



Message of the President of ISCARSAH Stephen Kelley

Dear Friends and Colleagues,
Being an American, most of the built heritage on this side of the pond is not much older than our country. Many of the projects from which I made my career are Chicago-inspired skyscrapers dating from the 1880s to the Great Depression of 1929.

We are now very much interested in post-WWII heritage structures and there is a debate in the United States about our collection of Brutalist Buildings. The term Brutalist comes from the French technique - *béton brute* - which is concrete that is left unfinished or roughly-finished after pouring and then left exposed as an aesthetic expression. Today the Chicago preservation community is focused on Prentice Hospital that is less than 50 years old.

It is November 1 and in 30 minutes I will be making a statement before the Chicago Commission on Landmarks as a representative of ISCARSAH in favor of the preservation of Prentice Hospital. As some of you may recall ISCARSAH submitted a letter in support of the preservation of this building in May of 2011, and this letter was signed by 33 of you and represents all of the populated continents.

Two days ago Chicago Mayor Rahm Emanuel came out in favor of demolition thus presenting the "last stand" to a battle that has been waged for 18 months between the wealthy Northwestern University Medical Center and a growing group of dedicated citizens concerned with the loss of our shared built heritage. The Mayor's editorial in favor of demolition can be found here:

<http://www.chicagotribune.com/news/opinion/commentary/chi-prentice-hospital-rahm-emanuel-20121030,0,1308237.story>

I feel very much like one of the faithful crew of the Titanic.

Prentice Hospital was designed by Chicago architect and engineer Bertrand Goldberg and completed in 1975. The building has stood vacant since 2007, and Northwestern University plans to develop a new medical research facility - the design of which has yet to be realized. In consequence, the building will be destroyed even though a replacement facility has not even been envisioned. Studies have shown that the present structure is still viable for many uses.

Prentice Hospital is considered to be one of Chicago's most distinctive architectural designs from the 1970s. Although Goldberg's organic architectural designs - such as this one - were widely influential, sadly none of his major Chicago works are protected by Chicago landmark designation.

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Kelley Statement before the Chicago Commission on Landmarks in favor of Landmark Designation for Prentice Hospital

Dear Chairman and Members of the Commission,

Thank you so much for this opportunity to speak on such a critically important topic. My name is Stephen Kelley and I am an Architect and Engineer with the firm of Wiss, Janney, Elstner Associates. I am here today representing the International Scientific Committee on the Analysis and Restoration of Structures of Architectural Heritage of which I am President. Our committee of more than 100 engineers, architects and scientists from all the populated continents took a stand in favor of landmark status for Prentice Hospital in a letter to Alderman Brendan Reilly on May 3, 2011. Like the inventor of the skyscraper, William LeBaron Jenney, Bertrand Goldberg was a Chicago architect and engineer.



International Scientific Committee on the Analysis and Restoration of Structures of Architectural Heritage

website:
<http://iscarsah.icomos.org/>

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<http://www.linkedin.com/groups/ISCARSAH-Structures-Architectural-Heritage-3930057>

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His dual expertise made him a strong advocate for the alliance of architecture and technology. He studied under Ludwig Mies van der Rohe who had made his way to Chicago from Germany in the late 1930s. Goldberg provided translation in the famous meeting between Mies and Frank Lloyd Wright in Taliesin in 1937.

Goldberg's later work rebelled against the tenets of Mies with the adoption of curved forms in concrete yet his work remains strictly Modernist, unique, and helped define post World War II Chicago architecture. Bertrand Goldberg should be placed among the great Chicago architects.

A touchstone of his work was innovation in the use of structure and concrete that is clearly exhibited in the design of Prentice Hospital. Prentice reveals the fruition of Goldberg's concrete shell form. The exterior quatrefoil skin springs from the square interior core making it the first cantilevered high rise shell. The 50 foot cantilever of each side eliminates the need for support columns thus allowing greater flexibility at the three-story building base. This is just one of the significant characteristics of the building.

Goldberg was a pioneer in the use of computer modeling and the complex structural form of Prentice is a result of this technique.

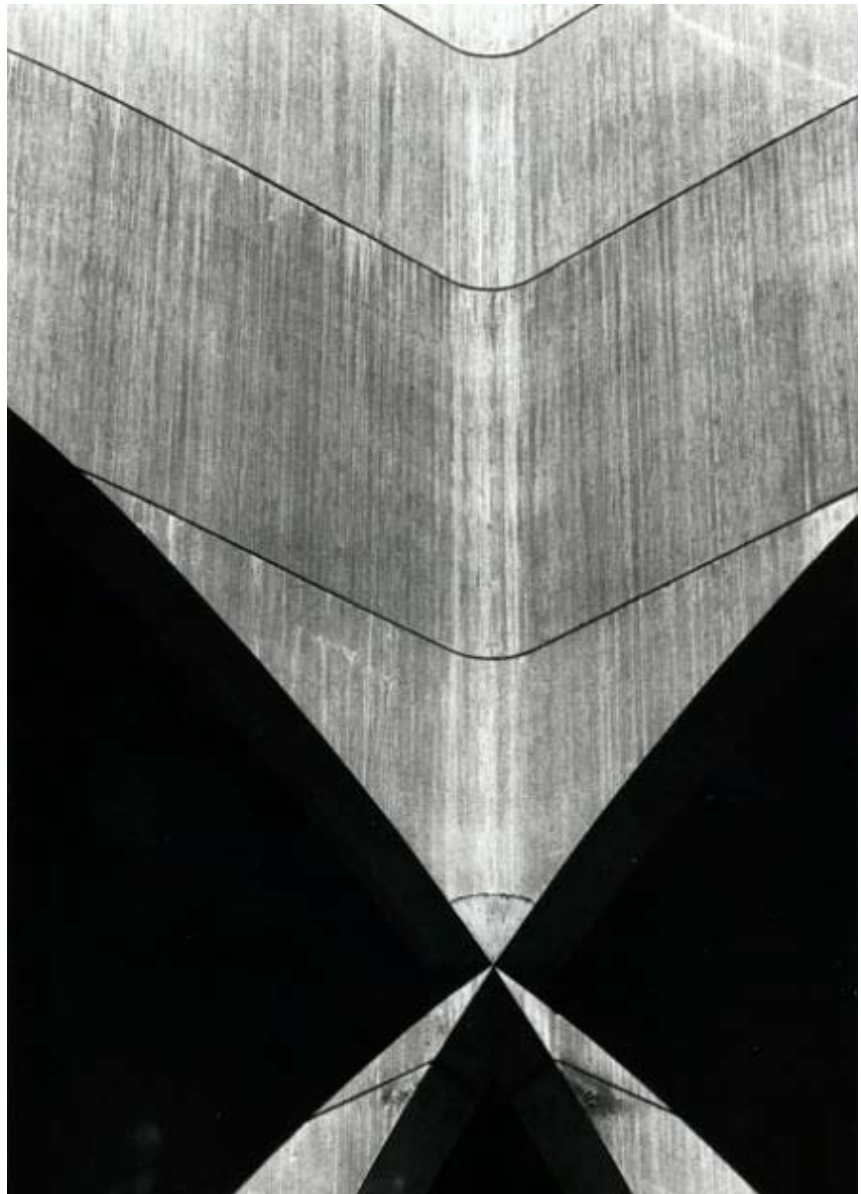
Such computer techniques, prescient in 1975, are now universally on display with such complex works as the Pritzker Bandshell designed by Frank Gehry.

This history of technical achievements is just one of the many reasons that Prentice Hospital deserves to be landmarked and sustained by reuse. Tragically Chicago has a poor record with the stewardship of its built heritage. Jenney's first skyscraper is gone and today one must travel to St. Louis, Buffalo, or New York City to experience the sublime skyscrapers of Chicago's Louis Sullivan. Prentice Hospital remains viable for many uses. It has value as World built heritage. Its maintenance issues are easy to address.

It is time for us to cherish this master work of one of Chicago's great architects before all that is left are drawings and photographs while the real "manuscript" rendered in concrete has been erased.

Thank you,

Stephen J. Kelley
November 1, 2012



Rabat 9ème site marocain inscrit au Patrimoine Mondial de l'Humanité

Khalid El Harrouni

Ecole Nationale d'Architecture, Rabat / ICOMOS Maroc

Rabat, Capitale Administrative du Royaume du Maroc, a rejoint en juin 2012 les 8 sites marocains inscrits sur la liste du patrimoine mondial parrainé par l'UNESCO.

La ville de Rabat figure désormais aux côtés de la Médina de Fès (1981), la Médina de Marrakech (1985), le Ksar Ait Ben Haddou (1987), la ville historique de Meknès (1996), la Médina de Tétouan (1997), le site archéologique de Volubilis (1997), la Médina d'Essaouira (Ancienne Mogador, 2001) et la Cité portugaise de Mazagan (El Jadida, 2004).



Fig. 1



Fig. 2

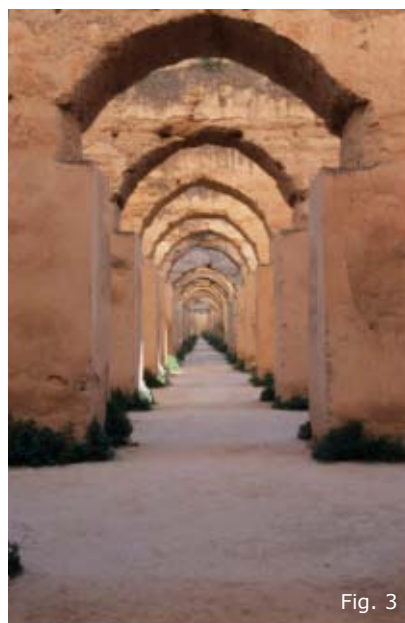


Fig. 3



Fig. 4

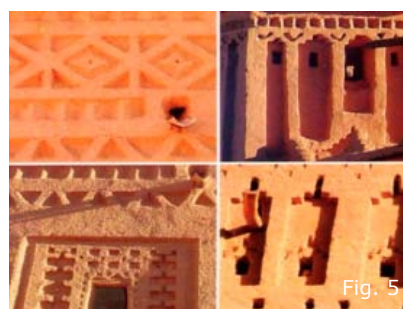


Fig. 5

Fig. 1-2 Quelques monuments historiques à Fès.

Fig. 3-4 Quelques monuments historiques à Meknès.

Fig. 5-6 Ksar Ait Ben Haddou et quelques détails architecturaux.



Fig. 6

Le site de Rabat comprend six composantes: "la ville nouvelle", "le Jardin d'Essais et les jardins historiques", "la médina", "la Kasbah des Oudayas", "les remparts et les portes almohades", "le site archéologique de Chellah". Ce classement offre une reconnaissance internationale au patrimoine de Rabat au nom de plusieurs influences architecturales issues d'un « passé arabo-musulman et du modernisme occidental ».

Nous essayerons de donner un aperçu sur quelques une de ces entités en se basant sur une approche historique décrivant le paysage urbain de la ville ainsi que les éléments les plus intéressants sur le plan architectural et structural.

I. La Kasbah des Oudayas, premier noyau de la ville

Le premier noyau de la ville de Rabat représenté par la Kasbah des Oudayas a été édifié il y a plus de huit siècles par la dynastie Almohade en 1150. C'est une forteresse couvrant plus de 400 hectares, enceinte de murailles imposantes percées de portes monumentales.

Le nom Oudayas, donné à ce premier noyau de l'agglomération de Rabat, ne date que du XIXe siècle alors que la Kasbah elle-même remonte à l'époque Almohade et que ses prolongements vers le sud-est remontent au début de l'époque Alaouite (XVIIe siècle).

Pendant la période coloniale, la Kasbah fut l'objet d'un intérêt particulier à travers un Dahir annonçant le classement des parties monumentales de la Kasbah et des biens makhzen comme monuments historiques et ce le 6 juin 1914. Impressionné par le site, le Maréchal Lyautey, nommé comme résident général du Maroc juste après la signature du traité du protectorat, à Fès le 30 mars 1912, ordonna l'aménagement d'un jardin andalou, d'un musée et d'un café maure et la restauration de plusieurs parties à l'intérieur de la Kasbah. Ces aménagements spectaculaires sur la béeance de la vallée en font un chef d'œuvre architectural incontestable et incontournable au niveau de l'embouchure de l'Oued Bouregreg.



Fig. 7



Fig. 8

Fig. 7-8 Vue d'ensemble de la Kasbah des Oudayas : début du siècle dernier et aujourd'hui.

Fig. 9-10 Murailles de la Kasbah des Oudayas.



Fig. 9



Fig. 10



Une des principales rues de la médina de Rabat.



II. La médina, centre historique de Rabat

Bordée au Nord par le Bouregreg, protégée de l'océan à l'Ouest par les murs d'enceintes de la Kasbah des Oudayas, la médina est ceinturée à l'Est par les murailles Almohades, et au Sud par le mur des Andalous qui sépare la ville nouvelle de la ville ancienne.

Rares sont les médinas aussi bien protégées que celle de Rabat. Ce sont les Andalous chassés d'Espagne au XVII^{ème} siècle et réfugiés à Rabat qui ont créé la médina. En effet, ses grandes lignes esquissées au XII^{ème} puis au XIV^{ème} siècles, prennent véritablement forme au XVII^{ème} siècle. Elle correspondait exactement, dans son tracé, à la médina actuelle. Cette orientation transparaît encore dans sa trame urbaine organisée autour de deux artères maîtresses perpendiculaires.



III. La ville nouvelle, les remparts et les portes Almohades

La ville nouvelle a été édifiée durant la période coloniale française de 1912 aux années 30. Lyautey avait imposé à Prost, Chef de Service d'Architecture et d'Urbanisme, trois mesures à respecter pour parer au désordre urbain:

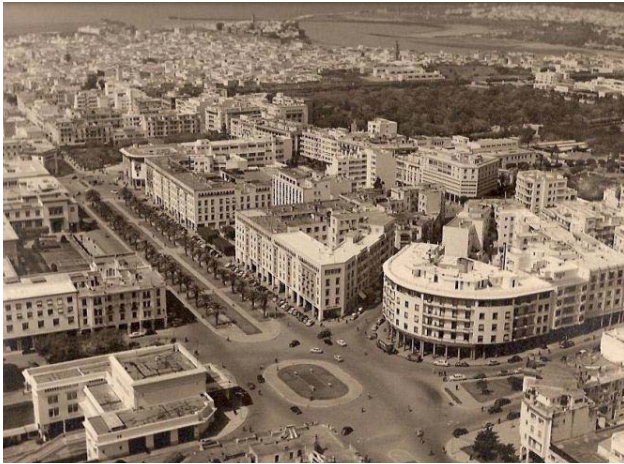
- 1) Séparation entre la ville européenne et la médina.
- 2) Protection du patrimoine culturel local.
- 3) Application des principes les plus modernes de l'urbanisme.

Concernant la seconde mesure, et conscient de l'immense patrimoine culturel du Maroc, Lyautey décide dès 1912 de créer un « service des beaux-arts et des monuments historiques », chargé de la conservation mais aussi de la restructuration de l'architecture ancienne: conservation des remparts et des monuments les plus représentatifs de la culture Marocaine.

En choisissant de créer la nouvelle ville à l'intérieur des remparts Almohades, Prost montra clairement sa volonté d'unifier les deux entités. Lyautey, au départ, espérait contenir sa ville nouvelle à l'intérieur des murailles mais Prost avait projeté la ville de part et d'autre des remparts qui étaient, et le sont toujours, une structure forte de la ville, et surtout sont porteurs des valeurs de la médina.



L'une des Portes Almohades de Rabat: début du siècle dernier et aujourd'hui.



Vue d'ensemble du centre ville et l'axe principal «Boulevard Mohamed V» aujourd'hui.



Banque du Maroc, dans les années 20 et aujourd'hui.



La Poste, dans les années 20 et aujourd'hui.

Par ailleurs, l'une des séquences morphologiques composant l'axe principal qui organise le centre ville, est caractérisée par une mise en scène monumentale des bâtiments publics tels que la Poste, la Banque du Maroc, le Parlement, la Gare ferroviaire,...

Cette dialectique tradition/ modernité "exprime l'émergence d'un style architectural et décoratif original propre au Maroc contemporain". Bien conservée, la ville moderne comprend également des quartiers et des immeubles avec des qualités visuelles et architecturales importantes. En outre, tous les bâtiments qui composent le boulevard principal sont d'époque, de fonction et de style différents. La règle de hauteur d'immeuble, le système de galerie couverte sous les bâtiments assurent une continuité typologique laissant s'exprimer les différentes ar-

chitectures. Le Comité du patrimoine mondial avait souligné que "la réappropriation du passé et son influence sur les architectes et les urbanistes du XXe siècle ont produit une synthèse urbaine, architecturale et décorative originale et raffinée".

"L'ensemble offre à voir un héritage partagé par plusieurs grandes cultures de l'histoire humaine : antique, islamique, hispano-maghrébine, européenne".



Le Parlement, dans les les années 20 et aujourd'hui.



Photo Flandrin

RABAT — La Gare

La gare ferroviaire, les années 20 et aujourd'hui.



Hôtel « BALIMA », les années 40 et aujourd'hui.





Exemple d'immeuble pour habitation.



IV. La tour Hassan, le monument le plus célèbre de Rabat

La tour Hassan a été construite en 1184 par le Sultan Yacoub El Mansour (XII siècle). Il projetait de construire la plus grande mosquée du monde musulman, après celle de Samarra en Irak. Malheureusement, les travaux furent abandonnés après sa mort en 1199. La tour devait culminer à plus de 60 m, mais n'atteignit que 44 m. Son style est un chef d'œuvre de l'art marocain traditionnel.



La tour Hassan, le monument le plus célèbre de Rabat.



V. Le site archéologique de Chellah

D'autres sites témoignent de l'histoire bien antérieure de la ville de Rabat, notamment le site archéologique de Chellah qui est classé et protégé par les autorités Marocaines. C'est une nécropole méroïde qui date du XIII^{ème} siècle et qui occupe la colline qui domine la vallée de Bouregreg.

Le site est considéré parmi les destinations les plus attractives de Rabat de par la richesse historique et naturelle qu'il offre.

VI. Recommandation de l'ICOMOS pour l'inscription de Rabat

Le Comité du patrimoine mondial a suivi, dans sa décision, la recommandation du Conseil International des Monuments et des Sites (ICOMOS) qui, dans un rapport d'évaluation rendu en mai 2012, avait préconisé l'inscription de Rabat sur la base notamment des critères (ii) et (iv) de la Convention du patrimoine mondial.

L'ICOMOS avait estimé que le critère (ii) a été justifié, puisque "par son ensemble urbain, ses monuments et ses espaces publics, la ville moderne de Rabat respecte les nombreuses valeurs du patrimoine arabo-islamique antérieur et s'en inspire. De manière exceptionnelle, elle témoigne de la diffusion des idées européennes du début du XX^e siècle, de leur adaptation au Maghreb et, en retour, d'une influence sur l'architecture et les arts décoratifs autochtones".

En justifiant la satisfaction du critère (iv), l'ICOMOS affirmait que Rabat "apporte un exemple éminent et achevé d'urbanisme moderne, pour une ville capitale du XXe siècle, par une organisation territoriale fonctionnelle qui assume une intégration des valeurs culturelles du passé au sein du projet moderniste. La synthèse des éléments décoratifs, architecturaux et paysagers, de même que le jeu d'opposition entre présent et passé, offrent un ensemble urbain raffiné et rare". L'ICOMOS avait souligné aussi que Rabat satisfait les conditions d'"intégrité" et d'"authenticité" justifiant l'attribution de la "valeur universelle exceptionnelle".



Le site archéologique de Chellah, en 1889 et aujourd'hui.

Restoration news from Cyprus

Michael Pittas Civil Structural Engineering Consultant

Athina Papadopoulou Conservation Architect

ICOMOS Cyprus Section

Restoration of Ancient Monuments (declared as Ancient Monuments under the Antiquities Law) in Cyprus is primarily undertaken by the Department of Antiquities, Cyprus (DAC) and seldom by contractors in the private sector, which are then supervised by the DAC. The listing of Monuments is done under two categories: (i) State properties are listed under Schedule A and (ii) private properties are listed under Schedule B. Even in cases when the Monument doesn't belong to the state the DAC can still carry out the restoration, or supervise works, funding by approximately 50% of the cost. This motivated a lot of owners in the private sector to proceed with the restoration of their properties.

However, the restoration of Ancient Monuments is only a fraction of the restoration work carried out in Cyprus. There are a lot of villages that came back to life through the restoration of vernacular rural houses. Funding for the restoration of listed traditional buildings is given by the Ministry of Interior through the Preservation Sector (PS) of the Department of Town-Planning and Housing under the financial incentives scheme for listed buildings. The scheme offers a grant to listed building owners up to 40% of the restoration cost in urban areas and up to 50% in rural areas in combination with the sale of building rights.

Many people prefer to live in the quiet and clean environment of a village, especially if the village is only a 20-30 minutes drive from the town and their work. So they take advantage of their grandmother's house or they buy a traditional house. In some cases people, Cypriots and other nationals buy traditional houses and restore them to have a country house for their vacations. The new holiday type, agro tourism, provided motives for business people to buy traditional houses, restore them according to the regulations and operate them as hotel units. Additionally, major restoration projects have been implemented in the



House at Tochini Village.



House at Kalopanayiotis.



House at Sia Village.



House at Nicosia, Embassy.



Technical Chamber of Cyprus.

historic walled city of Nicosia under the bi-communal Nicosia Master Plan project which began in 1979.

A multidisciplinary team was formed comprising Greek Cypriots, Turkish Cypriots and international experts to develop an integrated planning and conservation framework for the historic core and future development outside the Venetian walls of Nicosia.

Rehabilitation of the historic center of Nicosia was a primary goal especially since it was largely abandoned by families after the conflicts of 1963 and the war of 1974. The center was depopulated; workshops and other inappropriate uses moved in or buildings were abandoned. Architectural heritage was severely damaged through time and in a lot of cases became dangerous. Nicosia Municipality created industrial zones and gave funds to move workshops.

The Chrysaliniotissa and Arab-Ahmet rehabilitation residential projects expropriated housing units and restored them to be used by young couples in low rate rents. Other private houses were restored by their owners taking advantage of the listed building funds. Through the Nicosia Master Plan project



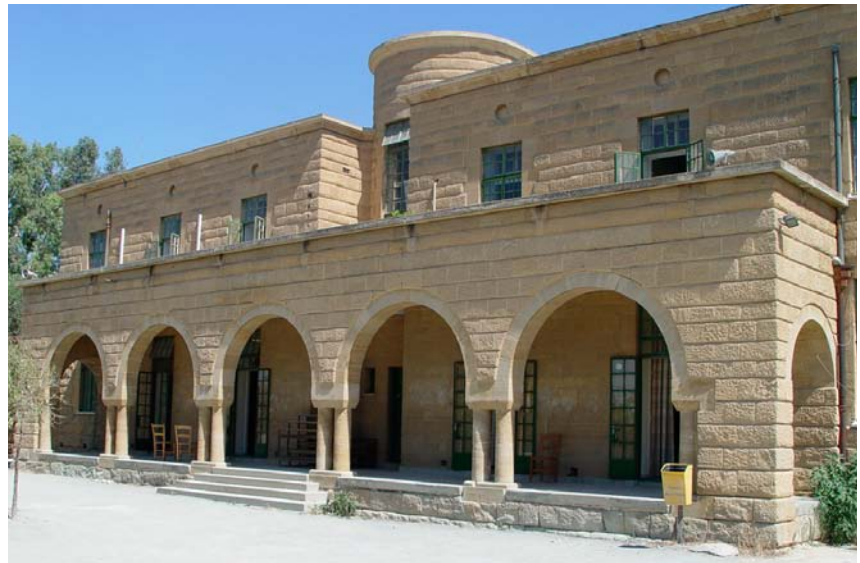
Private house at Nicosia.

major restoration and infrastructure projects have been implemented on both sides of the buffer zone the last thirty years aiming at regeneration of the historic core. Also, public authorities have restored historic buildings and use them for their offices and private companies have bought old mansions to restore and relocate their business.

However, there is still a long way to go since workshop tenants are protected by the rental laws and they have been there for decades. Some refuse to go away and it is very difficult to take a court's decision for eviction, even if the building is in a very bad condition.

All over the island traditional schools are being restored. In these cases the Ministry of Education and Culture issued additional regulations, following the principles set by the DAC and PS. Some of the schools are listed Ancient Monuments as well.

In Limassol for example a new University has been established a few years ago and a lot of old traditional buildings, used by governmental authorities or expropriated, were vested to the University. A lot



Akropolis Gymnasium.



University buliding at Limassol.



Pancyprrian Gymnasium Lyceum.



Elementary School at Lithrodontas Village.



Zinovia old cheese-dairy building. British Council's new Offices in Nicosia.

of these buildings have been restored and some of them are currently under restoration. In all these cases Consultants and Contractors comply with the Principles for Restoration that are enforced by the DAC and the PS. These follow the internationally approved and recognized charters and recommendations.

During past years the involvement of an engineer to study the level of safety and recommend structural interventions was not compulsory. After the damages that developed by earthquakes of '95 and '99 authorities revised their original approach and started to ask for a structural evaluation of the traditional building in order to issue a building permit. They realized that the fact that some of these buildings have survived for decades don't mean that they fulfil safety requirements and that their existing condition should be evaluated.

This triggered a debate between architects, structural engineers and the authorities since structural interventions should follow the local laws and regulations (Euronorms) on one hand and follow the preservation guidelines on the other hand. There are many cases in which requirements for safety and preservation principles don't reach a common solution.

Especially when it comes to schools and university buildings the requirements for higher live loads and earthquake return periods bring problems. For simple houses the law, for the time being, is not that strict. It requires that the owner is fully informed about the earthquake problem, the probable cost of works for improving the performance of the building and the related risks and leaves the final decision on his shoulders. Approximately half of the owners choose to implement the works, which is a very good step forward.

The debate however continues with the authorities for the State owned Ancient Monuments and listed Traditional buildings. For example in some cases terms and conditions included that the buildings should be designed for a return period double the one usually used for other buildings at the area and additionally use a high importance. This increased the base acceleration very much. It was impossible to achieve such a level of improvement without deviating from the preservation principles. The original materials traditionally improved and repaired and with adding reversible works to improve the earthquake performance could upgrade the safety level up to a reasonable point, which was approximately same with the level of any other new usual building at the same area, but not to the level specified by the terms. Finally, the authorities accepted that this is a rea-



Othello Castle in Famagusta.

sonable and adequate level of safety and revised their original requirements.

During the debate between authorities and consultants the ISCARSAH recommendations are always brought to the table together with the rest of the charters for Restoration of the Architectural Heritage. The 2006 meeting of the Committee in Cyprus and the Workshop held in a Monument more than 700 years old made people understand that there are many ways of approaching the solution to a problem. Knowledge, experience and resourcefulness usually help in finding the appropriate solution but sometimes compromises are also necessary, as long as the risk is assessed and other measures are also taken into account.

In April 2008 prior to the commencement of direct talks the leaders of the two communities, Greek Cypriot and Turkish Cypriot formed a number of bi-communal Working Groups and Technical Committees to achieve confidence building measures. Therefore, the Technical Committee on Cultural Heritage was formed and has been in operation since then. The mandate of the Technical Committee on Cultural Heritage included the development of a mechanism for the protection and restoration of the immovable common cultural heritage in the whole of the island. With the help of UNDP-PFF (United Nations Development Program-Partnership for the Future) four monuments are about to undergo emergency support interventions, a further list of the next ten monuments will undergo study for restoration interventions and a full inventory and mapping of monuments and sites, "The Cultural Heritage Study in Cyprus" has been completed through UNDP-PFF.

Important and extensive restoration works are also carried out by the UNDP-PFF (United Nations Development Program-Partnership for the Future). A series of Monuments on both sides of the buffer zone are under study, tender and or under restoration. Bi-communal or international multidisciplinary study teams have undergone the study of monuments such as Bedestan, the Nicosia old Market, Othello tower, upgrading facades and infrastructure of Phaneromeni, Samanbahce, Selimiye areas and others.

The upcoming years are very difficult due to the local and international financial crisis. Funding already faces difficulties. Works in buildings under restoration sometimes are delayed since owners have already spent their part of the budget and are expecting the grant funds to finish works. The crisis reduced the turnover of the restoration business during 2011 - 2012. Same conditions or even further reduction is expected in 2013.

The ISCARSAH Toolbox

Donald Friedman

After extensive planning and discussion, committee members have begun work on the ISCARSAH "Toolbox," a handbook on the principles and process of structural conservation.

The handbook will explain the processes to be adopted in the assessment of an historic structure and address the characteristics of the various materials and how they affect the process. It will discuss how conservation methods are chosen and how the work should be organized. The proposed methods will take into account the ISCARSAH Principles (as the core document of the committee) and the ISO 13882 Annex on Historic Buildings that was written by ISCARSAH.

David Yeomans is editing the handbook, assisted by Donald Friedman; since the goal of the project is to have a source that represents the best practices of the ISCARSAH expert members as a group, both writing and peer review of the various portions of the book are being spread among as many members as possible. In short, the more members who volunteer to write and/or review, the better the final handbook will be.

The handbook will address con-

cerns about cultural differences through the inclusion of authors of different nationalities and differing work backgrounds. Each chapter (or section of a chapter for the longer topics) will be the result of at least three people's work: the chapter author, a peer reviewer, and an editor.

Our goal is to see that these people have different backgrounds so that no one cultural view is included unchallenged.

The book will be divided into four parts: Principles, Materials and Structures, Process, and Appendices. The first part, on principles, consists of the ISCARSAH Principles with an explanation (for non-members) of ISCARSAH's history, and a discussion of the limitations of design codes in conservation work.

The second part, on materials and structures, is intended to give a thorough overview of the existing built environment (from an engineering viewpoint) and the influences that created it. This includes materials of construction, structural assemblies, history, and structural mechanisms.

The third part, on process, includes the steps involved in structural investigation, analysis, and repair design for the building types

discussed in the second part, with emphasis on those portions of the work that are outside the scope of ordinary structural engineering: forming a comprehensive team, examining the history of the building, investigating the form and action of the existing structure, and reviewing heritage values and the effect of repair work on those values. This part is the core of the handbook, as it where we will be providing an outline of conservation engineering according to our principles.

The fourth part, the appendices, will include a discussion of cultural values and the need for methods and repair designs to fit within the same culture as the building in questions, and a discussion of nomenclature, to create (at least within the handbook) a consistent set of terms for conservation engineering.

While we have made much progress in assigning writing of the various sections to volunteer authors, there are still authors needed. Once a first draft is complete, we will need peer reviewers. Anyone interested should contact David Yeomans at mail@davidyeomans.co.uk or Don Friedman at dfriedman@oldstructures.com

Reunión del Comité ISCARSAH en Wroclaw

María Margarita Segarra Lagunes

Dipartimento di Architettura - Università degli Studi Roma Tre

El pasado 14 de octubre de 2012, en ocasión de la 8th International Conference on Structural Analysis of Historical Constructions (SAHC 2012) llevada a cabo en Wroclaw (Polonia), se celebró una reunión del Comité ISCARSAH. Se contó con la participación de miembros de diferentes países que discutieron sobre temas que conciernen la actuales actividades del Comité. Fue presentado el nuevo Sub-comité de evaluación, constituido por Kelley, Schroeter, Turer y Yeomans. Se debatió sobre la posibilidad de introducir una cuota anual que contribuiría a sostener algunos gastos fijos del Comité y fueron discutidos los criterios de evaluación de las candidaturas de nuevos miembros. Por la tarde, se ilustraron tres casos de estudio: Hanazato sobre construcciones tradicionales de madera en Indonesia, Kelley sobre los problemas de corrosión del Arco Gateway en St. Louis (Missouri) y Laefer sobre la nueva iniciativa LIDAR, ligada al patrimonio cultural y financiada por la Unión Europea. Donald Friedman informó sobre el proyecto de Toolbox del ISCARSAH, Segarra sobre la Newsletter y Kelley sobre la página web y los próximos encuentros del Comité.

Fue posible asimismo visitar el Pabellón del Centenario, obra del arquitecto alemán Max Berg, realizado entre 1911 y 1913 en hormigón armado, para conmemorar la victoria de las tropas prusianas sobre Napoleón en 1813, hoy inscrito en la Lista del patrimonio Mundial de la UNESCO.



ICOMOS Italiana Working Group on the Seismic Event in Emilia Romagna



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Prof. Sergio Lagomarsino

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Ing. Luciano Marchetti

Prof. Ing. Luigi Petti



Historic centre of Concordia sulla Secchia.

The seismic event that struck the low part of oriental Po valley with two main tremors on May 20th and 29th, 2012, with a magnitude between 5.8 and 6.0 on the Richter scale, damaged, in a significant way and on an extensive area,

historical monuments, houses and industrial sites, deeply devastating the geomorphology of wide areas with consequences on soil conditions, surface and ground water and erosion phenomena.

The area in which are included the provinces of Ferrara, Modena and Mantua and partially Bologna, Reggio Emilia and Rovigo was deeply hurt and devastated in its essence made of identity, social and economic relationships, organized in urban, productive and rural areas, where monumental and landscape heritage values are strongly related to each other.

The damages of the constructions and the doubtfulness of the risk conditions as for the specific crack patterns determine a serious unease. In this emergency situation, in which the static configuration of buildings is generally compromised by the main event and is subject to steadily worsening due to after- shocks, the experts called to give technical answers have to take a great personal responsibility with the possibility of both caution excess, which extends time and doubts, and hasty decisions of demolitions. The risk that companies can propose solutions not comparable neither at a technical level nor at cost levels is high, making also possible speculation.

Due to the uncertainty of times and procedures, those who have the financial resources and who want to quickly return to normality could realize fast new houses or industrial sites, notwithstanding the current regulations, with the effect of indiscriminate increase of space wasting, introduction of building typologies unfamiliar to the territory, removing the chance to recover the original heritage and landscape.

In the areas hit by the event there are three World Heritage Sites on which it is necessary to pay the maximum attention:

- WHS Cathedral, Torre Civica and Piazza Grande Modena;
- WHS Ferrara, City of the Renaissance, and its Po Delta;
- WHS Mantua and Sabbioneta.

The universal and extraordinary values of the above-mentioned sites are strictly related to the ones of the landscape, of the urban and rural areas, and of the traditions which make those sites World Heritage.

As a consequence, it should be necessary to define areas in which joint measures might be taken, aiming at improving both single properties and historical urban centres, thus preserving the landscape as a whole.

In this context, ICOMOS Italiana, as advisory body of the World Heritage Committee – UNESCO, aims at promoting initiatives to preserve landscape by monitoring the current situation, and giving a guide and monitoring the actions on cultural heritage. ICOMOS Italiana underlines that measures have to ensure responses to immediate needs of a common agreement that does not affect the identity of places and the integrity of the architectural heritage and landscape. Recovery and reuse of the structures

must be guaranteed by mean of a multi-faceted strategy that allows rapid interventions and long-term actions. This strategy must focus on primary consideration of tangible and intangible value of the environment and the landscape as a whole, without defining hierarchies of value between the different components: cultural heritage, houses, production, facilities, territory.

The methods of reconstruction should provide an opportunity to introduce maintenance practices and land management oriented to the reduction of consumption of non-renewable resources starting from the ground, the awareness of the environmental factors fragility, risk prevention, adaptation to climate change, conservative management of forestry assets. The earthquake emergency becomes the opportunity to affirm the territory as a model of "best practice" of sustainability and proactive response to the risks and disasters operating for this purpose to:

- Restore in urban areas a tissue that identifies the characteristics, the quality of spaces and the living conditions using the resources in the most efficient way;
- Combine agricultural production in rural areas with the qualitative and quantitative management of water resources and maintenance of the systems of artificial water drainage and reclamation;
- Promote innovative forms of recycling and re-use of traditional techniques and local materials in construction practice;
- Encourage the participation of the population and, in particular, of the weak segments, enhancing the system of local self-government and their aggregate forms in the decision-making management;
- Operate with a view to planning policies on the entire Cispadano district for resource planning and infrastructure.

In that area ICOMOS Italia recognizes and underlines the following main initiatives:

Prevention: "Priority chart"

The philosophy of prevention is one of the main discussed issue after each earthquake and then, often, forgotten. In 1990 in Assisi there was a conference on the prevention and preservation of cultural heritage, in which there were made several practical proposals which had not been followed up. In 1998, after the partial collapse of the basilica, an international conference was organized with the aim to develop a "risk chart".

Several initiatives could be found nowadays but a risk chart seems so far with regard to the intrinsic value of each good, by considering its significance in urban and landscape context, costs, etc..

The exact knowledge of the situation in the territories stricken by the event is a necessary condition to define policies and guidelines to develop safety and preservation measures for the cultural heritage.

ICOMOS Italiana would like to develop initiatives finalized to the collection of the available information and data on the cultural heritage present in the areas hit by the seismic event in order to have an online database. This will be the first step to define the priority chart.

Historical centres and built-up areas: implementation of safety measures

Attention should be given to town centres and small built-up areas whose value consist not in the individual element but in the context in which they are. A massive intervention of propping and consequently a prolonged closure of activities cause an increase in degradation and future costs and destroy the social fabric which represents the true value of an historical centre: this is unfortunately what is happening in L'Aquila.

Of remarkable importance is the concept that the value of a cultural good is inseparable from the possibility of enjoyment of the same. Therefore, the protective measures, although put in place in emergency, should be designed to be used in a short-term period, or, alternatively, be incorporated to program the availability of the good. This awareness points towards strictly necessary safeguarding measures, taking into account the financial shortfalls that arise anyway during events that affect seismic areas characterized by high levels of vulnerability. These measures can provide temporary safety relief that ensures feasibility for limited periods waiting for further definitive interventions.

The reconstruction can only be preceded by an historical, environmental and urban planning study that dictates strict rules for



Damage in the historic centre of Concordia sulla Secchia.

Photo: Tiziana Casaburi

the redevelopment of the area and the preservation of its values. These rules may also represent a filter for the elimination of incongruous structures. It is necessary a rational reconstruction, avoiding bad and simplistic repetition of built-up areas.

Temporary feasibility

Feasibility is one of the most important problems that arise immediately after an earthquake. The procedure for issuing a certificate of occupancy, however, can be delayed, particularly in the case of cultural heritage, by several factors, including the time required for a complete understanding of the situation of instability and accountability that becomes sometimes very heavy. All of this can lead to excessive caution.

It should be noted, therefore, the importance of the "Temporary Feasibility" criterion which would allow a time-limited use, including temporary and/or partial interventions and periodic check on structures to verify and monitor the evolution of the conditions of feasibility awaiting of more massive and expensive work. The explicit regulation of this criterion, clarifying responsibilities and legal aspects, would allow the technician to act notwithstanding the most restrictive laws, avoiding excessive precautions that could have a profound impact on the cost and recovery of activities.



Damage in the town of Concordia sulla Secchia.

Temporary measures, Partial measures

Of particular relevance is the definition of safety and performance levels that can/should be pursued in the implementation of seismic improvement interventions on cultural heritage. The choices of action may involve, in fact, both a distortion of the property on which they operate and a burden of responsibilities and role of the designer. It is also recognized that temporary measures, or part of them, may be considered as a first step towards the establishment of a comprehensive project of repair and/or consolidation in which "Partial measure" criterion has a substantial role.

It is of utmost importance to explicitly include temporary improvement measures in guidelines and standards, clearly defining specific performance levels.

As far as the emergency management is concerned, the necessity to preserve the integrity of the cultural heritage, in the context of a correct restoration approach, requires the necessity of applying interventions of extreme urgency "compatible" and "reversible". Chaining, for example, can be in many cases an active solution for final consolidation purposes with the advantage of allowing an immediate use with less bulk and obstruction, compared to widespread propping.

Subsequently, the final restoration will be guided by the binding rules for interventions on masonry buildings respectful of their nature and disregarding the ineffective reinforcements, for example, with rigid structures in reinforced concrete, which have shown in many cases their dangerousness encouraging or causing collapse.

It should be emphasized that a reasonable reconstruction requires longer times in order to meet two fundamental requirements:

- Preserve the existing structures such as track and witness for the reconstruction, preserving their static and defending them from predictable deterioration due to weathering;

- Create the conditions for cultural heritage temporary use, so that population continues to feel they belong to part of the city.

The technical and administrative procedures should be coded as far as possible, avoiding starting to lay down rules for the reconstruction at every catastrophic event without taking into account the positive experiences of past events. In the case of L'Aquila, for example, three years after the earthquake, notwithstanding the reopening of some parts of the old town, there are still no defined administrative rules and technical advice that allow individuals to take action for the reconstruction of their homes.

Public-private participation

Past and recent experiences show a general unsustainability of policies aimed at the preservation of cultural heritage. These policies are based only or mainly on public support. This is even more dramatically evident the greater the cultural heritage of a country, especially with Italy.

A solution lies in the possibility to activate new management procedures which see the sharing of private as an active part and not just with promotional intent. In this context, the "Loan" is an administrative way for individual assets as part of a territorial policy of management promoted by public and private actors.