a difficult path, one no longer relying on architecture as the ultimate product of a consumer society - architecture as a self-referential discipline and the cult of the architectural object. On the contrary, the opposite method centres on the pre-existent context; it is a process that finds its generative ideas and design principles from the surrounding urban fabric. Based on the concept of continuity between 'reading' and 'design', this approach sees no substantial difference between preservation (a project that must deal with structural transformation over time) and new building (a project that must deal with the existent context).

In this view, the context is seen as the layering of design concepts and rules over time - as the only objective, tangible reality. In order to play an active role in contemporary design, architectural history may analyse urban development processes - based on formal recomposition. It stands for a thorough understanding of the evolution of city form, and the retrieval of those fundamental features that allowed the permanence of a certain architecture over time. Thus the formative process of architecture is as dynamic as a movie, as opposed to the singling out of individual frames. The research method follows a backward course; starting from the present day's condition, it searches for those elements that have endured transformations over time.

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These constitute a first palimpsest allowing the retrieval of other structural features by analysis. Once reconstructed, the evolution process may inform new design action, and help to set out design parameters.

Here I will focus on the method of 'reading' buildings and urban aggregations using examples of Islamic Mediterranean architecture. The analysis of a process of evolution cannot focus on each building, as exemplified by the limited methodological utility of many studies on vernacular architecture. On the contrary, it is necessary to adopt a research method capable of grouping single buildings in structural categories. This is the concept of 'type'. We may define it as 'the organic ensemble of the common characters of buildings in a defined cultural area and over a defined period of time'. The second part of this definition represents the new aspect of this methodology, as opposed to the formalistic interpretation of type suggested by Aldo Rossi and Leon Krier. It implies that type and, in particular, the residential type is based on local building features as an expression of a precise collectivity and its culture settled in a territory - it is not shared nor exported to other cultures. Moreover, being one with the culture that produces it, type constantly evolves in time, following the evolutionary and involutory phases of its society. In synthesis, the concept of 'type' is a dynamic process, never a formal scheme.

We will now discuss another aspect of the proposed method: the typological process. Introducing the notion of time into the analysis of urban phenomena not only results in giving life to the type we have defined up to this point, but also serves to fix its mutations in history. What is time vis-a-vis urban history and typological analysis? Historians take positions between two opposite poles. Sociologist Georges Gurvitch underscores the distinct temporalities which belong to different histories. Gurvitch's temporalities are many: "time of the *longue durée* and slow motion, time the deceiver and time the surpiser, time with an irregular beat, cyclic time running in place, time running slow, time alternating between running slow and fast, time running fast, explosive time" (1). Other historians privilege the precise moment of every individual masterpiece, and so package histories of architecture that are a collage of single events like "the moment of silence in the ticking of a watch", in the words of Kubler (2). Time, for the typologist as well as for the French Annales school, is slow and drawn-out; as a result, unusual examples will be referred to as part and parcel of a sequence of underlying ordinary causes, the long drawn-out time encompassing much more within a period.

Our idea of 'type' as history cannot be separated from the idea of 'process'. This is the most relevant concept of the method of typological analysis. Without it, the type continuously risks being misunderstood as a formal a- historical schema or as a mechanical assemblage of forms. By the concept of process we understand the internal mechanism that animates the type and anchors this mechanism in the built reality.

Typological process allows us to understand the evolution from one type to the next, but does not really deal with the question of dating (the province of traditional historians), so much as it does the question of the sequence of buildings and urban fabrics. In fact, similar typical conditions can be isolated in the history of different civilisations in different periods. One example is the transformation of the courtyard house into the multi-family apartment building. In Italy, it was a phenomenon that began in the time of the Roman Empire; in the North African medinas, it took off only recently after the independence of the respective countries. The tracing of typological processes allows us, on the one hand, to establish those characteristics of the building which are

essential for the determination of continuity in the process over the course of its transformation. On the other hand, it also determines those characteristics which constitute departures or exceptions and, in their own way, contribute to the valuable heritage of experimentation. In other words, typological processes show us at the same time both the rule and the exception. 'Phase' is defined as the period of time needed to allow the clear identification of changes in the built object. The progression of phases makes up the diachronic typological process, which is also syntopic (3) if conducted in a culturally homogeneous area.

A preliminary important distinction needs to be made between residential buildings and what will be called here 'special buildings'. The residential category covers all structures that are primarily dwellings. 'Special buildings are those, such as a ribat, mosque or theatre, that emerge in the built context to fill additional needs and could be categorised as facilities or monuments. Although in part a dwelling, the palace is categorised as a special building, as is the rab, a collective residential complex in Cairo, which works in conjunction with the wakala, a space for commerce and production. The house type in any typological process coincides with the ideal house in any given time and progressively changes through specialisation from elementary matrices to complex derivations. The type is commonly recognised by every inhabitant, and it can accommodate slight changes based on its role and source of revenue, provided they are within the bounds of the type. We can also call it a 'leading type', since it is the type all members of a society recognise as optimal. In a given phase, it can be coherently found in the corresponding building. A synchronic variation is a type of house realised under less than optimal conditions. These can be the result of topographical problems, or of problems with placement in a block or placement in an incongruous fabric.

Even under the best conditions, there is always a possibility of synchronic variations developing within a group. Take the classic example of a line of row houses with vaulted horizontal structures; the lateral thrusts of the vault are absorbed by the walls of the neighbouring house. If there is a slight rotation in the tissue, as is common, there will be at least one house with walls that are not parallel. Such a house will face problems, such as trying to raise a vault on a trapezoidal plan and the difficulty of furnishing spaces with odd angles, and will inevitably lead to variations in the type.

Typological process is as complicated as the urban or territorial organism in which it operates; it more or less involves the intersection of different processes. It is therefore necessary to reduce the complexity of a building type or a contemporary urban tissue by assuming that they have necessarily absorbed their predecessors, and then backtrack to find the simplest form of the type or fabric. This search does not require a return to mythical origins, to Laugier's hut. The elementary matrix is the first documentable type at either the substratum level or an archaeologically measurable level upon which the reading can be based.

A diachronic and syntopic typological process, limited within the bounds of a circumscribed cultural area and referring to the residential type, can be described. Actually also the continuous scalar interrelations from building to landscape can find their place in the table. Taking, as an example, a medieval city in the Levant or the Maghreb, the "leading "type in the initial phase of the typological process is an elementary type or plan, whose dimensions are an expression of that specific building culture. In North Africa, the elementary cell or type will be for instance a unit of circa 3 metres by 7-to-8 metres, derived from the taddart, which probably is a derivative of the nomadic tent. The urban fabric is conceived on the basis of this leading type and is concurrent

with it. Modified houses exist, however, on irregular lots, on slopes, located at the beginning of a series, or on a corner and so on. The sum of these experiences generates a parallel process by synchronic variation, insofar as each can provoke imitation by its neighbour, offering itself as a possible solution to a problem. In turn, the parallel processes mature with and modify the leading type as people gain in experience.

In the second phase, assuming the continuous growth of the city, the next leading type will evolve by exceeding its limits and refining some of its parts. In new growth zones of the city, the new leading type adapts to the tissues planned specifically for it, and is mainly found on principal or matrix routes, or planned routes. This is not the case in the old city centre, where the layout is more permanent because of the resistance of the building tissue to change. What contributes most to the conservation of such an area is that real estate is simply heaped atop the resistant tissue. (4) In this case the inhabitant must compromise between the concept of a leading type, an ideal expression if you will, and the reality that the building tissue is unyielding. The inhabitant's intervention will determine two new possible types of synchronic variation. The first includes the renovations or mutations made to the disposable elements of the interior without disturbing the main structure: the second is demolition and reconstruction. In neither case will the adaptation of the new leading type in the old building tissue reach optimal conditions.

Take the recent changes in Boston's Back Bay townhouses, for example; these are three-storied, upper-middle-class, single family houses that have been subdivided into apartments to meet the changed housing needs of smaller nuclear families. Each floor is divided into one or more units but none of them has the coherence and autonomy of a newly planned apartment in neighbouring Brookline. In this mutation of the Back Bay type, the telltale signs of unplanned-for change include a limiting front-or-back-only orientation, convoluted access routes, and the lack of cross-ventilation (5). Two typological processes for residential types can be illustrated by Essaouira on the Atlantic shores of Morocco, and by Rome.

In the approximately two hundred years since the founding of Essaouira/Mogador, a relatively simple process has taken root; the first building foundation in the casbah quarter near the sultan's palace is essentially the basic courtyard house common to the rural Atlas region. This small (10 metres across), single-family dwelling features a main room built on the north side and open on the south. In one common variation, a sabat the street in order to enlarge the courtyard. Successive variations show vertical growth of up to four stories, and in recent times the structure has been host to many families rather than a single one. As the city prospered in the mid-nineteenth century, the leading type was the two storey house with rooms symmetrically arranged around a central courtyard. This in turn was organically joined to a regular urban building tissue perforated by a network of broad streets. This type left its mark on the new zones of La Lagune and Skala in two modified forms.

In La Lagune, a three-storey type is enclosed on three sides. Its height varies, and a small courtyard is covered, thus creating serious by hygiene problems. The type found in the Skala area is similar, but its front is half the size and the light well is on the long side. As far as I can tell, even the most current building type planned by Essaouira's city engineers is not very different from this matrix type found in the casbah. But the case of Essaouira is interesting in the theoretical turns it takes, due to its mellab, home to Jews since 1947, The quarter was originally built up very quickly at the end of the nineteenth century, owing to a population explosion. This led to several synchronic variations in the leading type in fairly regular building tissues, located

primarily at the edge of main transverse routes and along the perimeter of the city walls. Further increments led to the completion of the urban fabric with in-fill building tissues featuring poorer and less advanced types.

The 1947 large-scale emigration from the countryside immediately necessitated a conversion to multi-family houses, the filling in of open spaces and dizzying vertical additions. These processes compromised the equilibrium and the functionality of the buildings. Rome, on the other hand, underwent a different process of conversion. The medieval, single family rowhouse gave way to the apartment house as a leading type, through a long process involving the combining of plots and the addition of extra stories. Variations generate processes that in turn contribute to the development of the next leading type. In this third phase, the new leading type is comfortably located in the new yet saturated fabric, but it will be subject to modification in the two older building tissues. The more time that elapses between phases the more difficult it becomes for the leading type in the old tissues to adapt. The assumption that the growth of a city is steady is hypothetical. In practice, after a certain number of growth phases, a period of relative stagnation, or even of regression, sets in, often resulting in vacancies, abandonment and the like. This was typical of all Mediterranean cities after the Black Death almost halved their populations after 1334.

In Siena, until well into the mid-nineteenth century, for example, large undeveloped areas still lay within the city walls. A more realistic picture is one in which intervals of more or less intense growth alternate with periods of arrested development. During the periods of accelerated growth and subsequent slowing down, the behaviour of residential tissues and special tissues is different. The residential tissues early both accept rapid growth and resist regression. The period of regression affects first and foremost the special buildings, as they represent an investment of cultural and economic surplus by the collective. In periods of economic stagnation, limited building activity inhibits the evolution of a leading type. Where building tissue shrinks, the specialisation of the residential type is also reduced from its former incarnations and produces only synchronic variations. This is logical, since the reduced and limited requirements of the surviving population will lead to a simpler use of the old buildings. In Rome after the fall of the Empire, not only did the population fall from one million inhabitants to 17,000, but all the luxuries and amenities - the circus, the amphitheatres, and baths - also disappeared, and their structures were reused as housing.

A similar phenomenon occurred in Tripoli and Algiers during the late Ottoman period, and Naples under Spanish dominion; because the walled city was restricted to the area claimed by the walls, it grew in height blocked open spaces and turned special buildings into collective residences. Not surprisingly, the most adaptable structures are the serial or iterative ones. Even in special buildings, the parts that can easily be recycled are the serial ones. A classic example is the recycling of a highly specialised structure such as a Roman theatre into residential property. In both el-Djem (in Tunisia) and Arles (in France), the similarities between the amphitheatre and the formal configuration of repetitive cells such as those used in the rowhouse type were exploited to this end.

When a period of stagnation gives way to a new cycle of growth, the notion of a leading type is considerably attenuated in the spontaneous consciousness of the residents and they are only able to manage synchronic variations. As a result, diatopic (6) modifications thrive in the weakened body of the city, and a new leading type is often imported from a distant but culturally dominant

area. A new leading type, the result of the synthesis of local processes and the imported model, is then used in the new expansion of the city.

Despite cultural differences, this phenomenon is discernible in both Europe and the Islamic Mediterranean. After 1850, the model used in Italy originated in Paris or Vienna but was grafted onto strong local traditions. The local traditions explain why the fundamental typological processes in Genoa, Florence and Rome took such different directions despite their use of the same models (7). In Aleppo, after 1870, the Venetian type called a portego was merged with the local type of row house with iwan to produce a tripartite house with a wide main corridor. This model was universally adopted when the new quarter of Aziziye was built in the second half of the nineteenth century (8).

Algiers presents yet a different case; instead of agreeing to adopt a single Western model, a variety of types were imported and imposed by the colonising population. The impact of colonisation minimised the effect of local processes and the leading type coincided almost exactly with the imported model. I say 'almost' exactly because even though local building customs were only followed in those residential sections of the city shunned by the French, they nevertheless persisted through many small gestures. Only a detailed reconstruction of the typological process would reveal to what extent they survived.

It is clear, however-, that the post- 1830 colonial construction of Algiers preserved traces of local traditions in the compact dimensions of its building blocks, the result of a minutely divided property substratum and of the demolition and reconstruction of small courtyard houses. The imposing imperial facades of residential buildings also mask a lingering memory of the smaller spans of local traditional ceilings. There are many other examples but, for the moment, these are sufficient to demonstrate that even the most ruthless and determined colonial approach cannot obliterate the memory of a place entirely, deeply rooted as it is in local typological processes (9).

In principle, if building activity can rebound following a crisis and steadily resume its course without suffering additional setbacks, the leading type of the twentieth century will be a diachronic variation of the earlier phase of the nineteenth, and so on (10) This is evident in the urban growth of the 1930s in Europe when Rationalist architects, through the use of a technologically influenced, abstract and discontinuous language, expressed their alternative ideology in their urban expansions but, nevertheless, referred to the leading type of the time. This type, in spite of the experiments performed on it, was nothing more than the middle-class apartment building.

For the special buildings, too, we can reconstruct a series of diachronic mutations within a given territory. The role of the leading type here is the sum of the characteristics of the civic area to which the buildings belong. A mosque in Tlemcen of the fifteenth century, or a Merinid mosque in Fez characterise a type sufficiently generic to admit a series of synchronic variations that generate parallel typological processes. The two different cycles are not in competition, but complementary: one anticipates the other. A characteristic of the typological process of special buildings is the limited number of synchronic variations it displays. In the residential typological process the minimal updating of the type is, in contrast, almost infinite.

Similarly, it is possible to say that built products in different areas are not the same, and their differences are directly proportional to the social, cultural and economic distances of a given

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time (a diatopic and synchronic moment). The comparison between objects of different territories presumes the concept of leading area - the strongest area, in a certain period, which dictates the fashion - and the new typological process corresponds to the enlargement of the horizon. Thus, there will be leading and marginal areas, and the leading type of the marginal areas will represent the synchronic variations of the leading type of the leading area, although we cannot universally exclude the possibility of a marginal area possessing an independent leading type. For example, during the Ottoman period, the leading area was Anatolia, and places like Algeria and the Maghreb were marginal. The leading type of mosque, with a covered central hall and adjacent courtyard or sabn, had its roots in Istanbul. The mosques in the Maghreb and other regions represented synchronic variations, that is, spatial mediation between a central hall building and an iterative modular one. In Istanbul itself, Sinan's mosques can be categorised as the leading type, and many other examples can be categorised as synchronic variations.

On the European continent in the fourteenth century, the leading area was the Ile de France and the leading type was Gothic. Rome was a marginalised area practising heavy masonry construction techniques, and Gothic principles of construction never took root there. This last example suggests a short definition of architectural language: a vocabulary that evolves in a leading area and its immediate periphery, partly because of its civic values, and becomes 'style' in the marginal area.

Diatopy, or the migration of forms between one cultural area and another, which today's global communication makes so easy, also occurred in the past. For example, Imperial Rome had mechanisms to propagate their architectural forms all across the Mare Nostrum. Buildings of distinctive scale and Euclidean geometry regarded as representative of Roman civilisation - thermal baths, aqueducts, theatres and circuses - permitted the citizen to orient himself in a familiar landscape even in an unfamiliar city. This was possible because the leading area, the civic koine, and the geographical basin coincided for at least six centuries.

To round out the theoretical picture, at least two other processes should be mentioned: those to do with special " and diatopic types. Special types are generated either directly or indirectly by the residential typological process. They can occur over time, but because, during some increasing specialisation of a house, a new procedural line branched off as new, non-residential uses were introduced. In the third and fourth centuries, one such new branch is represented by The basilica with three aisles (3:6:3 metres) directly derived from the Roman domus, and another is represented by the central plan of the mausoleum. Let us assume for a moment that the Arab mosque derived from Mohammed's house in Medina, then this represents yet another branching out of the residential typological process in the seventh century in the Middle East.

The hypothesis that a residential type (or a diatopic residential type) migrates is a contraction in terms because, in principle, this type is anchored to its social base and rooted in its locale. It is also obvious that houses from the same period in neighbouring areas share similarities directly proportional to the amount of contact they have with each other, a sign that a certain osmosis does occur. These affinities are the result of real influences, and should be taken into account by process analysis.

The importation of a type as a cultural model or its migration with an entire population (as in Algeria after 1830) has already been noted. The Tunisian village of Little Sicily is a further

example of this phenomenon. The villages built by poor Italian emigrants were in fact a bit of Italy abroad.

A more complex case is the similarity between types that are encountered across vast geographical areas, for example, the extraordinary similarities between the Venecian, the Dalmatian, the Ottoman Turkish, the Aleppine and the Lebanese house in the Eastern Mediterranean. This cannot be merely a coincidence and is likely best explained as the result of a graft made onto the common substratum of the Roman-Byzantine house. A substratum type such as the domus exists all over the Mediterranean basin, in an archaeologically permanent form under the medieval fabric, and is apparent in reading through the metrological evidence. It is not nullified by the many changes made to it and, when encapsulated in the constructive memory of the place, it becomes a distinctive cultural fact equivalent to an anthropological deep structure. The concept of a substratum or fundamental type is essential to reading a stage, because it allows for the identification of planned tissues which are hidden below more recent spontaneous ones.

Process is always diachronic, based on continuous time whose rhythm changes in relation to the behaviour of the various scales. The inertia of the large territorial scale with its urban framework and infrastructure produces a slower rhythm, while at the other end of the building scale changes occur faster and thus have a quicker rhythm. Differences can also be discerned in the position of the objects on the same scale, for instance between central and peripheral buildings, or between special and residential buildings.

The typological process takes place in phases in which the leading type proceeds through moments of equilibrium alternating with synchronic variations. The typological process may be syntopic (i.e., occurring in the same area) or diatopic (i.e., involving variations between areas). Finally it can refer to the basic type (the house) or to special types.

The graphic models we construct in our mind or represent on paper are reductive. Not even the metaphor of a tree, with its trunk, branches and foliage, can do justice to the complexity of typological processes, unless it is the banyan tree of India, whose enormity and growth pattern would merit definition as a grove rather than a single tree. Its branches extend out horizontally, shoot upwards, descend towards earth and sneak underground, where they take root and shoot out new not unlike the original. Eventually, only the expert eye of the gardener can distinguish the primary trunk,

Introducing the concept of typological process to a critical reading is like replacing a still camera with a movie camera, with the awareness that a critical description of the process - as in all disciplines - must be carried backwards throughout, from the final frame to the first. To identify a type is to form a hypothesis which can only reach the greatest level of plausibility through continued inquiry. The reconstruction of typological processes is somewhat similar to the script of a film, with one important difference; the filmed work anticipates scenes which might take place in the future, while the reconstruction of typologies projects into the past. It approaches past scenes with the unquestionable advantage of already knowing many of the elements, relationships and sequences; it can therefore critically reconstruct the missing pieces insofar as they are typical.

How do we propose to counter the practice of disassociation that rules the growth of fabric and urban systems? We will need a clear awareness of the proper role of reading and its specific

ends. While the entomologist only studies ants, the architect's study is not only analytical but also synthetic; he uses a project as an important synthetic instrument to analyse and evaluate reality. Readings are therefore biased insofar as they are meant not only to determine facts, but also ferret out principles for design through the analysis of processes. If the design is correctly understood in terms of critical consciousness, it must also try to put together the pieces of a spontaneous consciousness with positive aspects of the Modern Movement, particularly the research dedicated to social housing.

In the operative phase, the typological process lends itself to interesting considerations which can be articulated on three levels, depending on whether it refers to the restoration of a building, the reorganisation of a fabric or an ex-novo project.

Today's monuments are presented with a limited number of changes and are recognisable by stylistically identifiable criteria. In addition, they often come with archival documentation that includes the names of both the client and the architect. The critical restoration of a monument is limited to the consolidation of the static structure, the elimination of distributive inconsistencies and superfluous additions: its aim is adaptive re-use. This is not the case for residential buildings. As in the contrast between spoken and written language, the experience represented by the construction, modification and adaptation of dwellings is far more extensive but rarely documented. If a built object endures longer than a human life-span, and many houses disappear only to be replaced by others, they continue to influence the structure by obliging it to retain characteristics such as size, position and conformity with the shape of the lot. When restoring a residence, it is rare to encounter what is obviously an original structure outside the bounds of an archaeological excavation. Often, minimal changes guided by new revised concepts of the house bring the building up to date, and if it is still being lived in, it should, for all practical purposes, be thought of as a contemporary building.

In both Essaouira and Rome it is clear that, in restoration, the primary concern was whether the type could bear the weight of the required changes. Do the width of the old streets and the distance between houses adversely affect the inhabitability of the house under restoration? Are the building type and the building tissue still coherent? To carry out restoration without paying attention to pre-existing conditions means risking an untenable situation susceptible to decay. A precise reconstruction of the typological process would avoid a situation in which the reduction of a space's volume is indiscriminately based on aesthetic criteria. Suffice it to say that the restoration of a building should always be a synchronic variation of an earlier leading type in order to make it consistent with present-day life. In the event of manifest inconsistencies with the building tissue, a step backward with respect to the fitting of the current building is justified to update the type, provided that it is compatible with the parallel process in that location and, therefore, with the imposition of the building tissue (12). In other words, it is possible to operate on incoherent elements, such as superfluous additions that open up spaces, super-elevations, etc., when multi-family subdivisions are illegitimate because the first building and tissue cause an incompatibility volume, number of stories, and number of people and the order of streets and inherited property divisions. In other areas the building tissue may tolerate unauthorised volumetric additions.

One thing is certain: the restoration of houses cannot refer a-priori to a single leading type for the whole city (13), but must incorporate a range of synchronic variations consistent with different tissues in different areas.

NOTES:

- 1 . Georges GURVITCH, *Determinismes sociaux et liberté humaine*. Paris, 1955, pp. 38-40.
2. George KUBLER, *The Shape of Time.. Remarks on the History of Things*. New Haven, 1962, p. 14.
3. The term diachronic comes from the Greek dia(through) and cronos (time); syntopic from syn (with) and topos (place or site)literally, in the same place. Diachronic can also refer to a bridge between two sets of time and syntopic can mean following the rhythm of the site. The idea of process includes diachronic motion, but process need not always be confined to the same site, although the first step in analysis can generally assume this to be the case. It is obvious that if we study a process at a site we start with all the mutations occurring at that site and only then do we extend the analysis to other cities or environments to enrich our understanding of the original process.
4. Bernoulli provides a penetrating look at the permanence of real estate, even though he concludes that private property and its fragmentation are the principal ills of the modern city and predicts a collectivisation of urban land See H. BERNOULLI, *Die Stadt und ihr Boden*. Erlenbach, Zurich , 1946.
5. For a discussion of Back Bay urban planning, see S. STENTI, "Boston Back Bay. Atene d'America." *Storia della città* “; 49 1990, pp. 7-42; W. WHITEHILL, *Boston: A Topographical History*. Cambridge, Mass. 1959.
6. For the Greek dia, through, and topos, site., something that happens in different areas or places; something that does not belong to a place. Because of the meaning given to type, I should have used in the text the term model, as something alien that is copied a-critically.
7. G. CANIGGIA and G.L. MAFFEI, *Composizione architettonica e tipologia edilizia*, 2. 11 progetto nell’edilizia di base, 1984, p. 76 ff.
8. Jean Claude David traces the birth of the sala passante type used extensively in the Aziziye quarter to the local typological process starting with the sixteenth-century transformation of the apartments belonging to Europeans which were found on the upper stories of khans and caravanserais. See J. C. DAVID and D. HUBERT, *Maisons et immeubles du début du XXe siècle a Alep*. *Les cahiers de la recherche architecturale*, 10-11 (April 1982) p. 105.
9. A. PETRUCCIOLI, *Alger 1830-1930*, in *Algerie: mémoire et architecture*, ed. Attilio Petruccioli, *Environmental Design* 1-2 (1992), p. 104.
10. Caniggia and Maffei, op.cit. *Il progetto nell’edilizia di base*, p. 223 ff.
11. For a more elaborated version of this theme with particular reference to the concepts of revival and reuse see Attilio PETRUCCIOLI, *Alice's Dilemma*, in *Typological Process and Design Theory* (Cambridge,MA, 1997).
12. D.J.SCHROETER, *Merchants of Esssaouira. Urban Society and Imperialism in Southwestern Morocco, 1844-1886*, Cambridge Mass.,1988; also, H.FROIDEVAUX “Une description de Mogador en 1765,” in *Annales de géographie*, 2 (1893): pp.394-398.
13. In the 1970s, the old centre of the city of Bologna was subjected to the first scientific attempt at historical preservation. The results stirred up a good deal of interest and were published in P. L. CERVELLATI, R. SCANNAVINI and C. De ANGELIS, *La nuova cultura della città*. Milan, 1977. The building tissue and types did not emerge from this pioneering effort: The typological reconstruction used too few leading types and the end result is highly schematic.