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THE CRAC DES CHEVALIERS, PALMYRA
AND THE ANCIENT CITY OF DAMASCUS
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ANCIENT CITY OF DAMASCUS
Building of the Ottoman Bank



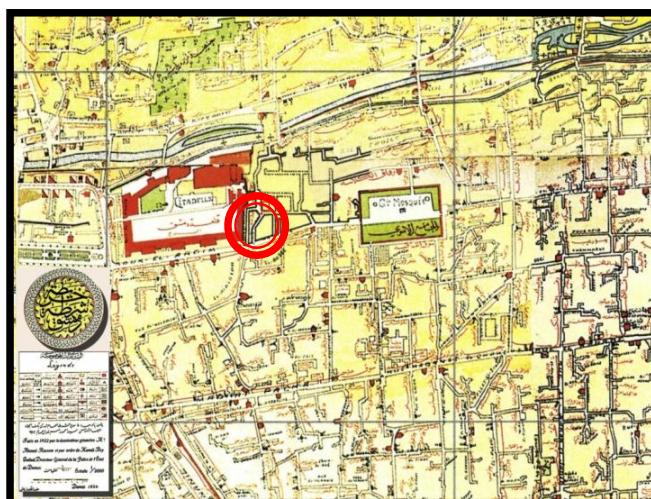
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Pierre-André LABLAUDE
Salvatore RUSSO

The discussions and exchanges with the Directorate General of Antiquities and Museums of Syria (DGAM) on the Ancient City of Damascus were held on 15 December 2016 in the framework of the Technical Assistance Workshop on World Heritage Sites (Crac des Chevaliers, Site of Palmyra and Ancient City of Damascus). They focused on the former building of the Ottoman Bank located in the souk of al-Asrooniya, seriously damaged by fire on 23 April 2016. These discussions were held as a follow-up to Decision **40 COM 7A.18** of the World Heritage Committee, which requests the State Party: *to develop restoration and reconstruction guidelines, in collaboration with the Advisory Bodies and the World Heritage Centre, that take into account existing documentation and surveys before and after the fire, and the particular social and economic needs of the areas.*

From the start, it was clear that the rehabilitation project for the neighbourhood, and in particular the one of the Old Ottoman Bank, presented important difficulties in its implementation for the following reasons:

- The complexity of the overlapping administrative competences over this sector, and in particular between the DGAM and the Directorate of the Old City of Damascus (Damascus Governorate), raised the need for identifying responsibilities among the parties and for an agreement on a comprehensive coordination process,
- The tenure applicable to the building of Ottoman Bank remains particularly complex: Though the building belongs to the Ministry of Finance, the specific conditions of use of the building (main tenant, subtenants, etc.) are not clarified.



General map of the city of Damascus, with the Ottoman Bank at the foot of the Citadel

Mr Ahmad DALI, Director for Damascus at the DGAM, presented the case of the building highlighting the various important elements to take into consideration, summarized below:

Description of the building and its evolution

The Ottoman Bank was built in 1895, at the bottom of the Eastern exterior wall of the citadel. It was composed of a ground floor, which was mainly occupied by shops, including the entrance to the Bank. The Bank's offices and large rooms were located at the first floor of the building. They were endowed with refined decorations.

Built in masonry, the Bank's facades and high windows were adorned with a beautiful moulding in classical inspiration, enriched in some places with elements of ironwork.

The building was topped by a set of roofs arranged in pavilions, with wooden frameworks covered with interlocking tiles. The upper floor of the ground floor housing the shops, was made of metallic beams with bricked vaults (most likely, in order to protect the upper level from potential fires).

The elevation of the first floor laid, on one hand, on the peripheral masonry facades and, on the other hand, on a frame of internal pillars associating metal and wood that supported the weight of the various frameworks and roofs.



General view of the 1st floor

A remarkable recent PhD thesis in architecture carried out by Mrs. Ruba Sassi, full of archive documentation (photos in particular), gave a precise knowledge of the original state of the impressive building located at the heart of the commercial district close the citadel.

The documents shows that the ground floor of the building has preserved its initial partition and use (shops), and the partitioning of the first floor large volumes at the time the top floor lost the function of a Bank in 1921. Light masonry walls were roughly built in order to provide shopkeepers with individual storage rooms, annexed to their shops.

Plan of the ground floor



Original plan of the 1st floor (Ottoman Bank)



Plan of the 1st floor before the fire



Description of the damage

On 23 April 2015, a large electrical fire devastated dozens of shops in the souk of Asruniyeh, and burned the entire building of the old Ottoman Bank. The upper floor of the ground floor fortunately resisted the sinister, thanks to its mixed structure of metal and bricks.

The roof and the interior of the first floor, mostly made up of a wooden structure sheltering large stocks of combustible goods when the fire broke out, have been completely destroyed. The peripheral masonry facades and the windows remained as gaping holes opened on the sky.

Deprived of its roof, the whole building is today totally open weathering. Obviously, the roof can not be rebuilt back without the prior implementation of important preliminary works concerning the shell and core works and the restauration of the internal supporting structures.



The gable and its pediment before the fire



and after the fire



The large façade on the street before the fire



and after the fire



Storages at the 1st floor before the fire



The central hall of the bank on the 1st floor before its destruction by the fire



Interior view of the 1st floor after the fire

Review of the restoration project prepared by the Directorate of the Old City of Damascus

The shopkeepers, which are the tenants of the shops and storerooms sheltered by the building, have developed with the support of the Union of Engineers and in to address the economic pressure of swiftly reopening their businesses, a renovation project for the building. The project should allow re-establishing the commercial use of the building, thanks to rapid works which costs would be borne by the various tenants benefiting from long-term leases.

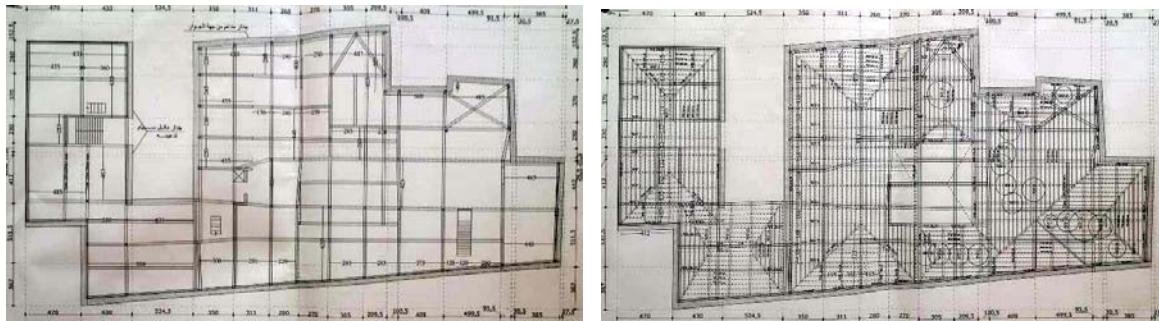
The heritage qualities of the building, as a monument and its position in the urban context and within the boundaries of the World Heritage property, imply that the DGAM has to endorse the project administratively. It is therefore important to ensure that a full coordination with DGAM, and this, since the very initial design of the project.

The analysis of the project which has been carried out during the workshop pointed out the below observations. In general and unfortunately, the overall project was insufficiently in accordance with the old use of the building:

- thought the project planned the identical restoration of the volumes of the roofs destroyed by the fire, it did not give technical precisions on the nature of the materials considered for this rehabilitation, nor on the renderings of the facades or of the first floor joineries. In addition, no reliable indication is provided on the final aspects shops façades on the ground floor (external appearance of the supporting structures, mechanism used to close the shops, coherence and unicity of the complex). It is to be feared that such lack of details leave the door open to uncoordinated spontaneous developments, storefront by storefront, without any consideration to the patrimonial value of the building or its overall aesthetic coherence.
- Inside the building, the project kept the previous modern wall partitions, built at the first floor, within the initial volumes of the Bank, and which have, over the years, more or less been progressively replaced by cement blocks, giving them a structural role along with the old facades they didn't initially have.



Storage at the 1st floor, being repaired after the fire



Project for the rebuilding of the superstructures

The structural project proposed has raised the following observations and criticisms from the engineer Salvatore Russo:

The building shows structural problems due to the damages of fire on the bearing mortar-brick walls of the building. The fire destroyed the wooden roof structure, which collapsed.

The status of the structural damage caused by the fire needs to be carefully considered, in particular load bearing outer walls and the iron beams that support the floor between the ground floor and the first floor.

From a general point of view, the project proposed is incomplete as it lacks adequate structural transversal and longitudinal sections in order to clearly understand the design process.

The project presented for the potential recovery of the building appears insufficient from the point of view of the structural choices taken and of the structural consolidation proposed. Moreover, a careful analysis of the structural damage fire on structures caused by the fire is mission as well as the resulting decisions to be taken in relation to structures.

The additional masonry partitioning the first floor were built as non-load-bearing walls. In the project, their use is "diverted" in order to give them a structural role in replacement of the old inner framework of pillars destroyed by fire. Thus, the weight is transferred on the superstructures of the upper flooring of the ground floor, possibly already weakened by the fire and whose residual strength has not been verified.

Moreover, this solution presents a major limitation in terms of future use: endorsing a recent, purely utilitarian partitioning would definitively jeopardize any future possibility to re-establish the large volumes at the first floor. It will jeopardize the feasibility to develop valorisation programmes in the future, such as a touristic, cultural or social programme. Such programme would be most welcomed in this historic space, located in a privileged sector and in the immediate vicinity of the citadel and several historical monuments of great interest (such as the Koranic schools of the

twelfth and thirteenth centuries: Madrasa Al-Adilya Al-Soghara, Dar Al-Hadith, Al-Nabawi, Al-Sharif and Dar Al-Hadith of Nur Al-Din)

If shops on the ground floor will maintained in the future, as a commercial and picturesque continuity of the neighbouring souk, the storage rooms - which have been annexed at a later stage - could be transferred to neighbouring buildings, in premises that would be less valuable in terms of heritage and potentialities.

Recommendations for the development of a project respecting the heritage value of the historic building

1. **Roofing of the building:** it is recommended to rely on the archives available (in particular the one collected by Mrs Ruba Sassi in her thesis) and to proceed to the collection of additional samples on site in order to specify the nature, the shapes and the dimensions of the original materials used (such as the old interlocking tiles). This would enable an identical repair of the roofing, either by the use of old re-used materials to be supplied for the purpose, or, failing that, by the use of strictly analogous newly manufactured material.
The quality of the materials used for the roofing is decisive, considering the roof can be observed from the citadel. Indeed, it impacts the representation one can have of the immediate surroundings of the citadel as well as the overall World Heritage site.
2. **Facades of the first floor:** it is recommended to use the archives available as well as on site sample collection in order to have more information about the initial distribution and details of the various architectural components of the building (facades, mouldings, windows, ironwork, colours, paintings, etc.). This would be useful both for the maintenance of the preserved works as well as for the restoration of the damaged structures and missing elements. It will ensure that restoration works are carried out in strict conformity with the original works as identified in the archive documentation.
3. **Facades of the ground floor:** some inaccuracies have not been yet completely clarified concerning the nature and configuration of the initial commercial storefronts which have progressively disappeared or been transformed (Appearance of the partitioning walls on the facade and/or pillars, locking mechanism, materials, colors). It is therefore recommended to carry out, as much as possible, complementary archive researches, first on this specific building or otherwise on similar buildings or commercial complexes of the same period, that disappeared or are still preserved in the old city of Damascus. These second set of documents can support a better understanding of the architectural treatment traditionally used for storefronts. This would ensure a full architectural integration and a heritage coherence, yet allowing some variations, as a well as a marginal and measured adaptation to the current operating constraints of the shops.
4. **Supporting structures of the building:** it is recommended to reorganize the design of a new project, in two phases:
 - 4.1. A phase of diagnosis and consolidation of the old structures that are still in place after the disaster. This concerns the higher facades and upper flooring of the ground floor which were exposed to an estimated 6 hours burning fire. The carrying capacities of these elements have most probably been weakened and may no longer be fully able to withstand the weight of the new structures. This consolidation work should be made:
 - to ensure their own stability,
 - to make sure they are able to bear again the structural and operational weight of the building, thus applying the protocol of analysis and consolidation defined by the Engineer Salvatore Russo:



Damage caused by the fire on the inside and top of the facade walls.

Before designing the structure of the future project, and decide if it should be based on the pre-existing one and/or a new one, the assessment of the state of the load-bearing walls affected by fire should be conducted, the following technical recommendations should be implemented:

1. Evaluate in detail, by means of visual inspection, the state of damage induced by the fire to the masonry walls, which can be identified through: a) disappearance of the plaster, b) change in the color of the bricks, c) partial disappearance of the mortar joints, d) fractures in the bricks, e) material's losses;
2. Withdraw at least three bricks from the severely damaged boundary wall (see Annex 21) that are still intact, and proceed with a compression breaking test in a proper lab; the evidence will refer to the maximum number of brick-cubes of 5 cm side derivable/obtainable from the three brick through a special cut made with suitable equipment;
3. Verify that the brick's faces are coplanar between them in order not to affect the validity of the compression tests;
4. Withdraw from a masonry wall that has not been damaged by the fire in the same building, the same number of bricks , and proceed with the same compression test;
5. Compare the values of compressive strength obtained;
6. If the compressive strength values related to the brick affected by fire are significantly different (lower or higher with less deformation) than those that are not affected by the fire, proceed with the following actions: a) intervene with "cuci e scuci" methodology in the areas that are the most affected by the fire with new bricks similar in terms of geometry, weight and characteristics to the

existing ones; b) replace and/or reinforce the mortar joints with a new mortar compatible with the previous one, c) the less damaged walls can be cleaned using sand spray, d) remove all existing plasters and replace them with a new plaster that includes fire retardant powders;

- 7. If the values of the bricks affected by fire are similar to those not affected by the fire, it will be sufficient to restore mortar joints, and clean masonry with sand before removing the plaster and replacing it with a new one that includes fire retardant powders;*
- 8. In order to assess the indirect action of the fire on the state of the iron beams that support the first floor seen in the drawings presented during the meeting: a) assess any changes in the color of the iron; b) evaluate the potential transversal displacement (deflections); c) assess the potential cracks in the junction of the beams to masonry walls (due to the potential longitudinal thermal dilatation of the beams);*

4.2 A phase for the project and the reconstruction of new supporting structures which would:

- Abandon the construction principle currently proposed (i.e. to use the recent partitioning walls at the 1st floor to support a framework of metal profiles, itself supporting in an undifferentiated way the various roofing frameworks) and favour an independent structure of pillars implanted at the same locations as those of origin and, in particular, at the corners of the different pavilions,
- If necessary, reduce the facades of the excesses of load that they would no longer be able to support, and implement, at their back, a secondary structure able to support the load,
- This approach does not freeze a partitioned space as it allows - even if the storages at the 1st floor are maintained in the building - a possible future decompartmentalization of the space. Thus, it does not set a seal on the opportunity to capitalize on the architectural qualities and heritage value of the building, and use this exceptional space to host touristic, cultural or social activities in the future.

5. Project Owner and Project Supervisor: it is recommended to define:

- The Project Owner who will be in charge of conducting the overall operation such as identifying private financing schemes (tenant shopkeepers), raise public, national or international funding, manage the budgets and payment of the suppliers and subcontractors, etc.
- The Project Supervisor who will mobilise a skilled team experienced the restoration of historic buildings (architects, engineers and economists) and will ensure, in consultation with the DGAM:
 - the provision for a full and detailed description for the preliminary works and the implementation project (plans, sections, elevations, details, specifications and cost estimate, etc.) meeting the above-mentioned qualitative and heritage requirements ;
 - to conduct the works, in compliance with the design approved, the budget and timeline,
 - that the operation becomes an exemplary "pilot project" on the restoration of a historic building in the Old city of Damascus.

6. Imperatively solve the administrative difficulties related to the overlapping of jurisdictions over this sector between the authorities involved (DGAM, Directorate of the Old City of Damascus, etc.). Also ensure a full efficiency of the operation, taking into account the tight delays for the emergency works as well as the requested level of quality of the design of the project and the works, from a technical and heritage point of view.



7. **Implement the urgent security and stabilization measures:** The fire has severely weakened the building, which is currently directly exposed to weathering, due to the destruction of the roofs. The remains of the building are exposed to a rapid deterioration, and its instability is a serious threat for its direct environment (falling parts or partial collapses).

It is necessary to take realistically into account the delays that will be required for the design of the restoration project and the implementation of the funding mechanism for the works, in a situation where other national emergencies can emerge.

Therefore, it is recommended to install urgently a protective umbrella over the building in order to ensure the complete protection from weathering of the remains, especially the upper parts of the façades and the upper flooring of the ground floor.

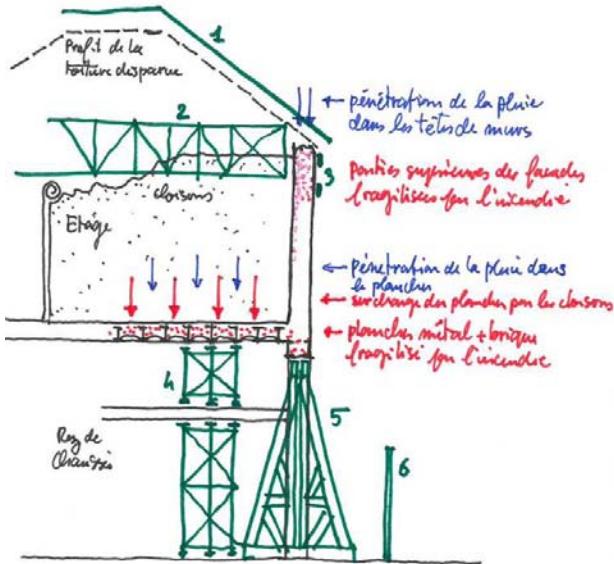
As recommended by the engineer Salvatore Russo:

Such covering can be realized with the materials available in the market and without loading the damaged structures. If the walls will support the covering, they should be shored up first with a spatial "St. Andrew's cross" wooden shoring system in order to passively support of all walls. The shoring of the floors damaged by fire will be also realized with a passive double FRP band belting all the affected perimeter masonry walls.

In addition, if the studies previously recommended confirm a clear damage by the fire of the mixed structure (metal and brick) located at the upper flooring of the ground floor, it would also be necessary to plan a shoring system for the destabilized areas.

- 1: Umbrella protecting the building from weathering
- 2: Supporting structure of the umbrella potentially acting for the triangulation of the façades
- 3: Double belting of facade walls
- 4: Inside shoring of the upper flooring of the ground floor
- 5: Shoring and triangulation of the various openings in the façades
- 6: implementation of a security fence on the street to ensure the public safety (risk of material falling)

The present sketch is provided solely for guidance and must be confirmed by a precise diagnosis to be carried out on the spot. A proper detailed project for the shoring and protection of the building which takes into account its different constraints (loads, overloads, wind forces, etc.) should be analysed at a later stage,



CROSS SECTION: P.A. Lablaude 27/12/2016

The implementation of an umbrella for the overall protection of the building offers the advantage to keep temporarily the building off the rain. Nevertheless, this solution represents an obvious risk: because of economic pressures, the implementation of the umbrella might encourage traders to prematurely reinvest the building. The provisional big and light structure covered by metal sheet being subject to wind load and the fragile the building remaining fragile, this would increase the security risks in the building and expose the traders and buyers.

The premature re-use of the building, which will satisfy at lower cost the immediate demand of the shopkeepers, might however jeopardize the later implementation of an effective and comprehensive restoration project for the building : the provisional might therefore become more or less final.

This potential situation would create an unfortunate precedent and a negative example for all future interventions on the urban fabric in the Old City. It would prejudice the credibility of the national departments responsible for the protection of monuments (DGAM in particular) as well as for the status of the city inscribed on the World Heritage List.

Given this risk, and the ambiguities that the implementation of such an umbrella (recommended here as a mandatory provisional facility) could generate, it is necessary to ensure a perfect coordination and a joint approach of all stakeholders that have jurisdiction over this matter.

It is also crucial to push for the implementation a final quality restoration project in the shortest delays, and to mobilize, with the support of all partners, the necessary means to this end.

Pierre-André LABLAUDE

Attached:

Annex 1: Full report by Professor Engineer Salvatore Russo dated 25 December 2016 and related documents

Annex 2: Building surveys, before the fire, drawn up in 2012 by Mrs Ruba Sassila.

Note: all the photos and plans reproduced in this report have been kindly communicated by DGAM.