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Between technical requirements and architectural design

After the Earthquake: Re-building the West of Algeria.

Abstract:

After the earthquake of 2000 which destroyed part of the middle sized town of Ain Témouchent 500 Kms west of Algiers, the authorities had two alternatives to rebuild the town : fill in the space emptied by demolished buildings or build a new housing estate with all amenities included. The latter proposal was maintained for practical and political reasons.

As practitioners and academic researchers, we were invited my partners and I to comment and eventually produce a master plan for the site and were commissioned to realize 550 dwellings, a few elementary and high schools, a mosque as well as, at the beginning, monitoring of the whole project composed of 3400 dwellings and amenities sponsored by the World Bank.

This paper highlights interaction between theory and practice that led to the introduction of Islamic elements in all projects, and that meant putting in practice the main orientation developed by the department of architecture of Oran in terms of morphological methodology.

It retraces also progress of the project and difficulties met by the office in terms of technical requirements in seismic areas. The level of knowledge of the main participants: engineers, local authorities, young architects etc. in this area has launched a debate at the department of Architecture concerning program courses for students in Architecture. The main conclusion is that a thorough change in the program should be undertaken, mainly in terms of building legislation, project management and theoretical knowledge.

Introduction:

The project analysed here reflects the ideology we tried to transmit to our students since we started teaching at the department of Oran in the late 1980's. Failure and success of the project have both made us challenge the very conceptual framework that we put into practice in the project, making us as educators critically question first the ideology, then the methodology and finally the curriculum of our department.

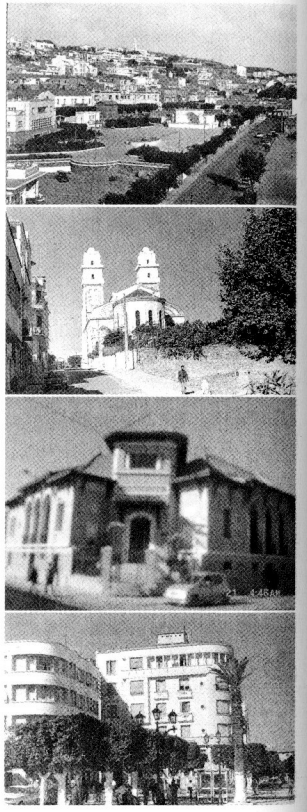
I. *Architectural discourse in the late 1980's*

A fierce "*battle*" took place at our department of Architecture in the late 80's between two factions of teachers with different backgrounds and education, a battle that became obvious during the final examination of our fifth year students. The first group of teachers was educated in France or in the then USSR, or merely influenced by Polish lecturers that constituted a large part of the department's staff. Regional planning, urbanism were for them the next step after architecture (the functionalist one).

The second group, a bit younger, came from Anglo-Saxon backgrounds (University of Pennsylvania, Oxford Brookes, Glasgow school of Architecture, etc) and re-introduced the notion of human scale, of recognition space and stressed the importance of human behaviour when leading with architecture i.e. the introduction of Urban Design as a new field of study in the department.

We started, against the will of our elders, to teach the block, traditional building types, piazzas, boulevards, landmarks, street corners and the vocabulary that we thought at the time to be universal and unquestionable: the supremacy of the cultures where we have been educated being the main proof for that.

Nevertheless, most of us could easily identify ourselves with that notion of space as we had the vibrant and so present examples of colonial urban fabric, the Arab medina having quite disappeared from our surroundings after 200 years of Spanish colonization and 130 years of French colonisation. [Fig. 1]



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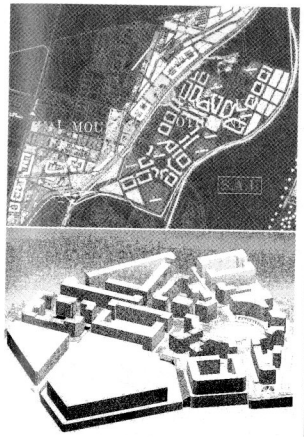

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In terms of Architecture we prone Postmodernism which designates an international architectural movement that emerged in the 1960s, became prominent in the late 1970s and 80s, and remained a dominant force in the 1990s. "*Post-modern architecture is characterized by the incorporation of historical details in a hybrid rather than a pure style, by the use of decorative elements, by a more personal and exaggerated style, and by references to popular modes of building.*
Practitioners of post-modern architecture have tended to reemphasize elements of metaphor, symbol, and content in their credos and their work. They share an interest in mass, surface colours, and textures and frequently use unorthodox building materials."

II. *From theory to practice: the genesis of the project and the search for an identity*

When invited by the local authorities in May 2000 to participate to the debate about the new town of Ain Témouchent, we realized for the first time how much our ideas had reached their goals, as most of the master plans produced by a panel of young architects (most of which were our students) reflected that sensitivity to human scale and took into consideration the morphology of the existing colonial town.

At the same time, the deceased prefect (wali) of the town of Ain Témouchent, advocated an Islamic typology which was not in contradiction with our own vision of the new town as we knew that people, despite the long lasting colonization, did not identify with the existing neoclassic architecture but surely with Islamic arches and columns that we could find in local recent architecture.

Our own proposal of a master plan included two piazzas: the first one was located at the top of the hill that dominated the site and had a mosque as the main building. The second piazza was to house the market and shops. We meant by our proposal a hybridation of the Arab medina with its specific public places and the urban fabric of the colonial towns that reproduced the Roman legionary town with its cardo and decumanus and its checkerboard pattern. [Fig. 2]

At a time when political discourse was dominated by the

issues of terrorism in Algeria, the Prefect chose to place the commercial development along with residential, on top of the hill, and relegate the mosque down on its lowest slope.

We then participated in the architectural competition and were chosen as the leading architects to conduct the project of 3400 social dwellings as well as a set of public buildings. Our main task was to ensure that the projects were remarkable enough for their solutions to technical problems as well as from a compositional and aesthetic perspective and therefore help local authorities to select the best projects to be carried out.

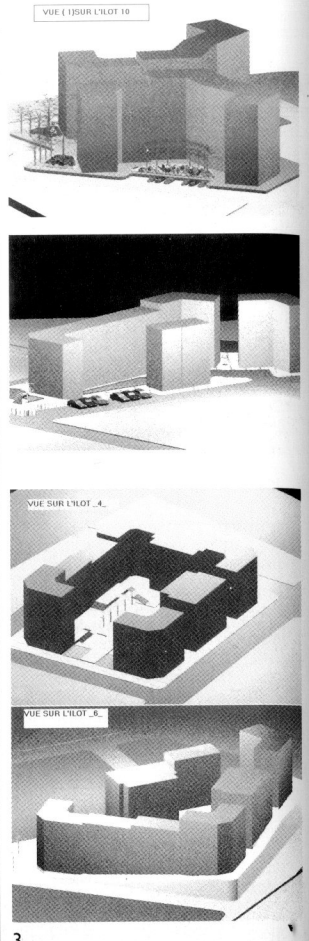
We had besides to conceive the first program composed of 550 dwellings on top of the hill, two schools, one high school and a mosque. [Fig. 3]

II. a. *Initial Constraints: from the discourse to reality:*

The first main constraint was to limit the height of the buildings on the whole site to seven levels for economic reasons (adjunction of a lift for more than five storeys, adjunction of concrete walls etc). Thus, we lost the landmarks which consisted of high rise buildings in significant places on the site.

The second constraint that we met was the shape of the buildings layout in L, which provoked a strong opposition from the civil engineers in charge of the structure. Their main argument was that the site is in a seismic area and that the buildings in an L shape would not stand any earth tremor. As we insisted they agreed to try calculations only for buildings of no more than seven levels, but we had to split the buildings in two parts separated by a joint which affected the architecture.

Another important constraint was the site topography and geology which modified consequently the site layout. The strong slopes did not allow closed blocks in U shape for used water drainage. We thus had to open up the blocks. We also had to change the layout of one building from an L shape to a linear shape because one part of the site was geologically weak. To avoid the surcharge in economic terms as we dealt with social housing with limited financial means, we had to adjust the project to those constraints.



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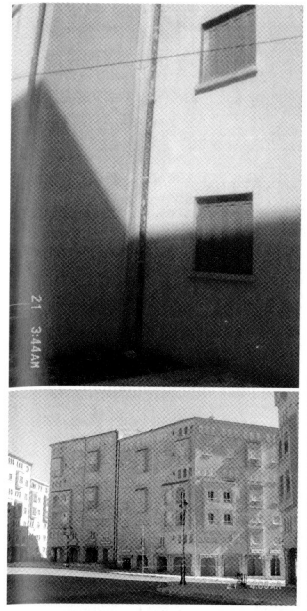

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II.b. *Lack of Knowledge*

It is to mention that the project was launched and the building companies selected before the whole design was achieved, urgency in re-housing people being the leitmotiv of local authorities. The project being sponsored by the World Bank, control of structure was carried out by two organisms; the local one (the CTC) and the Audit(the CGS) based in Algiers 500 kms far from the site.

When the earthquake occurred, a new building legislation (RPA 99) was just being released by the Audit itself. Being one of the first architectural offices to use it, we immediately pointed at an anomaly in calculating seismic joints which produced gaps of about 30 cms.

[Fig. 4] Animated debate took place between us as architectural consultants, the public administrator and the two organisms of control, a procedure which delayed considerably the project but which allowed us to acquire considerable knowledge in terms of structure.

From this point, it was difficult for us to impose our point of view in any other subject. Among the many problems encountered was the little hold we had on the building companies that didn't have professional technical staff, the little understanding of the public administrator who didn't have skilled professional staff either. As an example, we weren't allowed to make any change during the process of building: one single round pillar instead of a rectangular one even if it was proven scientifically stable provoked controversy from local authorities down to the public administrator. The choice of colours was again one of the main dissensions between us and the commissioner. We saw the project as completely white with colours only on windows in reference to Arab typologies. The public administrator saw it multicoloured with Saharan colours. It took us many months and the help of the Prefect to win the case, but one part of the project would be completely white, even on windows, on instruction of the administrator.

[Fig. 5] On the other side, as a result of the lack of skilled staff within the building companies, the administrator required from architecture offices in charge of the different projects to have permanent staff on site.

We had for each hundred dwellings one permanent architect and one civil engineer. Their main failing was that none of them could take any decision on site, even if it was delegated to them. They failed then in representing the office and we were forced to make daily visits to the site, neglecting other aspects of the project: design adaptation, costs analysis, public relations etc.

II.c. *Managerial and public relations abilities of the architects*

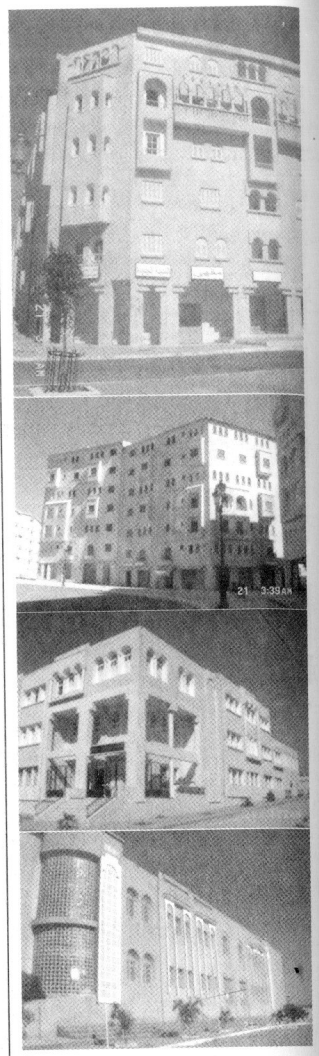
Any managerial skills of the architect would be put to the test in such stakes: such a large scale development makes the building company at the heart of the whole process with little left to the designer, as a huge amount of money is handled. The architect is relegated to second role.

Nevertheless, as he is bound to be left aside in terms of management, it is in terms of public relations that his role is called to change as he has to deal with political, sometimes non professional actors in the process of construction.

III. *Back to theory: an alternative discourse?*

The changing discourse within contemporary architecture acknowledges the emergence of an increasingly interdisciplinary culture. Many notions have new meanings: identity refers to localism, universal knowledge becomes hybrid knowledge, and the architect is also an engineer, a negotiator. What was true for the ancient medina is no more adequate in contemporary cities as economic factors become predominant, underlying any decision-making: the most striking example being the market replacing the mosque at the top of the hill.

The choice of Islamic elements was a political choice which had great impact on the architectural identity of the region,



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but the displacement of the mosque in favour of the market puts this identity in a new framework turned towards modes of communication that are appropriate for the times. Finally, contemporary architecture, by trying to regain authenticity by intuition or logic aims towards a new society which could keep pace with present changes.

As Postmodernism is a mixture of historic elements combined with contemporary building technique, it still identifies itself with those buildings that take as a reference historical symbolism and typologies along with modern structural economic and construction based systems.

Could Arab (Algerian) contemporary architecture acquire a distinctive identity through hybridizing of forms with a colonial architectural heritage deeply anchored in people's mind, but still remain conscious of the contemporary changes in attitudes and beliefs?

In the facts, the users are quite satisfied with the results because they prefer proven models which can communicate elements from their lost past.

Architecture as a design process was influenced not only by the question of form, space and content but also by political and economic contingencies concerned with the regulation and enforcement of construction. This way of designing is quite common nowadays and can be done on a high level, as we could see from other architects on the site, but some of them couldn't avoid historical kitsch.

This should lead us to initiate critical discourse and explore new possibilities not to make of obsolete practice and obsolete theories an ideology. In our case, the methodology was not fully valid, because it was not fully applicable. [Fig. 6]

IV. *Architectural pedagogy and iterative relationships between theory, practice and education*

From our experience, particularly in Ain Témouchent, the main question was how to adapt reality to the teaching we were giving at the school?

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On one hand, the main failure of the curriculum as it is now in the department is that each section is partitioned without relations between each other. Studio teaching is the main course encouraged by the fact that it is a prerequisite for other courses.

A cruel lack of courses linked to real life and future practice: management, public relations, building regulation makes the curriculum inefficient to produce architects that could immediately integrate practice.

One of the aims of architectural education should be the development of student's ability to gather information from various fields to synthesize it when he has to solve a specific design problem and as an office we suffered cruelly from the lack of efficient staff.

On the other hand, critical discourse should be initiated to courageously take position against globalisation *without denying* it and take into account the peculiarities and changes that characterize our own country.

In conclusion, the program should be:

. Interdisciplinary: Developments based on technology, cultural studies, intellectual history, urban studies and critical theory should be incorporated into the program, creating a dynamic and evolving curriculum. A broader range of courses would stress the relationship of architecture and urbanism to their cultural, social, political and technological milieus. Students should concentrate in the history of the profession, the history of discourses on architecture and the city, problems in modernization and contemporary theory.

. Cross-cultural: Students should be encouraged to understand their historical and theoretical work in relation to the current professional, technological and social concerns of architecture as well as to contemporary design debates.

. Iterative: constant debate should question the state of the art throughout the world, as well as the main issues that characterize our own country, confronting global thinking and local one.

Finally Research should focus on how local identity is currently being made, as well as the role of history. It should explore trans-cultural injections of ideas and stereotypes. Theoretical concepts are to be explored again. The constant interaction between critical research and new developments in the practice of architecture and urbanism should be the main "*raison d'etre*" of researchers.

Illustrations

1 The Old town of Ain Témouchent: the Mosque at the top of the hill, the Church used as a mosque, the Colonial Buildings also are References.

2 Master Plan of the New City.

3 Blocks patterns opened up.

4 Thirty cms joint gap concealed with aluminium devices

5 Architectural expression of Islamic typologies combined with western elements: School, high school and dwellings blocks

6 Architectural expression of Islamic typologies combined with western elements: dwellings blocks