



The canal warehouses, photographed by the Architect G. Pediconi. *Architetture del silenzio* exhibition; Guzman powder magazine in Orbetello (GR), July 2013.

Estimados amigos y colegas del ISCARSAH, aprovecho este número para enviar un breve mensaje como vicepresidente del Comité y directora del Boletín ISCARSAH, ahora que esta publicación periódica cumple dos años, en los que ha recogido gran aceptación, y no solamente entre los miembros del Comité. El Boletín informa puntualmente sobre iniciativas y actividades de sus miembros, pero recoge también artículos de interés más amplio: investigaciones científicas, noticias breves, anuncios de eventos por venir. Haciendo un balance de los números anteriores, consultables en la página web del Comité y en otras páginas de los Comités nacionales del ICOMOS, es evidente que destacan, entre otros, los artículos dedicados al tema de la recuperación y de la restauración de las estructuras históricas, en los que se muestran enfoques diferentes y criterios y técnicas adoptados en contextos ge-

ográficos y culturales muy diversos. La lectura de estos textos permite estar al día de lo que sucede en otras latitudes, confrontando experiencias y enriqueciendo el debate internacional sobre la materia.

Sin embargo, a pesar de los grandes esfuerzos de la comunidad científica, los eventos catastróficos — terremotos, tsunamis, huracanes —, así como el abandono y la indiferencia hacia los edificios del pasado aumentan, día tras día, la lista de edificios de interés patrimonial destinados a desaparecer irremediamente.

Y si bien es verdad que, por un lado, el tema de la sustentabilidad, el reciclaje y la reutilización de los edificios adquiere cada vez mayor importancia, es también cierto que poco se hace concretamente para encontrar nuevas formas de uso para los edificios pertenecientes sobre todo a un pasado reciente. Grandes fábricas, edificios industriales y de servicios, pero también inmuebles sobre los que pesan condenas ideológicas sin tomar en cuenta su calidad constructiva y arquitectónica, caracterizan territorios y marcan el planeta sin lograr activar procesos de regeneración urbana y social. A este propósito, la reciente publicación de Patrick Sparks, mencionada en este número, presenta un caso concreto de evaluación de costos/beneficios de edificios militares anteriores a la segunda guerra mundial en los Estados Unidos.

En el presente número se ilustran dos trabajos de investigación que se enfrentan, en el primer caso, al difícil tema de la recuperación de un edificio industrial — una fábrica de abono — localizada en un contexto geográfico de extraordinario valor ambiental y realizada enteramente en madera; el segundo, orientado a llamar la atención sobre un edificio deportivo realizado en la década de los Treinta en Roma, hoy en condiciones de completo abandono. Otro artículo, concerniente la arquitectura reciente, está dedicado a la Casa Árbol, una casa experimental que Giuseppe Perugini y Ugo de Plaisant realizaron en un pinar cercano a la playa de Fregene, en la costa italiana, como manifiesto de una arquitectura que buscaba un nuevo lenguaje y nuevos procesos constructivos y que hoy requiere de una intervención urgente para salvarla de una inminente destrucción.

Coherente con este tema, Orestes del Castillo ilustra dos casos de edificios del siglo XX: un interesante mercado en Rumanía, que fue demolido, y un hospital en La Habana en inminente riesgo de desaparecer.

En conclusión, Khalid El Harrouni refiere sobre el encuentro ICOMOS Marruecos con el tema *Casablanca, lugar de memoria*, y Görün Arun presenta la propuesta de un curso de formación, a organizarse conjuntamente entre el ISCARSAH y el Comité ICORP, sobre el tema de la prevención de riesgos del patrimonio cultural.

Cierro estas líneas, invitando nuevamente a todos los miembros del ISCARSAH a contribuir a que este Boletín siga siendo un útil y ágil vehículo de intercambio de experiencias e información.

Cordialmente,

María Margarita Segarra Lagunes

Vice-presidente del ISCARSAH y Directora del Boletín ISCARSAH

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Ex S.I.TO.CO. A factory on the lagoon

Case study of the wooden structures of a chemical factory in Orbetello (Grosseto, Tuscany)

Francesca Isabella Micco
 Architect

Background

At the end of nineteenth century, chemical soil fertilization became standard practice in farming techniques in the more developed parts of Italy. Indeed, it was relatively easy to start producing chemical fertilizer: entering the market required only a small capital investment and simple machinery. By 1900, Italy was home to over 50 plants dedicated to the production

of superphosphate, for the most part in the North (Pezzati, 1990). This industrial sector soon thrived in an agriculture-based economy. While in the 1930s this industry reached the peak of its development, by the 1960s it was already in decline, unable to compete with an expanding petrochemical industry. Wooden structures were deemed ideal for the construction of fertilizer production plants.



The original settlement in an old postcard (in Savoi L., Andreuccetti B. (eds.), *Orbetello una storia*, Grosseto 1994).



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The Sulphuric Acid plant, c. 1920 (in Edison Archive at Centro per la cultura d'impresa, Milan).

While traditional steel and concrete systems are prone to corrosion caused by nitrogen and sulphuric compounds (widely used in fertilizer production), wood offers corrosion resistance and cheap production costs. Furthermore, it allows for the construction of complex and articulated structures using small, easy to assemble elements (Tampone, 2004).

Only a few industrial buildings with a wooden structure still exist in Italy. Some are of paramount interest not only for their construction techniques and formal characteristics, but also for their intrinsic historical and cultural value. The Ex S.I.TO.CO.¹ Sulphuric Acid plant and its “Superphosphate” warehouses are fully representative of this heritage.

A rural factory

The *Società Prodotti Chimici, Colla e Concimi* (Chemical Products, Glues and Fertilizers Company) was founded on January 12, 1899 in Rome. Initially based in Southern Italy, where the company intended to fill the chemical industry development gap with the North, it rapidly expanded northward into southern Tuscany. The area's sizable mining industry and good infrastructural network allowed the company to assume a leading role in what was still an essentially rural economy (*Società Prodotti Chimici, Colla e Concimi*, 1912).

In 1907 the Company built a factory in Orbetello. This fishing village, 150 km north of Rome, lies on the shores of a natural lagoon created by two strips of sand linking the mainland to the promontory of Monte Argentario.

The original settlement was developed over the first 20 years of the twentieth century². Initially two large plants were built: the Sulphuric Acid plant, equipped with the necessary lead-lined chambers and furnaces; and the superphosphate fertilizer plant, with its warehouses dedicated to the milling, grinding and refining of raw materials.

At the same time more accessory structures were erected: a steam boiler, a chemical laboratory, some workshops and a housing area for workers. Over the course of 80 years there were many changes in ownership³. The factory was extended and some sections were largely reorganised, including new production lines. In the 1960s aluminium and cryolite plants were also active. However, new chemical production



The Superphosphate fertilizer plant warehouses, 1920 (in Edison Archive at Centro per la cultura d'impresa, Milan).

methods and more modern construction techniques did not alter the substantial entity of the two original plants. As a matter of fact, their wooden structures proved effective, sturdy and durable. Only a few building materials were substituted over the years.

The Sulphuric Acid plant

The Sulphuric Acid plant was used to produce one of the chemicals required to make fertilizer. From a formal point of view, there is a clear reference to the rural architecture typical in this area at the time the factory was built. The entire



View of Orbetello from the lagoon. The Ex Sitoco factory is in the background.



The artificial canal in front of the plant (2013 © Micco F. I.).

building is characterized by rough-hewn limestone blocks and brick borders at corners. Large arches topped by brick archivolts dominate the basement floor. Higher up, brick trellises define cross-shaped compositions, covering large structural openings: this device is very common in traditional Tuscan haylofts, as it allows for cross-ventilation and lighting, while simultaneously decorating the structure (Mancini, Zucchi, 1986). The building is made up of three large separate areas totalling over 53,600 square meters. The two low-rise areas facing northwest, made up of a single large room, were used to house 8 to 16 pyrite furnaces. Sulphur dioxide was obtained through the combustion of sulphide minerals (i.e. pyrite), which had to be transferred to the tallest space, home to the lead chambers (lined with 4 mm thick lead sheets). After a phase of purification, the gas passed through the chambers (5 in 1911, 10 in 1917, and, finally 24). Each was a 14 meter-high parallelepiped structure with a base of 4 x 6 meters. The lead-chambers used to sit in the spaces



The Sulphuric Acid plant: external view (2013 © Micco F. I.).

left empty by a dense and impressive pitch pine timber frame (*Pinus Rigida*)⁴, which still constitutes the internal structure of the building that, together with

the outer walls, supports the two double pitched roofs.

To allow for the handling of materials and monitor the phases of production,



The masonry façade (2013 © Micco F. I.).

the building was provided with two footbridges for each bay; these footbridges, only 60 cm wide, are distributed on three levels and run parallel to the timber trusses. Linked by small-suspended stairs, the footbridges are supported by large beams, in turn set into the walls and bolted to the wooden columns. The centrally braced columns are linked to the principal rafters by struts and contribute to supporting the trusses. The trusses were designed as a variant of the “simple Palladian” truss.

The roof is not only impressive for its dimensions, but also for the extremely interesting structural devices which were used over the time: each tie beam is double, assembled from three pieces and reinforced by a wooden block interposed between the two main sections; the king post is rigidly fitted and extended over the principal rafters. This offers the bearing structure for a further reduced size double pitched roof measuring the length of the main roofing. The roof was fitted with breaches for exhaust gases and polluted air. The rooftop was covered by a layer of Marseille-type tiles applied directly to the laths. Over the years these tiles were substituted by large prefabricated asbestos sheets.

All wooden columns were raised above the ground by a poured concrete pedestal. Over the time this simple pedestal became larger, now constituted by either a trapezoidal reinforced concrete or brick base, creating a solid and insulating layer between post and ground.

The Northwest side of the plant was made up by a more recently constructed reinforced concrete structure (1930-1940). This building housed the Glover towers, required by the lead-chamber process to recover nitrogen oxides and cool the gases from the burners.

The Superphosphate fertilizer plant warehouses

The fertilizer department area occupied the lagoon waterfront. This position allowed for the easy stocking of incoming raw materials: an artificial canal was purpose-built to transfer the North African phosphate rock (imported from Africa) from the nearby docks of Porto Santo Stefano. The barges carried the rocks just opposite the Superphosphate plant. Incoming material was offloaded from the barges by an industrial elevator and stored in the warehouses. Here the



The pyrite furnaces area (2013 © Micco F. I.).



The lead-chambers area (2013 © Micco F. I.).

raw material was milled, ground and refined, before being transferred and processed in the Superphosphate plant, a semi-open space still occupied by the original machinery. The warehouse for the processed materials is a 100 x 60 meter space, dominated by impressive wooden structures. Nine rows of columns support the roofing where the pitches of the two adjacent roofs meet. The columns are joined to the truss by struts, thus creating an atypical design, measuring approximately 11 meters. This truss design overcame more canonical types, using empirical devices intro-

duced by experienced carpenters. Principal rafters and tie beams are simply jointed, while the trusses are fitted using three pairs of struts, of which two stand vertically and one horizontally. A conveyor belt system, hosted on the footbridges, passed through the struts. The walking planks connected to some bare railings constituting the footbridges are still visible nowadays.

The masonry structure of the building uses the same elements and techniques employed in the construction of the sulphuric acid plant. The repertoire is enriched here by the



The wooden footbridges (2013 © Micco F. I.).



A detail of the wooden carpentry (2013 © Micco F. I.).

use of wood planking in the superphosphate plant, in the passage connecting the plant to the low-rise warehouse section, and in the Southeast end warehouses.

Current status and survival risks

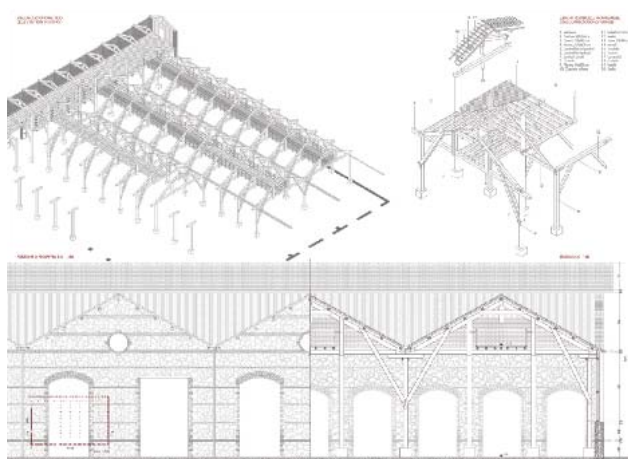
The intrinsic characteristics of this industrial site, situated next to a saline wetland constantly at risk of flooding, has greatly contributed to the general state of decay of the buildings, and in particular of their wooden structures. However, the main problems are now linked to the total absence of any maintenance: no ordinary maintenance has been carried out since 1993, when the factory definitively closed its doors; today the most valuable areas are in danger. A general state of neglect and abandonment, the ruined roof and the absence of doors and windows have allowed the atmospheric agents to directly damage the building's materials. The wooden structures, long weather-beaten, present various degree of damage due more to the cyclic process of wetting-drying than to shortcomings in the original design.

In the Superphosphate plant warehouse the lack of the roof covering on the front of the canal has caused structural damages (collapses and slits) to some of the trusses, rendering some of them irreparable. In some cases the wooden columns were fitted with a reinforced concrete plinth: rising damp has rotted the bases of many of the columns.

Assessing the residual strength of the columns using an electronic drill would determine their state of preservation. If no other intervention is required, it would be sufficient to create small gaps in the plinth to ensure adequate air circulation between the surfaces of contact between the wood/concrete, avoiding the dangerous stagnation of damp conditions.

While the more badly damaged structures will have to be irreversibly dismantled and/or heavily "re-structured", other elements can still be saved through local intervention. Many of the wooden purlin cleats sustaining the struts are damaged; their structural efficiency can be improved by increasing their section by screwing brand new hardwood elements to the purlin cleats.

Many columns are affected by only small areas of rotting wood, and can be recovered by fitting bonded wooden blocks or steel plates. While the majority of the



Sulphuric Acid plant model (2014 © Micco F. I.).



The Superphosphate warehouses: interiors (2013 © Micco F. I.).



The Superphosphate warehouses: footbridge detail (2013 © Micco F. I.).



Collapsed trusses in the warehouses (2013 © Micco F. I.).

structures present damp marks, aged dust and superficial cracking, they can be treated and recovered without altering the original matter, simply by cleaning and treating them with preservers. A visual examination would indicate that the wood is not affected by brown rot. Alongside the general state of disrepair affecting the plant, there is another level of vulnerability and risk for this area and these precious structures: the entire environment has been polluted by the residues of production over the years and must be remediated before any future project can begin. In September 2013, the owner of the company presented its "Sustainability Program" to the local government: a project for a conference centre and a residential area for senior citizens. A proposal that will undoubtedly mark the definitive loss of this rare industrial heritage.

Footnotes

¹ S.I.TO.CO. is the acronym of the Società inter-consorziale Toscana Concimi (Tuscan Fertilizers Consortium Company).

The factory was closed in 1993 and it covers 10 hectares of a large privately owned property.

² Società Prodotti Chimici Colla e Concimi, 1907-1920. Catasto dei fabbricati. Registro delle partite (Building Registry. Lot Division Registry). In the Grosseto State Archive.

³ Montecatini, the largest Italian mining and chemical company, bought the factory in 1920. In 1966 the Ex S.I.TO.CO. became the property of Montedison; it was sold to the Federconsorzi group in 1975.

⁴ Macroscopic analysis.

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The Casa della G.I.L. in Montesacro: past, present and future of a modern architectural landmark in Rome

Barbara Paroli
Architect

Commissioned by the Opera Nazionale Balilla (O.N.B.) and assigned, after completion, to the Gioventù Italiana del Littorio (G.I.L.), the Casa della G.I.L. in Montesacro was dedicated to the fascist education of youth.

Designed and built in the 1930s in an expanding neighbourhood in the north-east of Rome, it was part of an extensive national building programme promoted by the O.N.B. This institution – converted into the Gioventù Italiana del Littorio in 1937 – was one of the primary organisations involved in the Fascist regime's strategy to obtain general consensus and, specifically, to educate young people aged six to eighteen, through voluntary recruitment. The detailed educational project formulated by the O.N.B. led to the definition of a new building typology, meant to provide the required spaces for fascist activities and, at the same time, to represent the modern nature of the organisation.

To satisfy these demands, the typology of the casa del balilla (later casa della G.I.L.) was conceived as a building equipped with areas for political, cultural, sport and relief activities, and which offered a fertile ground for architectural experimentation. From the late 1920s for just over a decade, hundreds of buildings designed by young architects were scattered throughout Italy. In particular, three main complexes were under construction in Rome in the early 1930s – the Casa del Balilla in Trastevere, the Casa Sperimentale at the Foro Mussolini and the Casa della Giovane Italiana on the Aventine Hill – in addition to a group of minor structures lo-



Casa della G.I.L. in Montesacro, axonometric view of the project, 1936: the building was conceived as a part of a complex endowed with many outdoor facilities. The drawing was realised by Minnucci while the building was under construction (Archivio Centrale dello Stato, Roma, Fondo Gaetano Minnucci, cd 24, busta 167, cartella 59, img. 778).



View of the gym in 1937. At that time, it was the biggest gym in Italy (Archivio Centrale dello Stato, Fondo Gaetano Minnucci, busta 147, fascicolo 260).

cated in different neighbourhoods of the city.

It is within this framework that the Casa della G.I.L. in Montesacro was designed and realised between 1934 and 1937 by Gaetano Minnucci, an engineer

already working for the O.N.B. and actively involved in the national debate on the modernisation of architectural language. Research into modern architecture focused on issues of European Rationalism, fully ma-



The indoor swimming pool, 1937 (Archivio Centrale dello Stato, Fondo Gaetano Minnucci, busta 147, fascicolo 260).

terialised in the Montesacro building, where a well-defined functional programme generated a clear planimetric and volumetric composition. Originally conceived as a small complex, as a consequence of the gradual expansion of the project, the Casa della G.I.L. was provided with numerous additional facilities, including a gymnasium – the largest in Italy

at the time – an indoor and an outdoor swimming pool, a theatre, a library, a refectory and an infirmary. According to the functional programme, activities were organised in recognisable units and combined to form a C-shaped building. Moreover, the building was placed in a complex with outdoor sports grounds, paths, gardens and a smaller building used as a

school of home economics. The result was a well-organised community centre capable of serving an area even larger than the neighbourhood itself.

Besides a clear and rational composition, the Casa della G.I.L. is also characterised by the quality and breadth of its structural and technological experimentation. Such features mirrored Minnucci's engineering education, his constant attention to detail and aspects related to construction.

Designed to simplify maintenance, the technological solution elaborated for the reinforced concrete structure of the swimming pools is of great interest: a central tunnel running below the indoor swimming pool offered the possibility for inspection and room for the water circulation pipes.

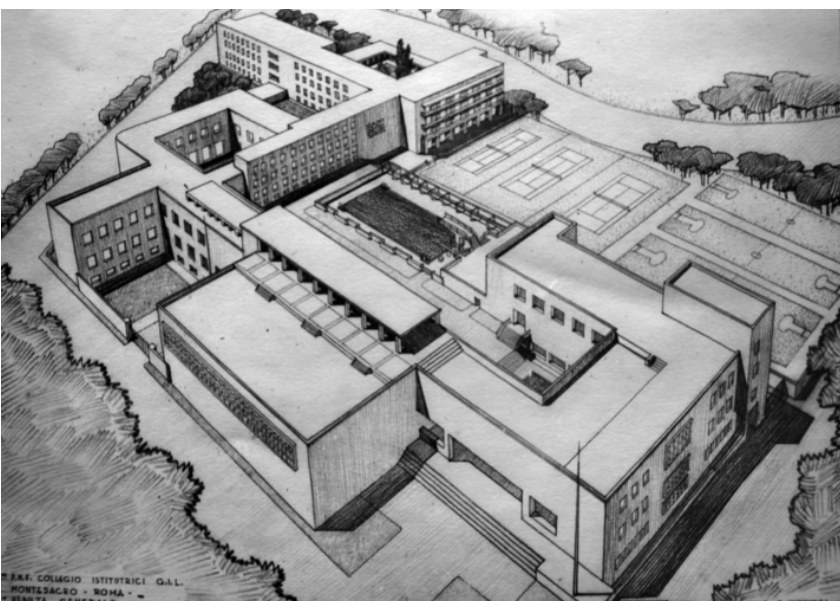
Likewise, the architect's specific interests are evident in the experimentation with Carrara marble panels only 2 cm thick, used to integrally cover the building façades; the same material was also used for the swimming pools, instead of the more common ceramic tile, not only for its undisputed aesthetic



The outdoor swimming pool, 1937 (Archivio Centrale dello Stato, Archivio Minnucci, busta 147, fascicolo 260).



The swimming pools façade, 1937. The cladding was realised using 2 cm thin Carrara marble panels (Archivio Centrale dello Stato, Fondo Gaetano Minnucci, busta 147, fascicolo 260).



The extension designed by Minnucci to realise a boarding school for the G.I.L.'s female instructors, in the early 1940s (Archivio Centrale dello Stato, Fondo Gaetano Minnucci, busta 141, fascicolo 253).

quality, but thanks also to its enhanced durability.

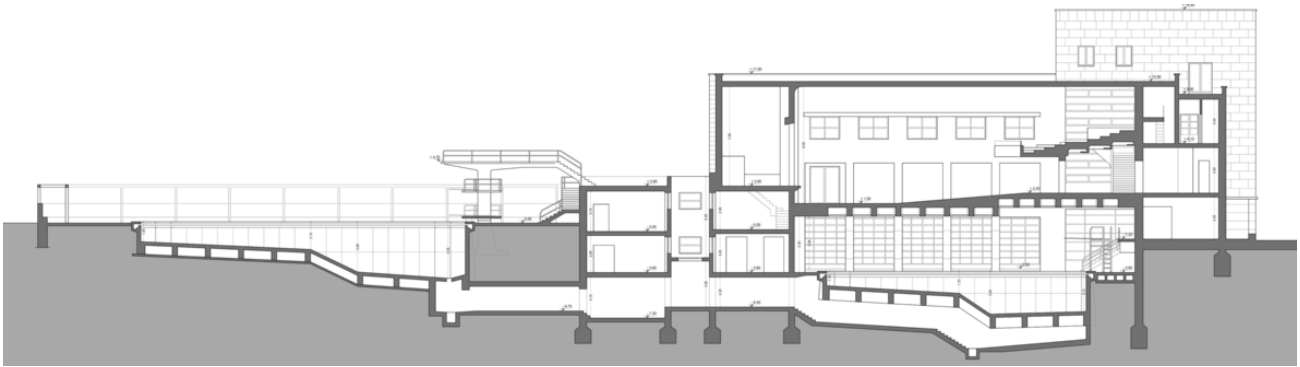
In the early 1940s, the Casa della G.I.L. underwent a considerable extension to realise a boarding school for the G.I.L.'s female instructors. On the basis of functional requirements it was transformed by Minnucci into an extremely large building and redesigned, altering the compositional simplicity that characterised the original plan. During the post-war period, after the fall of Fascism, the building was used as a youth hostel. Later, in the 1970s, under the jurisdiction of the Lazio Regional Government, it was divided into several functional units assigned to different managing authorities.

The former Casa della G.I.L. was converted into a post office, a neighbourhood gym, four schools and municipal offices.

Yet the lack of a coherent programme of reorganisation and the choice of new functions incompatible with the original qualities of the complex led to uncontrolled transformations and the irretrievable loss of many elements of the original structure. The most invasive interventions were those related to the post office: the interiors were almost totally demolished and a disfiguring car ramp in steel and reinforced concrete was built over the swimming pool façade, extensively damaging the original composition.

The situation worsened in the early 1990s, when the building underwent works to comply with fire safety regulations and remove eventual architectural barriers, introducing voluminous steel stairs and elevators, as demanded by the Regional Government.

Furthermore, a general lack of maintenance led to the progressive degradation of the entire complex. The swimming pools have suffered most from the negligence of this political institution: the two structures have been completely abandoned to a progress of degradation that has



Section drawing of the swimming pools. The central tunnel running below the indoor basin offered possibility for inspection and room for the water circulation pipes (Drawing by Barbara Paroli).



The complex after the numerous transformations, 2013 (Image credit: Google Earth).



The gym before the last restoration works, occurred between 2013 and 2014.

grown more and more evident over the years.

In the indoor swimming pool, the flooring and the cladding of the walls is heavily decayed and the pool finishes defaced with spray-paint. Many windows have been walled up to prevent intrusions, with the consequent loss of the original frames.

The outdoor swimming pool, directly exposed to the elements, is infested by weeds; the flooring is almost completely lost and the Carrara marble pool tiles have been heavily damaged by the presence of stagnant water. The Lazio Regional Government recently allocated funds for the restoration of the gymnasium,



The indoor swimming pool, 2014. The cladding of the walls and the covering of the basin are defaced with paint spray; the flooring is heavily degraded; many windows are walled-up.



The outdoor swimming pool, 2014. The whole area is infested by weeds; the flooring is almost completely lost; the marble covering of the basin is heavily damaged by the presence of stagnant water.



The disfiguring car ramp in steel and reinforced concrete built over the swimming pools façade in the 1970s.

condemned last year because of the deterioration of its water-proofing system. This first intervention has finally drawn public attention to the urgent condition of the building, highlighting the need for further restorations.

During the ceremony marking the re-opening of the gymnasium, at the end of September 2014, the Regional Government announced a new investment plan for the restoration of the school's auditorium. It is to be hoped that these works will mark the beginning of a more extensive restoration programme. The next could perhaps be the restoration of the swimming pools.

A coherent project of functional distribution, restoration works focused on preserving original elements and the demolition of incongruous additions – such as the post office ramp – could restore the lost architectural identity and function of the swimming pools.

Returning these forgotten sports facilities to the public could be a first step toward revitalising the entire complex, so valuable to the neighbourhood of Montesacro.

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La Casa Árbol de Fregene

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Proyectada entre el 1968 y 1973, la Casa Árbol de Giuseppe Perugini y Uga de Plaisant¹ constituye un caso excepcional de experimentación arquitectónica. Realizada en un terreno caracterizado por enormes pinos marítimos, a pocos metros del mar de Fregene², su forma expresa, de manera original, esa insistente y apasionada búsqueda, formal y técnica, típica de la década de los Sesenta en Italia. La Casa Árbol debe su nombre a la inédita armazón de traveses y pilas de hormigón armado, que acogen una serie de volúmenes, completamente independientes de la estructura, que se apoyan o se adosan libremente a los elementos horizontales o verticales, entrelazándose para formar un armonioso y divertido juego volumétrico, de fuerte influencia neoplasticista³. Sus fachadas de vidrio o en paneles prefabricados dan lugar a un conjunto de gran vivacidad.

Todo en la casa sugiere ilimitada libertad imaginativa: la estructura podría continuarse al infinito, superponiendo un sinnúmero de posteriores elementos verticales y horizontales. Del mismo modo, los volúmenes habitados podrían seguir creciendo, anidando entre las ramas ortogonales de la estructura portante.

La Casa Árbol no tiene una fachada principal: cada lado podría asumir ese papel; sólo la presencia de una escalera metálica levadiza denota el acceso al piso alto, único nivel habitable. En la planta baja, un espejo de agua, realizado también en hormigón armado, colabora, con sus reflejos, a multiplicar indefinidamente los volúmenes habitados. Sobre las superficies de hormigón aparente, letras y números en bajo relieve, confieren al edificio un aspecto aún más indecifrable y enigmático⁵.

El interior se configura como un gran *open space*, sin paredes divisorias y en el cual sólo los desniveles del suelo señalan los cambios de uso. Es un espacio fluido, en el que las vistas



Casa Árbol, de Giuseppe Perugini y Uga de Plaisant, en Fregene.

se abren en toda dirección, aun en posiciones anómalas para una ventana tradicional (por ejemplo, rasando el suelo) y en el que, originariamente, la mayor parte de los muebles estuvieron integrados a las paredes (closets, repisas, etc.). Los baños, concebidos como pequeñas cápsulas

adosadas a la fachada, fueron, también en este caso, objeto de experimentación de soluciones alternativas: una puerta circular, fijada por medio de un perno central, gira 90° para permitir el acceso a la cápsula, al mismo tiempo que las instalaciones corren externamente, empaquetadas en un



ducto, con el objeto de resolver, definitivamente, el problema del mantenimiento de tuberías y de cableados eléctricos.

Junto al cuerpo principal, y en medio de altos pinos, la sala de meditación, constituida por una esfera de hormigón, con una compuerta circular, que permite el acceso al interior, y una fisura que circunda la esfera, desempeñando el papel de ventana. Más allá, en el fondo del jardín, las habitaciones de invitados: pequeñas cabinas, dispuestas en línea, las cuales, al igual que el resto del con-

junto, acentúan la precisa intención de parecer simplemente apoyadas al terreno, enfatizando un carácter deliberadamente provisional y dispuesto a seguir modificándose en el tiempo. Sin embargo, todo en este lugar ha sido diseñado hasta el último detalle: por ejemplo, la verja del jardín, realizada en metal y elementos de hormigón prefabricados *in situ*, fue objeto de numerosos estudios. Y hasta los mecanismos de apertura del portón de ingreso fueron proyectados especialmente para este lugar. Hoy, este excepcional edificio muestra

las huellas de años de abandono: a la muerte de Perugini, la familia dejó de pasar los veranos en la casa y ésta fue convirtiéndose en objetivo de vándalos y refugio de vagabundos. La Casa Árbol requiere de una urgente intervención de restauración.

Las superficies de hormigón se han teñido de verde y naranja por el musgo que ha crecido sobre ellas; los elementos metálicos, por la proximidad al mar, presentan fenómenos de corrosión. Los vidrios rotos deberán sustituirse. Pero, afortunadamente, en la mayor parte de los casos, se trata de operaciones de



mantenimiento ordinario. La estructura portante, a excepción de una trabe horizontal que presenta una deformación debida probablemente a un error de cálculo original, se encuentra en condiciones aceptables: sólo en algún punto aislado la oxidación de la armadura ha causado el desprendimiento del hormigón.

Giuseppe Perugini, nacido en Argentina y trasplantado a Italia antes de la segunda guerra mundial, habría cumplido en 2014 cien años. Profesor de composición arquitectónica en la Universidad de Roma "La Sapienza", logró uno de sus mayores éxitos profesionales con el proyecto, realizado con Mario Fiorentino, del Mausoleo de las Fosas Ardeatinas: un monumento con un fuerte carácter simbólico, objeto del primer concurso de arquitectura de la post-guerra, que se convirtió en el símbolo del renacimiento del país después de la derrota bélica.

Además de otros importantes edificios (Palacio del Tribunal en Roma, Hotel Delta, a pocos metros del Coliseo), dedicó varios años de su vida a realizar, junto con Uga de Plaisant, compañera de vida y profesional, la Casa Árbol, con la intención de experimentar nuevos códigos lingüísticos, nuevas formas de habitar, nuevos modos de construir.

Notas

¹ Con la colaboración de Raynaldo Perugini.

² Localidad balnearia en el mar Tirreno, cercana a Roma.

³ Además de la referencia al Neoplasticismo, puede recordarse el paralelismo con la arquitectura radical italiana (Archizoom y Superstudio), de esos mismos años, y con los proyectos del grupo Archigram (que experimentaron la estructura abierta y componible, la 'plug in city').

⁴ Las siglas son referencias numéricas a los diferentes componentes, entendidos como reproducibles y ensamblables de diferentes maneras.



Arquitectura contemporánea en peligro

Orestes M. del Castillo del Prado
Miembro Experto de ISCARSAH
ICOMOS- CUBA



Matache Marcelau Hall Market.



La estructura de la cubierta.



Vista general de la estructura de cubierta.

El objetivo principal de nuestro Comité Científico es la preservación de las estructuras portantes de la arquitectura patrimonial: arquitectura que no es sólo la del rico legado histórico de siglos atrás, sino que incluye también obras de más reciente construcción.

Hacemos un notable énfasis en la respuesta y preparación ante fenómenos naturales – en mayo de 2011 nos reunimos en La Habana para hablar de estos importantes temas – pero también deben ser tenidas en cuenta la respuesta y preparación, no *ante* sino *contra*, otros fenómenos de un carácter diferente: los fenómenos antrópicos.

Con la excusa del desarrollo, el crecimiento y el progreso, hemos visto caer obras de verdadero carácter patrimonial, cuya pérdida habría podido evitarse.

Tal es el caso de dos obras que cito como advertencia de lo que puede y debe ser impedido.

El primer caso es el de la impresionante y hermosa estructura de un mercado de carnes en Matache, Rumanía.

El World Monuments Watch solicitó colaboración a ISCARSAH para que un grupo de expertos manifestaran su opinión sobre el valor de la edificación y el interés que podría tener conservarla, ante un proyecto que proponía su demolición para construir una carretera con un trazado que sin mayores dificultades podría ser modificado.

Se dio un plazo a los expertos para que dieran sus opiniones y sucedió que, antes que el plazo venciera, el edificio fue demolido y todo aquel valor patrimonial se perdió.

El segundo caso es en La Habana. A inicios de la década de 1930 fueron construidos dos hospitales por la prestigiosa

firma de arquitectos cubanos Govantes y Cabarrocas en puntos extremos de la Avenida de los Presidentes, uno de ellos pediátrico y el otro de maternidad.

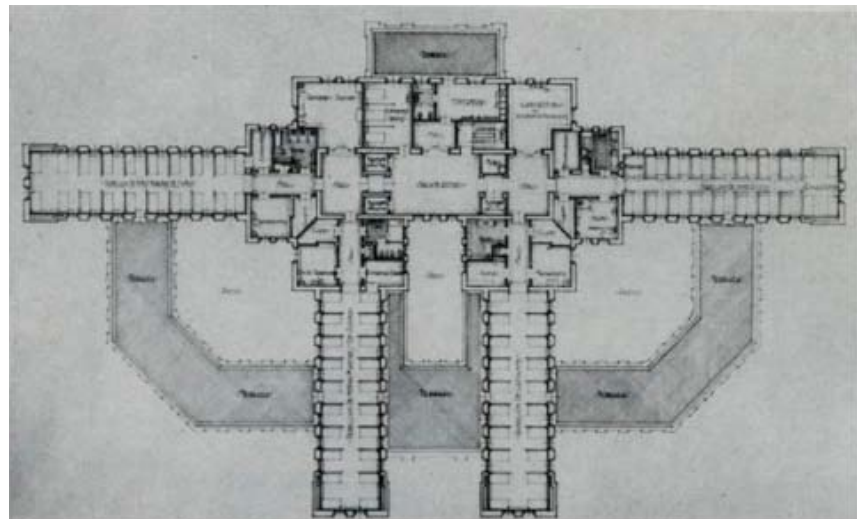
Dos magníficos ejemplos del empleo del Art Déco para esos fines. Hace más de 20 años se decidió hacer una intervención en el hospital pediátrico, que nunca se llevó a hechos. El edificio se vació completamente y cayó en un doloroso proceso de abandono y desidia y fue objeto, además, de un doloroso vandalismo.

Hoy pasamos por la pena de ver cercenada esa valiosa pieza de nuestro patrimonio construido, sufriendo un proceso de demolición irreversible.

Estas lecciones, para las que no hay la posibilidad de una respuesta lógica, ni una preparación para evitar esas pérdidas lamentables, como se puede lograr en los casos de enfrentamiento a desastres naturales, son una prueba precisa de la importancia grande que tiene la creación de una conciencia de atención y respeto hacia monumentos que son íconos de lo que representa, para la cultura en general, la conservación del patrimonio arquitectónico de una nación.



Detalle de la estructura de cubierta.



Planta.



Fachada.

Demonstrating the Environmental & Economic Cost-Benefits of Reusing DoDs Pre-WWII Buildings - ESTCP SI 0931

Patrick Sparks
Sparks Engineering, Inc.

Sparks Engineering, Inc. is pleased to announce the publication of the following study, which can be downloaded from our website using the link below.

We supported the study team with structural condition assessments, design and rehabilitation alternatives, and insights into appropriate antiterrorism/progressive-collapse approaches for historic buildings.

<http://www.sparksengineering.com/about-us/resources?did=5>

This DoD-funded study finds that Pre-War buildings can be cost effective compared to new construction on a life-cycle cost basis, both with and without factoring in the monetized value of greenhouse gas emissions. Modernization of Pre-War Buildings can achieve comparable levels of energy consumption as new construction. On a life-cycle cost basis, Pre-War Buildings generate less total GHG emissions compared to new construction: GHG savings from initial construction is the driver of this result. Includes discussion of some challenging aspects of DoD facility rehab, such as Antiterrorism and Progressive Collapse treatment.



Compte Rendu de la Rencontre dédiée au patrimoine de la ville de Casablanca sur le thème « Casablanca : lieux de mémoire » organisée par ICOMOS Maroc

Khalid El Harrouni

Vice Président de ICOMOS Maroc - Professeur à l'Ecole Nationale d'Architecture

Comme chaque année, le comité ICOMOS-Maroc célèbre la Journée internationale des monuments et des sites. Le thème choisi pour l'année 2014 est : « Patrimoine de la commémoration ». Ainsi, le comité national de l'ICOMOS a organisé une rencontre liée à cette journée importante et dédiée au patrimoine de la ville de Casablanca sur le thème

« Casablanca : lieux de mémoire », afin de sensibiliser le public à ce type particulier de patrimoine. La rencontre a eu lieu le Samedi 19 Avril 2014, à la maison de la Culture (ancienne église espagnole Buenaventura récemment réhabilitée en centre culturel), située dans la Médina de Casablanca. La rencontre s'est déroulée toute l'après-midi et a rassemblé environ 40 personnes.

Patrimoine de la commémoration

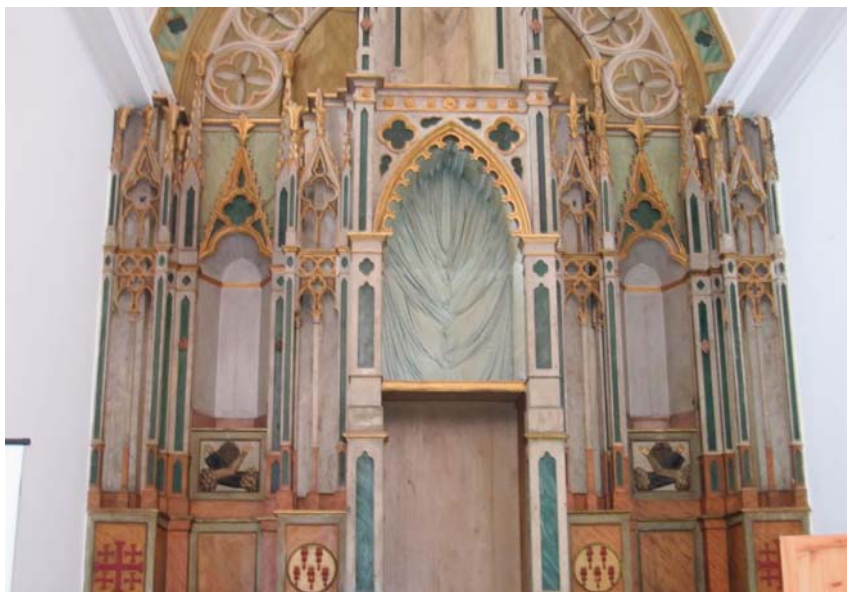
Le Président d'ICOMOS Maroc, Mr Abdelati LAHLOU, après avoir souhaité la bienvenue aux participants, a fait une introduction sur la thématique de la Journée internationale des monuments et des sites, en mettant la ville de Casablanca à l'honneur pour cette célébration universelle. Il a ensuite justifié le choix de Casablanca car celle-ci recèle un patrimoine architectural et urbain exceptionnel. Le choix porté sur cette ville tient également compte de son inscription au patrimoine universel de l'Unesco. Ce projet porté par l'association Casamémoire est soutenu et accompagné tout au long du processus par ICOMOS Maroc.

La rencontre, modérée par Mr Rachid Benbrahim Andaloussi, Architecte et Président de Casamémoire, s'est structurée autour de trois interventions programmées : -« La place des Nations Unies. Pôle d'échanges et d'urbanité contrastée » par Mme Meryem KOURAICH, Architecte, membre du comité de ICOMOS Maroc. Résumé : « C'est la première place qui a été intégrée aux premiers



plans d'aménagements de Casablanca dessinés par l'Architecte Henri Prost en 1914 et a servi de lien entre l'ancienne médina 'indigène' et le centre-ville qui symbolisait la modernité et le progrès. La place des Nations Unies, son horloge, sa coupole 'kora Ardia' et tous les édifices qui l'entourent dont certains datent d'un siècle, sont adoptés et intégrés dans la conscience commune casablan-

caise. Cette place est un paysage vivant, qui atteint de façon tangible la mémoire d'une partie de l'aventure humaine casablancaise. À ce titre, elle participe à une certaine forme de commémoration et de transmission, par son authenticité et son intégrité, des valeurs qui comprennent celle de l'histoire. A travers mon exposé, j'évoquerai les multiples visages qu'elle a vêtus et ses métamorphes lors de



son évolution dans le temps... ».

-« Le port de Casablanca, un symbole vivace dans le paysage urbain de la ville » par Mme Leila Maziane, Professeur Universitaire, Université Hassan II, Mohammedia.

Résumé : « Il est impensable de parler de la mémoire de la ville de Casablanca, sans évoquer son port. Né dans sa forme actuelle, il y a cent ans, le port de Casablanca devient rapidement le grand port moderne du Maroc et la porte d'entrée de sa capitale économique. Il modèle la ville et en fait ce qu'elle est aujourd'hui. Dans cette journée dédiée au patrimoine de la commémoration, nous nous intéressons donc au port de Casablanca en tant qu'élément vivace de la mémoire collective casablancaise et en tant qu'objet de commémoration. Nous nous arrêterons également sur son destin exceptionnel qui marquera profondément le développement urbain et économique de cette grande ville portuaire du Maroc indépendant ».

-« Les Textes Législatifs régissant l'urbanisme pendant l'époque du Protectorat » par Mr Abdelati Lahlou, Chercheur Anthropologue, Directeur Adjoint BNRM, Président de ICOMOS Maroc.

Les pratiques de commémoration constituent un phénomène culturel très ancien visant à perpétuer le souvenir d'un événement, d'un personnage, d'un édifice, d'une place ou d'une idée. Comme toutes les villes du Maroc, Casablanca a donc été sensible à son devoir de souvenir. Les grandes étapes de son urbanisation sont encore lisibles. En fait, la ville a connu plusieurs événements au cours de son histoire qui ont façonné sa structure urbaine; elle est considérée comme le produit des populations qui l'habitent, qui ont marqué le paysage et qui en ont forgé l'identité. Son évolution est issue de structures héritées du passé et de l'action des acteurs et des groupes sociaux qui ont le pouvoir de la transformer. Ceci s'est répercuté ainsi sur son développement économique ainsi que son paysage urbain et architectural.

La rencontre autour de la thématique « Casablanca : Lieux de mémoire » tente de comprendre les diverses transformations des processus urbains et architecturaux de cette ville, comment et par qui, elle a été pensée, construite et habitée. Il s'agit de retracer

les processus de configuration urbaine de quelques lieux, à savoir la place des Nations Unies et l'infrastructure portuaire, selon au moins deux angles de lecture. Le premier aborde ces lieux comme objet d'histoire urbaine, objet de commémoration, en appréhendant leur paysage urbain ainsi que leur destin qui a marqué le développement urbain et économique de la ville de Casablanca. Le second examine une société, qui par le rapport qu'elle a entretenu avec ces lieux de mémoire, a produit, marqué les lieux et l'espace environnant, transformé ou conservé les structures plus anciennes, par conséquent qui a généré de l'urbain et de l'activité économique.

Les interventions ont pu restituer le processus historique de formation et de transformation des lieux de mémoire, la place des Nations Unies et le port, en s'appuyant sur les matériaux historiques ainsi que les photos d'archives. Elles ont également tenté de retracer une mémoire de ces lieux, de recomposer les traces et de les situer dans l'histoire de la ville de Casablanca et de sa région. Une grande partie de ces interventions s'insère dans une réflexion plus générale de comment aborder également le patrimoine architectural et urbain issu de l'époque coloniale. Des actions de ce genre de lecture historique des monuments et des sites contribuent énormément au processus de la mise en valeur de notre précieux patrimoine. Le débat a suscité de nombreuses questions dans le public. Il a été suivi d'une pause qui a permis à la plupart des participants de poursuivre les échanges entre eux ou avec le panel.

Le Président d'ICOMOS Maroc a remercié l'ensemble des participants et intervenants pour la qualité du travail accompli pour cette Journée internationale des monuments et de sites sur le thème « Casablanca : Lieux de mémoire ». La réussite de cette importante manifestation résulte d'une coopération exemplaire entre les membres du Comité National ICOMOS Maroc, les représentants de la Direction Régionale de la Culture de la Région du Grand Casablanca, les principaux acteurs de Casamémoire, et les intervenants potentiels qui ont brillé par leur communication. L'ensemble a grandement facilité la tâche pour réussir l'évènement.



To contribute to the preservation and enhancement of heritage, ICOMOS International Scientific Committees ICORP and ISCARSAH propose a training program for practicing architects and engineers who are involved or want to be involved in structural restoration of heritage structures. It is well known that there are no subjects on preservation of heritage structures in most of the structural engineering curriculum and architects necessitate understanding the structural behavior. This program, taking into account of the diverse forms of architectural heritage and native knowledge, is programmed to promote understanding, exchange and cooperation between local universities, institutions, professionals in heritage sector researching, teaching and working with heritage. As a platform of sharing knowledge and dialogue it is a fundamental and central contribution to the wider roles and responsibilities of these two international scientific committees.

The proposed program is developed as full five days packages for each structural system, namely; timber structures, stone and brick masonry structures, earthen structures, iron structures and early concrete structures of architectural heritage that were built before current manufacturing and construction standards. Each package consists of two moduli; First modulus "A" that covers preservation criteria, codes and standards for preservation, documentation methods and intervention decisions is same for all the structure typologies. Second modulus differs according to each specialized moduli related to structural typology as "B" for historic timber, "C" for historic stone and brick masonry, "D" for earthen structures, "E" for historic iron and "F" for historic early concrete structures that include sole concrete structures (without any reinforcement), ferro-cement and ferro-concrete structures. Each structural typology covers local and international construction techniques, material properties, structural

Training Program on Risk Preparedness & Structural Repair and Restoration of Architectural Heritage

Görün Arun

Vice president of ISCARSAH

behavior, diagnosing methods of damages, risk factors during restoration and/or maintenance, structural evaluation, post disaster safety measures, material and structural repair, retrofit and restoration and measures to be taken for risk mitigation before, during and after an intervention. Each package also includes site visits and evaluation of the site with the atten-

dants where the attendants are encouraged to write a report on present condition of the structures in the following courses.

The training program is planned to be organized and implemented in cooperation with local universities and professional associations. The syllabus of each modulus may be modified according to the discussions with



local colleagues and adapted to local climatic, technical, cultural conditions and traditions.

The objective of the proposed program is to improve and enhance the overall knowledge and understanding of structural restoration of architectural heritage during pre and post disaster conditions. The main aim is to point that heritage structures are constructed with different technology, their material and structural behavior is different, being cautious with incompatible materials and intervention criteria is important, and when deciding on intervention, their authenticity and integrity have to be respected. It is important to point that there are some solutions that are efficient and better than others from restoration principles, compatibility, durability, and of course safety aspects, presenting the advantages and inconveniences of the various methods using both basic theory and practical guidelines and examples. It is also important to present case studies both for the evaluation of the present condition and for the decision making and the implementation of interventions in structures. The program is oriented in order to inform, raise awareness and share experience with academics and practitioners.

This training program is scheduled for full five days and it does not substitute a Master study. Nevertheless this can reach architects and engineers who need input on the matter and cannot have time to follow long courses. However such training may be useful for decision makers and may activate a deeper interest of architects and engineers for further commitment on conservation and restoration of heritage structures. Both ICOMOS International Scientific Committees ICORP and ISCARSAH, with their experts are ready to implement the training program on "Risk Preparedness & Structural Repair and Restoration of Architectural Heritage" and look forward for applications.





5th International Congress on Construction History

Chicago, June 3-7, 2015

Call for Abstracts

We invite researchers and practitioners from all aspects of the history of construction to submit paper abstracts for the 5th International Congress on Construction History, to be held in Chicago and hosted by the Construction History Society of America June 3-7, 2015.

The congress follows on successful interdisciplinary congresses held in Madrid (2003), Cambridge UK (2006), Cottbus (2009), and Paris (2012).

Paper and Presentation Proposals

Papers will be published in the Congress proceedings and will be presented by the authors at the Congress.

Each paper proposal must include:

- a title,
- authors' names and institutional affiliations,
- an abstract of 400 words,
- key words (selected, if possible, from the list of topics and subjects),
- a one-page curriculum vitae indicating contact information, status, laboratory affiliation if relevant, and publications or other relevant work for each author.

Papers presented at the congress will be published in both electronic and paper versions. All papers and presentations must be in English.

Please contact Sicch.chicago@gmail.com with any questions.

Submission:

Submit proposals to <https://www.easychair.org/conferences/?conf=icch5> by June 1, 2014

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Paper topics may include:

History and construction of specific projects
 History of the building trades or specific builders
 Organization of construction work
 Wages and the economics of construction
 The development of building codes and regulations
 Trade unions and guilds
 Structural analysis and the development of structural forms
 Development of construction tools, cranes, scaffolding, etc
 Building techniques in response to their environments
 Building materials, their history, production and use
 History of services (heating, lighting etc.) in buildings
 The changing role of the professions in construction
 Building archaeology
 Computer simulation, experimentation and reconstruction
 Use of construction history for dating of historic fabric
 Recording, preservation and conservation
 Construction in architectural writing
 The role of construction history in education
 The bibliography of construction history
 The theory and practice of construction history

Important Dates:

Deadline for abstracts:

June 1, 2014

Abstract decision notification:

August 15, 2014

Deadline for paper submission:

February 1, 2015

Deadline for final papers:

March 31, 2015