

## The Restoration Project of Five Houses in Tetouan's *Medina*

**Mhammad Benaboud**  
The Tetouan Asmir Association

The *Medina* of Tetouan which has been classified by UNESCO as a world cultural heritage city in 1997 is one of the most beautiful *medinas* in Morocco thanks to its rich historical and architectural cultural heritage.<sup>1</sup> Of the large variety of the city's historical monuments such as its city wall, towers, gates and underground Skundo water network, the private houses are perhaps the most interesting.<sup>2</sup>

Thousands of houses in the *Medina* of Tetouan are threatened to fall into ruins and this is an extremely serious problem. This threat also applies to similar houses in all the Moroccan *Medinas* or historical cities. The problem of the houses of the *Medina* has remained unattended for years, which is why it has now reached alarming proportions. The Moroccan government has created a company named Groupe al-Omran, which is affiliated to the Ministry of Urbanism to solve this problem. Unfortunately, Groupe al-Omran has not solved this problem completely in any Moroccan *Medina*. Those responsible for this project have declared that their main *objective* is to save lives. They therefore concentrate all their efforts on consolidating fragile houses. Their approach would have been acceptable if many of the *Medinas* in Morocco like Fez, Meknes, Marrakech or Tetouan were not cultural heritage cities which UNESCO has declared as world cultural heritage cities. The limitation of the interventions by Groupe al-Omran is that they consolidate the structures of the houses where they intervene without conserving the architectural heritage characteristics of these houses. Worse still, in many cases, they completely destroy their aesthetic elements.

One would have thought that Groupe al-Omran's programme to restore the houses of the *Medina* of Tetouan would serve as an ideal model for restoring

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1. Mhammad Benaboud (ed.), *Tétouan, Capital méditerranéenne* (Tetouan: Publications of the Tetouan Asmir Association, 2004); Ramón de Torres (ed.), *Guía de Arquitectura de la Medina de Tetuán* (Seville-Tetouan: Publications of the Junta de Andalucía, 2001); Jean Louis Miège, Mhammad Benaboud et Nadia Erzini, *Tétouan, ville andalouse marocaine* (Paris: CNRS, 1996); Eva Schubert, (Ed. by), *Andalusian Morocco, A Discovery in Living Art*, (Madrid: Mueum With No Frontier, 2002); Saïd Mouline (ed.), *Repères de la Mémoire* (Rabat, Ministry of Habitat, 1995).

2. One of the most interesting studies of these houses is the following: Bernardo Lindez Vilches (ed.), *Tetuán, herencia viva* (Granada: Publications of the University of Granada, 2012).

aging traditional houses as part of the projects which were inaugurated by His Majesty King Muhammad VI on December the 20<sup>th</sup>, 2011 to conserve the *Medina* of Tetouan.<sup>3</sup> However, of the 40 million dirhams which Groupe al-Omran officially declared it would spend as its contribution to the royal project (2011-14), only about 5 million dirhams were spent to consolidate about 109 houses during five years. By examining the criteria which Groupe al-Omran set for itself, it was clear from the start that they would not carry out the project successfully.

They decided to spend no more than 60.000 dirhams on each house which is largely insufficient. This amount would only be spent if the Urban Commune or City Council of Tetouan would spend the same amount, which the latter has not been prepared to do. Groupe al-Omran would only contribute the above mentioned amount if the inhabitants of the endangered houses also contributed the same amount, which most of them could not afford to spend even if they wanted. Groupe al-Omran intervention to consolidate the houses was carried out using modern materials like cement and iron without any consideration for conserving the historical aesthetic elements of the historical houses by using traditional materials and techniques of construction. I will not go into the details but as a member of the official committee which supervised the execution of the project, I will simply comment that most of themselves. Of the 40 million dirhams which Groupe al-Omran is committed to spend during four years, only about 5 million dirhams were spent in five years. It is not clear whether the remaining 35 million dirhams will ever be spent at all.<sup>4</sup> This is an illustrious example of why the conservation of our cultural and architectural heritage is not a national priority in Morocco and why some of the most serious issues have yet to be addressed seriously.

The project of the Junta de Andalucía or the regional government of Andalucía has financed a project of restoration in the *Medina* of Tetouan with the Urban Commune of Tetouan for twenty five years. They successfully restored numerous historical houses as a model of intervention, but the essence of the problem remains unresolved.<sup>5</sup> While houses continue to deteriorate

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3. This royal visit was highly publicized in the official and non official media, especially in the internet.

4. This information was presented by the representatives of Groupe al-Omran during the regular meetings which were held at the Wilaya of Tetouan to follow the works of the projects which were launched in 2011.

5. The Junta has restored the Naqsis House at Derb Chorfa in the *Medina* and Dār Raghon. This programme for the restoration of the *Medina* of Tetouan and the Ensanche or Spanish quarter was launched twenty five years ago. It continues officially, but has slowed down considerably. (See the pamphlet on the programme of the Junta for the *Medina* of Tetouan, *Rehabilitación de viviendas, equipamientos y espacios públicos de la Medina de Tetuán, Sevilla* (Sevilla: Publicación de la Junta de Andalucía, 2011). A few minor projects have continued since 2011.

by the hundreds or are falling into ruins, there is no serious programme to stop this trend. Worse still, added to the indifference of many officials is a great degree of unawareness of the gravity of the situation among the general public.

We therefore decided to launch our project of the Tetouan Asmir Club of Friends of UNESCO to restore five houses from each of the last five centuries in order to generate a general consciousness of the importance of restoring the historical houses of the *Medina* of Tetouan. The unique cultural and architectural value of these houses is unquestionable. We formed a team which consists of the following persons:

1. As the vice-president of the Tetouan Asmir Association and the secretary general of the Tetouan Asmir Club of Friends of UNESCO, I am responsible for the project. It is my duty to find the necessary private resources for carrying it out and for following up the works.

2. Otman Absi, member of the Tetouan Asmir Association and the Tetouan Asmir Club of Friends of UNESCO is my counsellor. We take all the important decisions concerning the project together.

3. Muhammad Benaboud, who is the treasurer of the Tetouan Asmir Club of Friends of UNESCO is in charge of controlling the management of the financial aspect of the project.

4. *M'alle*m Muhammad El-Harrash, who is an experienced master of the traditional crafts and arts is in charge of executing the technical and architectural aspects of the project.

5. We also have another experienced master of *zullayj* from Fez, M'hallem Abdellatif, who became an expert in installing the Tetouani *zullayj*. He came to Tetouan, fell in love with the Tetouani *zullayj* and decided to settle in this city.

6. Last but not least, the Alqantara Cooperative has alone succeeded in fabricating the Tetouani *zullayj* after carrying out several experiments. Their *zullayj* are fundamental for the restoration of most of the houses in which we have intervened given the importance of Tetouan's *zullayj* in the Tetouani houses ever since the seventeenth century.

Our intention has been to conceive of and execute a model of restoration that may influence others to follow suit. We cannot be sure how profoundly we will be able to influence the process of restoration, but judging from the interest of many parties in our project, we will undoubtedly have some impact on the restoration of houses in Tetouan in the future. This influence could have

been much greater had some of the local institutions shown their willingness to collaborate more seriously with us.

The Tetouan Asmir Club of Friends of UNESCO, for which I am responsible as its general secretary, has launched the project for the restoration of the five houses in the *Medina* of Tetouan only two years ago and it already promises to be quite successful. The idea of the project was initially to illustrate that the consolidation of the old private houses should be accompanied by restoration, because while consolidation is meant to save lives, restoration aims at conserving our cultural and architectural heritage as well. Consolidation and restoration should consequently go hand in hand.

The project was also conceived of as a reaction to the idea that the conservation of the private historical houses is a matter that concerns the official institutions exclusively. Having witnessed the limitations of local, regional and national official institutions in carrying out numerous conservation projects in the *Medina* of Tetouan, it has become clear to us that we should explore new possibilities such as carrying out restoration projects which are financed by the private sector. Our first task would therefore be to carry out a certain number of projects successfully and if possible, to illustrate that they can be economically viable. If successful, our intervention would serve as a model, given that the national policy of conserving our cultural heritage cities has not been successful. It was two years ago that we decided to intervene by launching our project for the restoration of the five houses in the *Medina* and the project has been completed in approximately. We took the time factor into consideration, because we have observed that similar projects by government institutions often last for years, sometimes without ever being completed. The incompetence of some of the administrations is beyond our understanding.

The initial idea was to restore five houses in Tetouan's *Medina*, each belonging to one of the last five centuries.<sup>6</sup> By restoring all five houses, we would create a circuit which would enable us to compare the architecture from each of the last five centuries and to observe the evolution of the architecture of Tetouani houses over the last five centuries from the city's foundation by the Andalusian Ali Al-Mandari during the end of the fifteenth century and the beginning of the sixteenth century to the end of the twentieth century. This would enable us to identify the specific elements which have appeared during each century and it would also enable us to identify the technical restoration problems for each period which could then be applied to similar cases elsewhere.

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6. Vilches (Ed. by), *Tetuán herenciaviva*, 207-20.

We decided to apply the following criteria for our intervention:

1. Using the same construction materials that were used originally for each house, according to the period when it was built.<sup>7</sup>
2. Using the same construction techniques which were originally used.
3. Conserving the aesthetic elements available in each of the five houses that we would restore.
4. Limiting the average period for our intervention to no more than one year for each house.

The application of these criteria would enable us to achieve the following objectives:

The first objective of our project is to contribute to save as many houses as possible from falling, thus contributing to preserve a part of our cultural heritage. It is important to combine two elements in the process of intervention, namely consolidation and restoration. It is important to consolidate houses to save lives, but it is equally important to save our cultural and architectural heritage by restoring them properly. In the process of carrying out our restoration project, we hope to learn much about the historical houses of the *Medina* of Tetouan. The possibility of restoring the five houses dating from one of the last five centuries will enable us reach new conclusions.

The second objective will be to furnish a model of intervention that could be useful for those who will restore historical houses in the future. Since we are restoring houses which were built over a period of up to five centuries, people who may decide to restore other houses from different periods could contact us and we could explain to them the types of problems they will encounter and how to deal with them. Some problems may be common to all of them, especially the problems resulting from the infiltration of water. The solutions that we have found for specific problems may also be useful for them. These problems range from fabricating typical Tetouani *zullayj* or mosaics to introducing the underground *Skoundo* water network to feed the traditional fountains with spring water from the mountain.

The second objective of our restoration project is to discover the specific characteristics of each house. This is after all what determines the value of each cultural heritage monument.

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7. The reason why many people use modern materials and techniques is that the laws which presently are applied in Morocco were made to administrate modern cities and there are no special laws for the traditional *Medinas*. Some cities like Tetouan, Chauen or Salé have made what they call a charter of the *Medina* which consists of regulations for intervening in the historical cities. These charters are accepted by the city councils, but the technicians often consider that they are not as powerful as the laws for all cities. The charter for Tetouan's *Medina* has been published in Arabic: *Titwan Mithaq Husn at-Tadbir bi al-Madina al-Atiqa*, (75 p). no place of publication mentioned, Urban Agency of Tetouan, no date.

The third objective is to create a circuit for visitors as a means of creating a general consciousness of the importance of the cultural and architecture specificity of the private houses of the *Medina* of Tetouan.

What then are some of the characteristics of each the houses that we are conserving?

### **Dār Zanqat Al-Mqaddem (XVI<sup>th</sup> century)**

This is one of the rare typical sixteenth century houses left in the *Medina* of Tetouan. The use of bricks and limestone as the main materials of construction is clear. The traditional pillars around the courtyard are another characteristic of the houses which were built during this period in the *Medinas* of Teouan and Chauen as well as in the rural areas of Northern Morocco. One of its main characteristic features is the use of bamboos to build the ceilings of its rooms. It is similar to the Morisco sixteenth century houses found in Chauen and in Andalusia. These houses are characterised by their simplicity. There are no decorative features, many of which would appear during later centuries in the Tetouani houses such as painted doors, *zullayj*, iron bars to protect the windows overlooking the courtyard or the use of glass to cover the courtyard.

The simple brick and stone walls were first cemented with limestone and then whitewashed. The traditional *Skundo* water had already been introduced, but instead of the sophisticated wall fountains decorated with *zullayj*, this house had a small-whitewashed basin which was filled with the *Skundo* water. The simplicity of this house is the main source of its beauty. Its whitewashed arches are simple and authentic. Its whitewashed walls are relaxing to look at. Its discrete detailed shapes and forms blend beautifully with the global features of the house.

We have not begun the restoration of this house, partly because we have to solve some problems related to buying it, but one of the difficult features to restore in this house will be the bamboo ceilings. However, we have found an expert to carry out the job. Another important element to take into consideration is the restoration of the traditional tiles called *mzihri* which are small red brick tiles in the form of a star.

### **Dār Aḥfir (XVII<sup>th</sup> century)**

The Faqih Muhammad Al-Morer, one of Tetouan's most eminent literary and juridical figures, was born in this XVII<sup>th</sup> century house.<sup>8</sup> A small and

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8. The Faqih Muhammad Al Moreris one of Tetouan's most eminent jurists and literary figures was born in this house. (Muhammad El Morer, *An-Naim Al Muqim..*, 9 volumes, Ed by Jaafar Ben el-haj Souلامي (Tetouan: Publications of the Tetouan Asmir Association, 2014).



simple house, it is nonetheless a full of charm and authenticity. The unique architectural features of this house stand out. We were happily surprised to find out that it used to belong to the Faqih Muhammad al-Morer's father and that this great Tetouani scholar was born in this house. Muhammad al-Morer is the author about twenty books in a variety of fields such as literature, jurisprudence, Sufism and *hadith*. He is the author of an encyclopaedic work in eight volumes entitled *An-Na'im Al-Muqim...* in which he studied the biographies of scholars from a wide rural area spreading from Tetouan to the Ghomara region. All eight volumes have been published by the Tetouan Asmir Association, edited by Ahmed Morer and revised by Jaafar Ben el-haj Soulami. He also published a two volume work containing some of the most famous verdicts in the history of Islamic Law entitled *al-Ahkām As-Sāmiya fi al-Mahakim al-Islamiya*, which was first published in Tetouan in 1956 and reprinted in Rabat by Dār al-Ḥadith al-Ḥasaniya.

This house was in ruins when we bought it. The ceiling of one of the rooms had fallen because of the infiltration of water and the rubble landed on the room below bringing its ceiling to the ground too. The house had been abandoned for years, which only accelerated its deterioration. The decorative elements were eaten away, but what was left was sufficient to enable us to reconstruct the original forms.

We found four large clay jars, which used to be filled with drinking rainwater from the roof.<sup>9</sup> This system is called *bwate* and is rare to find in the historical houses of the Medina. These one meter high clay jars are also difficult to make. More common is the *matfiya* which is a large underground cistern which was filled with rain water through a pipeline descending from the roof. The problem here is that the water has to be lifted to the ground floor with a bucket or using a pump. The water moves from one jar to another and when all the jars are filled, the water is drained out through a small low hole in one of the jars. This way, there is no need to empty the jars once they are all full, because the water automatically flows out of the jars and into the sewage system. Thick clay pipes were used to carry the water. These pipes consist of small pieces, about 60 centimetres long, which are connected together. This enables them to last longer and gives them more flexibility. Cheap twentieth century tiles were built over the original *zullayj*, so we had to restore the latter. Some of the original wooden doors had disappeared, but others were still there enabling us to reconstruct the original version.

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9. On the traditional Skundo water distribution system see: Khalid Rami, *An-Niz Al-Aṣil li Tawzi' Al-Mā' bi Madīnat Tiṭwān* (Tetouan: Publications of the Tetouan Asmir Association, 2008).

We decided to start with the consolidation of the roof. Since the ceiling had been built of wood, we decided to restore it using the same original materials and techniques. Wooden beams were placed across the ceiling, a thin wooden sheet was introduced over it which was then covered with a thick layer of limestone mixed with earth.<sup>10</sup> The old beams had deteriorated so we had to replace them with new more solid ones.

### **Dār Nqiba (XVIII<sup>th</sup> century)**

Dār Nqiba is an eighteenth century house which at one point belonged to the Benuda family and is situated in a narrow alley near Jama' El Kébir or the Great Mosque of Tetouan. It was in ruins when we bought it. Four thick brick pillars in the courtyard constituted the main support for all the rooms on both floors. The ceilings of two upper floor rooms had fallen as well as two thirds of the corridor surrounding the courtyard on the first floor. Cheap twentieth century tiles were installed over the eighteenth century original *zullayj* and red bricks covered the ground floor and the first floor.

The four wide brick pillars which rose to the roof were no longer solid and neither were the bricks of which some of the walls in the courtyard were built, so we had to replace them with new ones. Most of the original wooden doors were stolen during the years during which the house had been abandoned. However, there was one door which was left and which we took as a model to replace the missing ones. This house did have some tiles left which had deteriorated seriously, but they remained under the new tiles so that we could reconstruct them. We even found some original Portuguese tiles which we decided to conserve in a small area. These tiles distinguish this house from the others in which we intervened. The door of the main entrance had also disappeared so we managed to replace it with an original eighteenth century door which we were lucky enough to buy.

One of the main features of this house is that it receives plenty of light. Like all the other houses in the *Medina*, the only source of light and air is the open courtyard, which was later covered with glass. Most of our houses have very few or no windows overlooking the streets. The purpose was obviously to maintain the privacy of the family living inside the house. We introduced a wall fountain fed with the traditional Skundo water coming from Mount Dersa. The sprinkling water is music to the ears.

Another characteristic feature of this house is the double room on the first floor. It is called *Al-Bit Belkharraja* and is a feature that is unique to some Tetouani houses. In fact originally, there were two rooms built side

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10. This is the way that ceilings, doors and *Sabats* should be restored according to Tetouan's Charter of the *Medina*, *Mithaq al-Madina*, 50-61.



by side and separated by a series of pillars and arches. The width of each of the two rooms was no more than the length of the trunk of a tree, but having been connected, they resulted in one room that was double the width of the normal rooms that could be built using wooden beams during the eighteenth century. It was only during the late nineteenth and the twentieth century when iron was imported from Europe that very wide rooms with iron beams began to be built in the *Medina* of Tetouan. The arches were built of solid bricks, cemented with limestone and then whitewashed. So were the pillars. It was only during the nineteenth century and most particularly during the twentieth century that the pillars were decorated with Tetouani *zullayj* giving these rooms a magnificent appearance.

The traditional furniture embellished these rooms even more. Another particular feature of this room on the first floor is that half of it was built over a *Sbat*, which was built over part of a narrow street of the *Medina*. I looked out of a small window in the end of the room and could watch people walking below. There are numerous *sbats* in the *Medina* of Tetouan which is why parts of most of the narrow streets are covered, thus creating a strong contrast of light and shade which has captured the imagination of Mariano Bertuchi and other painters.<sup>11</sup> Other typical features of this house include the *shammasat* or little openings over the large doors which are meant to allow the circulation of air into the rooms and which take the form of small arches. The iron bars around the corridor are original and simple.

We added some elements introducing new toilets or an impressive pattern of *zullayj* in the middle of the courtyard as a sort of trademark of our intervention. This is our way of conserving some of the most beautiful *zullayj* patterns available in other houses in the *Medina*.

### **Dār al-Mellah (XIX<sup>th</sup> century)**

This is a nineteenth century house which belonged to the Ben Khalfun family. It includes the ingredients of a typical Muslim Andalusian nineteenth century house, but there are few details which give it its specificity. All the houses in Tetouan's *Mellah* or Jewish quarter were built since the early nineteenth century when the Tetouani Jews moved from their old quarter, *al-Mellah al-Bali* to the new one.<sup>12</sup> That is why this quarter which lies inside the city walls of the *Medina* stands for having been structured on the model of the European

11. See his paintings of the *Medina* of Tetouan and other North Moroccan cities like Chauen in *Mariano Bertuchi, pintor de Marruecos* (Madrid: Lunweg Editoriales, 2000).

12. For an interesting urban and architectural study of the Mellah or Jewish Quarter of Tetouan, see: Julio Calvo-Serrano, Fabián García-Carrillo, Juan Manuel Santiago-Zaragoza, "Mellah al-Jadid. the Jewish Quarter of Tetouan, Morocco; An Identifiable Architecture?" in *Procedia Engineering*, Volume 161, 2016, 1496-1505. (Available in the web via this link: <http://www.sciencedirect.com/science/article/pii/S1877705816328454>).

cities with linear streets parallel to other with others crossing them. The houses in this quarter were the same as the traditional Andalusian style houses in the muslim quarters, but some rich Jewish families which became rich as a result of their comercial activities built their houses on European models with Spanish style doors, Spanish tiles covering the outside, large windows with wooden shutters and balconies with iron decorated bars.<sup>13</sup> They also introduced new elements like marble stairs and Spanish tiles inside these houses.

This house was in ruins when we bought it. Part of the house's roof had fallen to the ground bringing down with it the floors of some of the rooms on the first floor. Most of the tiles such as those decorating the wall fountain had reached an advanced level of deterioration, but the original colours and geometric designs of the Tetouani tiles were visible thus enabling us to restore them perfectly well. The *mzihri* or brownish tiles on the floors of the rooms was also there and we had not difficulty restoring it. We decided to leave the Spanish hydraulic tiles on the floor of the courtyard, because they are still in goodshape and because we found nothing underneath to indicate that other types of Tetouani *zullayj* had previously been used there as is the case of most of the other houses that we restored. The wooden doors were still there and we just had to clean them up.

The structure of the house is very interesting, because while falling in to the general category of a nineteenth century MuslimTetouani house, it stands out for its specificity when which the Jewish families used as a storageroom.<sup>14</sup> The situation of the house in the Jewish quarter of Tetouan is also significant, because this quarter represented a world of its own inside the walls of Tetouan's *Medina*.

However, our house was based on the traditional Tetouani houses, with such typical elements as Tetouani *zullayj* decorating a wall fountain which is fed with Skundo water from the under ground network. However, this house was in someways different from the traditiional Tetouani Muslim houses. For example, it has an underground story which was perhaps used to make *mahya*, a wine which some Jewish families made from figs. It was perhaps also used as a storage room. Little details such as the decoration of the arches also differed from the typical arches in the Muslim Tetouani houses. While some romos had wooden ceilings, the courtyard had not arches. Instead they had already begun to use huge iron beams, thus eliminating the use of pillars and making the courtyard larger. There are also little details such as the use of shelves built in secret places in some romos to store money or other belongings. The wooden windows on the first floor are also not very common in the Muslim Tetouani

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13. For the Spanish style houses of the Ensanchesee: F. Dominguez and J. M. De Molina, *Tetuán, guía de arquitectura del Ensanche* (Sevilla-Tetán: Junta de Andalucía, 1976).

14. The variety of the structure of these houses is clear, see: Vilches (Ed. by), *Tetuán herenciaviva*,

houses. Even though the rooms on the ground floor overlooking the courtyard are common in most Tetouani houses, the stairs leading to the wings rather than to the first floors with a corridor overlooking the courtyard is not very common too. The hydraulic Spanish tiles covering the courtyard may have replaced the *mzihri* tiles, although there are not traces left of the latter.

### **Dār Jama' El-Kebir**

This early twentieth century house reflects the full development of the Tetouani house over the past five centuries. It belonged to the Haj family of Tetouan. They used iron beams thus eliminating the brick pillars and expanding the size of the courtyard. The *zullayj* is used in unprecedented ways, to decorate the entire courtyard along with its walls, stairs and wall fountain. The doors of the rooms are painted with a variety of colours, the ironwork is impressive and innovative. The rails on the first floor and all the windows have ironwork for decorative rather than protective purposes. Even the small windows over the doors have iron bars with beautiful decorative elements. The main characteristic of this house is its enormous cistern for storing rainwater under the entire courtyard. To this may be added the beautiful wall fountain decorated entirely with typical Tetouani *zullayj*. The situation of this house is also unique since it was built next to the Great Mosque. The minaret of this mosque which is the highest point in the *Medina* of Tetouan, can be seen just over the wall on the roof. The view of the historical cemetery of Tetouan with its Andalusian whitewashed mausoleums is equally impressive.

When we bought this house, we thought that the restoration works would be minimal, because the *zullayj* was in excellent conditions. We were completely wrong, because the deterioration was there, but it was not visible on first sight. Water infiltration was the main cause of the deterioration. It caused damage at several levels. First there was the water which filtered through the roof causing the wooden beams carrying the ceiling of the main room on the first floor to rot. We had to rebuild the ceiling using solid new wooden beams. The *zullayj* of the entire courtyard had to be taken off in order to consolidate the brick ceiling of the cistern. Now that the consolidation work is over, we will have to introduce new *zullayj* for the entire courtyard. Part of the *zullayj* on the lower part of the wall fountain on the ground floor were replaced by granite. When we uncovered it to replace it with *zullayj*, we discovered that water had been flowing loosely inside the wall, thus causing great damage not only to the fountain, but to the *zullayj* on the floor of the courtyard. Half of the wall fountain therefore had to be restored after the Skundo water was appropriated net out and connected with the sewage network.

On the first floor, it was not until we had thought that our restoration work was over that we discovered that two more rooms on the first floor as

well as the entire corridor overlooking the courtyard had to be rebuilt. The small part of each wooden beam supporting the floor of these rooms was have to take off the *zullayj* rebuild the wooden supported floor and then reintroduce the *zullayj*.

Having finished the restoration works, however, we will have one of the most impressive houses of circuit, because it represents the peak of the architectural development of the Tetouani houses.

Our project will be completed by the end of 2017. By then, we will be able to show the results of our work. It is only after that that we will be able to evaluate its impact on the restoration of houses. Some houses have been properly restored before our project began, such as the Torres House. The Haj House which is perhaps the most beautiful house in Tetouan, will be restored after our project as works of its restoration have just begun. We will therefore strive to publicise all efforts to restore houses properly.



A view of the fountain after the restoration of Dār Jama' El-Kebir after its restoration (Photo: Othmane El Mansouri).

Yet there is another point that needs to be underlined. Before restoring any house, it is important to think of its future function, because if the house is locked up and abandoned, the deterioration process could well start again. That is why a study to use these houses for an economic project will be carried out during the coming three months. They will for part of a series of *riads* or traditional hotels. The idea is to offer our potential clients the possibility of not only visiting, but of sleeping in XVI<sup>th</sup>, XVII<sup>th</sup>, XVIII<sup>th</sup>, XIX<sup>th</sup> or XX<sup>th</sup> century house. The idea is that all this will occur inside the historical walls of our five century old *Medina*. In a way, they will be able to relive a little part of the *Medina's* five centuries of history.

The idea of restoring five historical houses from each of the last five centuries is already attracting architects, archaeologists and art historians to visit these houses. Dozens of architects and art historians who participated in the XIII CICOP Conference held at Tetouan from the 10<sup>th</sup> to the 12<sup>th</sup> of October 2016 came from different Spanish, Moroccan, Italian, Portuguese and Latin American countries to visit our five houses. We divided these two groups of 60 members each into half and organised four visits in one day. The others continued to visit these houses after the Congress was over. The echo of our project therefore already crossed the Straits of Gibraltar to Europe and the Atlantic Ocean to attract numerous Latin American countries. We should now to concentrate on the impact of this project Wethe restoration of houses in the *Medina* of Tetouan and then on other Moroccan *Medinas*. We are confident that it will not be long before this occurs.

To conclude, while I have stressed many of the specific elements which distinguish each of the five houses which belong to each of the last five centuries, thus stressing the specificity, the variety and the originality of each of the five houses as distinguished from the others, it is equally important to underlie some of the similarities which we encountered in the process of carrying out our restoration project. These similarities can be divided into several types, involving the solutions which we had to find in order to solve some of the consolidation problems, some of the technical problems such as renewing the sewage network of some of the houses, or finding ways to reintroduce the traditional underground Skundo water to the fountains in these houses, the problems specific to only one of the five houses, such as restoring the cistern of the twentieth century house, or the *bwate* or large clay jars used for the rain water distribution system in the seventeenth century house, the restoration of the Tetouani *zullayj* in a variety of conditions, the restoration of the architectural decorative elements of these houses or the restoration of the inscriptions on limestone in the walls of a number of these houses.



It is important to observe that all of these houses had reached such an advanced degree of deterioration, that we had to find solutions for their consolidation, then we had to find solutions for the restoration of a variety of their decorative elements and finally we had to introduce some changes to all of them in order to make them habitable again, such as renewing all of their water and electricity system or introducing new telephone wires and new modern toilets.

The first phase of the project which consists of the consolidation and restoration of the five historical houses has been almost completely finished before the new year of 2017. We had given ourselves two years to carry it and have finished all the restoration works with the exception of the sixteenth century house which we cannot start restoring until the administrative measures of buying it have ended.

We will then evaluate the restoration costs. These have come out to be a bit elevated, but we will analyse why this is so once the works have ended completely. As a matter of fact, we have bought a sixth house in the popular quarter of Sania in the *Medina*, which we will soon start restoring with different purpose in mind. This is a seventeenth century house and we will soon start restoring it in the objective of recycling its materials in order to reduce such costs as the cost of transportation which takes a considerable part of our budget. This will mean using new techniques which we did not use before such as scraping the limestone walls and mixing part of these materials with limestone to cement new walls with. We will also try to avoid any extra unnecessary expenses. The idea is to calculate the cost of the restoration using traditional materials and techniques in a way that will make it economically viable.

The second phase of the project will come after we have ended the restoration. A study will be carried out to determine the economic project in order to determine how these houses can be used. This will be done through the creation of a circuit of *riads* as well as youth hostels in the *Medina*. This will also contribute to create a general consciousness of the architectural development of the Tetouani houses over the past five centuries. Simultaneously, this will be a means of publicising new ways to consolidate and restore traditional houses of the *Medina* correctly.

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#### ملخص: مشروع ترميم خمسة منازل في مدينة تطوان العتيقة

تعتبر مدينة تطوان العتيقة التي صنفتها منظمة اليونسكو تراثا عالميا سنة 1997 من أجمل المدن المغربية العتيقة بفضل تراثها التاريخي والمعماري ذو الطابع المتفرد، ونذكر من بين هذه الأصناف المآثر التاريخية بالمدينة العتيقة المنازل الخاصة التي تتميز عن غيرها من المآثر التاريخية.

وبمبادرة خاصة انطلق مشروع ترميم خمس منازل بالمدينة العتيقة من القرون الخمس الأخيرة. اعتمدنا في عملية ترميم هذه المنازل نفس المواد الأصلية للبناء، ونفس التقنيات التي استعملت في بناء المنازل، كما ركزنا على الحفاظ على العناصر الفنية الموجودة في هذه المنازل. ويتجلى هدفنا الأساسي خلق مسار هذه المنازل والتمتع بخصائصها الهندسية التي ازدهرت في المنازل التقليدية التطوانية في حقبة تجاوزت خمسة قرون.

الكلمات المفتاحية: الحفاظ على التراث، مدينة تطوان العتيقة، مشروع ترميم مدينة تطوان العتيقة، منازل تقليدية، القرون الخمس الأخيرة.

#### Résumé: Projet de restauration de cinq maisons dans la médina de Tétouan

La Médina de Tétouan qui a été classée par l'UNESCO comme patrimoine culturel mondial en 1997 est l'une des plus belles médinas du Maroc grâce à son patrimoine culturel, historique et architectural. Parmi les différents types de monuments historiques de la ville, les maisons privées sont peut-être les plus intéressantes.

Nous avons lancé un projet qui consiste en la restauration de cinq maisons de la Médina de Tétouan, datant des cinq derniers siècles. Nous avons utilisé les mêmes matériaux de construction, les mêmes techniques de construction qui ont été utilisées pour construire chacune des maisons mentionnées ci-dessus et conservé les éléments esthétiques de chaque maison.

**Mots-clés:** Conservation, Medina de Tetuán, projet pour la restauration de cinq maisons, éléments esthétiques, maisons traditionnelles, cinq derniers siècles.

**Abstract: The Restoration Project of Five Houses in Tetouan's Medina**

The *Medina* of Tetouan classified by UNESCO as a world cultural heritage city in 1997 is one of the most beautiful *medinas* in Morocco thanks to its rich historical and architectural cultural heritage. Of the different types of the city's historical monuments, private houses are perhaps the most interesting. We have therefore launched a project which consists of the restoration of five houses in the *Medina* of Tetouan, from the last five centuries. We have used the same construction materials, the same construction techniques which were used to build each of the above mentioned houses and conserved the aesthetic elements of each house

**Keywords:** Consrvation, *Medina* of Tetouan, Project for the restoration of five houses, Esthaetical Elements, Traditional Houses, Last five centuries.

**Resumen: Proyecto de Restauración de Cinco Casas en la Medina de Tetuán**

La *Medina* de Tetuán, clasificada por la UNESCO como ciudad del patrimonio cultural mundial en 1997, es una de las más bellas *medinas* de Marruecos gracias a su rico patrimonio histórico y arquitectónico. De los diferentes tipos de monumentos históricos de la ciudad, las casas privadas son quizás las más interesantes. Por lo tanto, hemos lanzado un proyecto que consiste en la restauración de cinco casas en la *Medina* de Tetuán, de los últimos cinco siglos. Hemos utilizado los mismos materiales de construcción, las mismas técnicas de construcción que se utilizaron para construir cada una de las casas mencionadas y conservamos los elementos estéticos de cada casa..

**Palabras clave:** Conservación, *Medina* de Tetuán, proyecto para la restauración de cinco casas, elementos estéticos, casas tradicionales, últimos cinco siglos