

DOCTORAL PROGRAM IN PRESERVATION OF ARCHITECTURAL HERITAGE

Chair:
Prof. Alberto Grimoldi

Interventions on the built environment and more generally on buildings of the past, including the recent past, and their management call for fine-tuned knowledge and organization skills in all the related areas, from planning to maintenance. In Italy, even today, these activities are frequently dealt with – by public authorities and private individuals alike – in inappropriate or inadequate ways, considering the present state of know-how, historic and archaeological discoveries, sophisticated surveying and diagnostic techniques, and recent studies on the materials and structures of old buildings. There are now glaring gaps between anamnesis and analysis even disregarding the results of equivalent procedures in other parts of Europe.

The PhD course sets out to mould operators who will make a significant impact on the practices of conserving, maintaining and managing our built heritage. To this end special, separate attention is paid on one hand to older and historic buildings and structures, on the other to “modern and contemporary” architecture, in both cases in constant contact with developments in studies elsewhere in Europe.

Teaching aims

Knowledge is an essential step towards protecting and preserving, especially for conservation of the built environment. Only through awareness can we understand – and above all, make others understand – what could be lost: “you don’t lose what you are unaware of or uninterested in owning”. A building or structure cannot be explained with instruments alone, even with the technical instruments of architecture: its documentary dimension lies in its material solidity, its meaning in society, the one it has had and the one it is conserved for. There is much more to a building than architecture.

Familiarity with the built environment is necessarily aided by historical research, “stories of days gone by” and every other kind of useful contribution as well as, obviously by experimental science. Conservation of built environment founds on transversality of knowledge, on people able to catch the questions which can be solved with contribution of different discipline.

As far as knowledge and intervention on the built heritage are concerned, the “human sciences” and historic disciplines are indissolubly linked with the relevant applied sciences. For there can be no “truthful”, exhaustive diagnosis of old buildings that fails to consider the dimension of time, and the reconstruction of past usages and transformations.

Coursework

The PhD is intended to offer a broad range of courses which combine theory and practice to stimulate advances in multidisciplinary research, a necessity in the field of conservation and maintenance of historic buildings.

The basic teaching program is organized with seminars held by Italian and foreign lecturers who introduce the most advanced research methods and results in four major disciplinary fields:

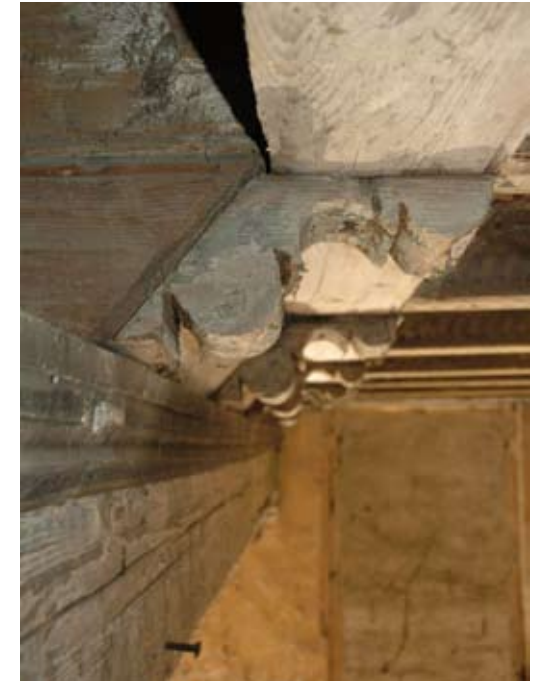
- *History and theory of conservation and restoration* is approached as part of the history of culture, but also of society and institutions, within the often ambiguous relationships

between perfecting specific technical expertise and “*Verwaltung der Geschichte*”.

- *Material history of buildings* explores the issues of recognizing buildings as a historic source, interpreting how events unfolded at building sites and how production was organized, and showing how construction techniques of the past evolved thanks to the technical know-how of architects and builders, on one hand, and the methods of archaeological stratigraphy, also in elevation, on the other. In parallel students conduct workshop analyses and learn to interpret their findings.
- *Historical research methodology* addresses its subject on a more general level: the history and

geography of documentary sources, the history of institutions which with their activities have changed the landscape and erected and used the buildings; in this respect its scope goes beyond the traditional 19th-century perception of history of architecture as a branch of history of art.

- *Consolidation of structures and materials* deals with analytical and experimental methods for testing the efficiency of structures, including those at particular risk. It includes study and calibration



1. Wooden Structures



2. Arena di Verona

of non-destructive investigative techniques for structural diagnosis, as well as theoretical and experimental study of appropriate non-invasive techniques, amongst them compliance with safety standards for buildings in seismic zones.

Research organization and topics

One of the distinctive features of the PhD course is that it explores issues as yet seldom addressed in the sector of conservation, as a means of developing new contributions to scientific output. Particularly worth mentioning among the subjects identified in recent years and currently being researched are the heating and plumbing systems of historic buildings, “building physics” (already studied in Germany and France) and the consequent documenting of innovative installations in old buildings with the parallel study of old installations in individual buildings and at urban level. This is one of the most original and promising subjects of contemporary historic research, and it also highlights the environmental dimension of conservation.

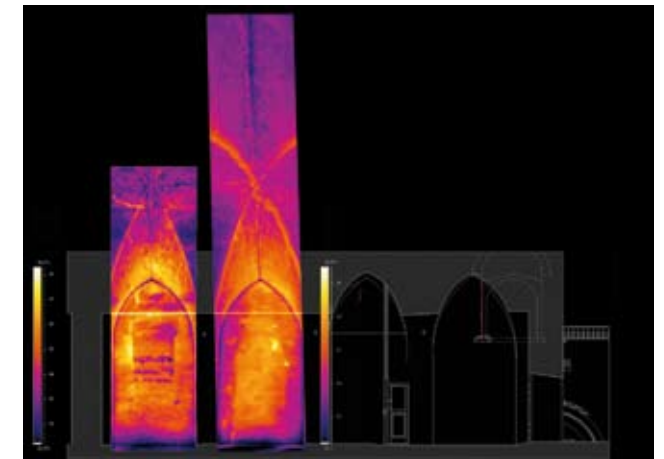
Particular attention is focused on wooden structures (Fig. 1), considering the different structural types and finishes, and the material and its state of preservation. While extensive studies on this sector have been conducted in the rest of Europe, literature in Italy is scant, limited to precise geographical areas and frequently of debatable content.

Experimental and workshop activities about famous buildings (Arena di Verona – Fig. 2, S. Andrea a Mantova) are in progress in the DiAP, Laboratory of Analysis and Diagnostic Evaluation Building (Fig. 3), DIS, and CNR G. Bozza, Department of Chemistry and other university centres mostly in Lombardy, in order to analyze historic building materials and their deterioration. Innovative studies are being conducted in this sector, thanks to new research tools: the particular subjects of interest are historic mortars (the earth-based mortars used in Italy and in Arab countries, though know-how, practices and conditions are not comparable), and use of oxalate film to protect stone. The objective is to find out how they were produced in the past, something little is yet known about, and current possibilities for re-introducing their use.

Other more orthodox subjects of research and specialized teaching are the economic aspects of conservation, legislation to cultural heritage, landscape conservation, history and conservation of historic gardens, museology and museography.

The PhD program fosters contacts with government institutions

– starting from the Ministry for Cultural Heritage, in its central and regional offices – and with organizations operating across the country in the sector of conservation and restoration. Within this framework several bodies have financed scholarships. Graduates of the PhD program have often found employment at progressively higher levels in public-sector conservation institutions as well as in professional practice and in the business world, in specific specialized fields.



3. Analysis and Diagnostic Evaluation Building

DOCTORAL PROGRAM BOARD

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ARCHITECTURE AND THE FIGURATIVE ARTS IN POST-SECOND WORLD WAR BUILDING IN THE MILAN AREA

Samanta Braga

This research sets in the field of modern architecture and analyses post-Second World War building production in Milan in terms of the relationship between architecture and the “other” arts.

It is a subject that was widely debated throughout Europe at the end of the nineteenth century, and was subsequently increased by some of the *avant garde* movements of the twentieth century (such as *Futurism*), which supported the need to abolish the boundaries separating the traditional artistic disciplines. In the period between the two wars, it became involved in aspects of the *Modern Movement*, whose various expressions show ambivalence towards the use of figurative elements in constructions, manifesting a tension between the concept of architecture as something destined to satisfy prevalently practical needs and the declaration of its transitory nature and formal self-sufficiency. In particular, the Italian *Rationalist Movement* triggered a complex critical review of architecture that also involved the role of decorative elements, the use of which was rejected on the grounds that it was considered a reactionary expression of nineteenth century culture. However, although in an initial phase that coincided with

the subsequently unsuccessful attempt to have *Rationalism* recognised as the “Fascist style”, its architecture was characterised by an austerity that essentially excluded the artistic component, some exponents of the *Movimento Italiano per l'Architettura Razionale* (MIAR, the *Italian Movement for Rational Architecture*) showed interest in the expressive possibilities offered by abstract art, as can be seen in some of the collaborative designs by artists and architects presented at the V *Triennale* of Milan in 1933 on the subject of residential buildings (Fausto Melotti and Lucio Fontana with the architects Figini and Pollini, and the BBPR with Luciano Baldessari). Starting from the very limited attention given by the historiography of architecture to the debate on the “synthesis of the arts”, which was very lively in theoretical terms after the end of the Second World War but substantially misunderstood by critics, this study investigated its practical results with the aim of reconstructing an organic picture of the situation in Milan, and highlighting the relationship between the theoretical debate and the architectural production it expressed.

After the Second World War, Milan was the most advanced cultural centre in Italy: the home

of fervent debates concerning the issues of reconstruction and the most innovative planning initiatives (QT8), promotions of Italian and foreign *avant garde* architectural and artistic movements (the *Triennali*, art galleries and public competitions), and a series of publications on art, architecture and town planning. The city also saw the development of industrial design, which brought together the worlds of design and technical production, and was considered by many to be a new context in which art could regain its traditional social role.

It was a richly fertile climate in which the feverish and almost always unregulated reconstruction work began to create the current appearance of the city. But although its architectural production was characterised by a series of particularly significant technical experiments and the development of a new architectural language, it is interesting to note that there are also other styles, traditionally considered minor and virtually ignored by the historiography of architecture. In these, there can be seen the convergence of architectural and artistic intents in the creation of that “synthesis of the arts” – culturally defined by the artistic *avant gardes* such as the Movement for



1. Front view of the apartment building in viale Gorizia (Milan), 1950. Architect Marco Zanuso, artist Gianni Dova



1. Balcony's view of the apartment building in via Lanzone (Milan), 1949-'51. Architect Vito Latis, artist Lucio Fontana



1. Entrance hall's view of the apartment building in corso Sempione (Milan), 1953-'56. Architect Piero Bottoni

Concrete Art and Spatialism, and the protagonist of various experimental events such as the *Triennali* – whose suggestion seem to pervade all of “modernity” albeit in different ways. In addition to reviewing bibliographical sources such as guides, collections and periodicals for examples of collaborative works by architects and artists, the research involved a study of the archives which not only contributed to clarifying the constructional issues associated with many buildings, also highlighted the extent of their innovative characteristics. Some of the most interesting cases of collaboration studied were those of Marco Zanuso, Lucio Fontana, Piero Bottoni, Ico Parisi, Francesco Somaini, Bruno Munari, Pietro Lingeri, Luigi

Zuccoli, Roberto Crippa, Gianni Dova, Giovanni Muzio, Carlo Perogalli. Particular attention was also given to the study of some temporary architectures that were significant expressions of the developments of the debate concerning the relationship between the arts, as well as to the *avant garde* artistic movements that were most committed to exploring the possibilities of confronting or collaborating with architectural disciplines, such as the *Movement for Concrete Art and Spatialism*. In addition to mapping the consistency of these particular architectural testimonials in the midst of the city, the study also considered questions relating to their preservation: buildings characterised by a mixture

of artistic and architectural elements that require a more global approach that not only considers the techniques involved in preserving modern architecture, but also recognises them as works of art because, in the absence of official recognition, their fragility and generically “non-monumental” nature tends to exclude them from the provisions of protection that are currently the only means of ensuring their preservation.

IN THE MYTH OF THE ANTIQUE

The Arena of Verona: maintenance events in the XIX and XX centuries

Giovanni Castiglioni

The Administrative Office of Verona Council, in collaboration with the Archaeological Superintendency, for the region of Veneto, in 1997, established a scientific committee with the purpose of creating a series of procedures to restore the outside walls of the Roman amphitheatre, later extending to waterproofing the steps of the cavea and the vault underneath.

Since then several academic institutions have been involved in this research; firstly the Istituto Universitario di Architettura di Venezia, involved in the structural measurements and later Politecnico di Milano, who through a special convention, has cooperated with those offices involved in the restoration project and direction. In this context, our work has the specific purpose of integrating the huge amount of information coming from both direct analysis of the monument, which demonstrates a continuous transformation of the Arena and information coming from indirect source, vast but still not properly organized.

Although there is national and international recognition of the importance of Verona amphitheatre systematic studies stopped in the period between XVIII and XIX century and in the last century are limited to rare publications. The limitations of the 1800's publications,



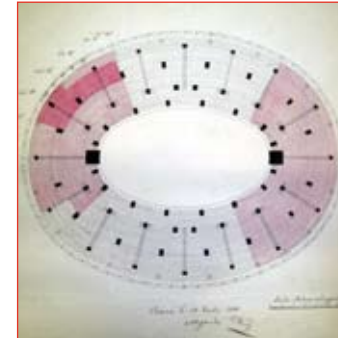
1. *Amphitheatrum in Foro Boario situm*, 1540. (T. Sarayna, *De origine et amplitudine civitatis Veronae*, Verona, 1540, p. 47.)

added to the inadequacy of the contemporary publications paints an incomplete, broken and even contradictory picture. The scene becomes even more confusing when examining the contemporary era, with a multitude of sources and technical documents collected in the archives from the work of the 1900's scholars, often lacking specialized notions. Given these limitations we decided to focus our attention on a period rich with events and documents never before systematically examined. Proceeding from the under recognised work of Bartolomeo Giuliani, written in 1820 and edited posthumous in 1880, who with diligence collected and transcribed a good part of the documentation existing then, we have decided to begin



2. *Wooden model of the Arena amphitheatre, 1770-1780* (Museo Archeologico al Teatro Romano di Verona)

the present research from the appearance of the Verona architect that corresponds also with the "Restauro" of the political and institutional aspects. This thesis analyses what could be defined as the golden period of the study of the monument, for which there are numerous publications, in some cases undervalued, that describe the development of the Arena to what it is today. Beginning from the excavation and liberation of the *arcovoli* from numerous residential buildings built on the side since XIX century, we arrive at the post war 1900 restoration, through a detailed analysis of the *cavea*, made up not just by the notorious consolidation of the wing, for which we will provide an unedited version, but also of



3. A. Perez, *Project for the restoration of cavea, 1880* (Biblioteca Civica di Verona)

the completion of the Arena which began in this period with the systematic of all post classic phases. Going further than the institutional guidelines on the necessity to come to some form of preservation of the Arena, that since the 1500's has become an important civic matter, the amount of information on how to maintain the monument and how to develop procedures to action this maintenance, from the more marginal ones to those that have begun the larger process of rebuilding and restoring the monument as well as those that detail this process, will remain an unclear background rumor if we do not place them in the material reality of the Arena. And this is precisely what makes this thesis original: the

possibility, given by the present site of restoration, to integrate and to bring a continuous interrelationship between the actual monument and the written documents.

WAR DAMAGE AND “REPAIR” OF THE ITALIAN MONUMENTS DURING THE SECOND WORLD WAR: THE ROLE OF THE ALLIES (1943-1945)

Carlotta Coccoli

The role played by the Allies in the events that involved Italy during the Second World War has not yet been fully investigated, especially regarding a particular aspect neglected by historians. The Italian monuments suffered destruction mainly from the Allied bombing, leaving them severely damaged. Only in recent times was it possible to study still unexplored archival sources, which made it possible to address a research topic in some ways completely new. It is well known that the heavy Allied bombing caused serious destruction to Italian cities, mainly due to the indiscriminate use of the area-bombing strategy. Less known is that, as decided by the same U.S. and British governments, a special section was created within their Armies for the purpose of minimizing - consistent with military necessity - the impact of war on European artistic heritage and taking the first steps of «first-aid» to prevent, as much as possible, occurrence of further damage. This organization was known as the «Monuments, Fine Arts and Archives Sub-commission» and operated in all the European nations involved in the conflict after having taken their first, uncertain steps in Italy. The responsibility in the field of monument protection was under the «Monuments, Fine Arts

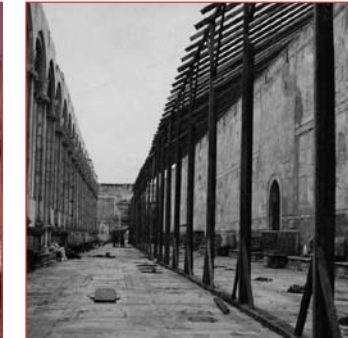
and Archives Subcommission» following the advance of Allied troops from the landing in Sicily in July 1943 to the surrender of German Armed Forces on May 2, 1945, up to the return to the Italian authorities. The purpose of this research thesis is to investigate the operational structure of the Subcommission and the tools used to achieve the goals of protecting the Italian artistic heritage from war damage. The choice of analyzing the Subcommission's activities throughout the entire Italian peninsula led to a better understanding of their evolution and the differences between the various Italian regions, due to the effects of military operations and the development of military strategies in the individual areas, but also of the experience of the organization members, also known as «Monuments Officers», and their cooperation with the Italian authorities responsible for cultural heritage protection. First, the research examines the principal instructions of the protection of art heritage in case of conflict. These instructions were prepared at the time of the Italian entry into war and summarized in the safety project issued by the Italian Ministry in 1940 on the basis of experience in protection of monuments developed during the First World

War. The research also analyzed the role of the «Abteilung Kunstschutz», the German counterpart of the Monuments, Fine Arts and Archives Sub-commission, which operated in Italy from November 1943 to May 1945. The work describes the conditions that subsequently led to the Anglo-American decision to implement a defense plan for artistic heritage in the war areas, through mobilization of prestigious cultural institutions in their countries and the establishment of governmental committees, strongly supported by the U.S. President and the British Prime Minister. Concerning the Italian experience of the Subcommission, the research examines the operational instruments issued by the highest military authorities together to promote and facilitate work in the theatres of war, the critical points and achievements. An unprecedented reading follows the events related to architectural heritage that is, in the words of Theodore Ernest De Wald, director of the Monuments, Fine Arts and Archives Subcommission in Italy, «During the wars in modern times [it] has sustained the greatest damage and losses as the result of military operations». This research is in a dialectical connection with the debate

which evolved in Italy during the war on the methods of reconstruction. Indeed, the devastating injuries caused by the bombing of the historical cities created the discipline of restoration in the face of an emergency, undermining the assumed theoretical and



1. Naples, the church of Santa Chiara after the bombardment



2. Pisa, the Capomposanto with the temporary canvas roof to shelter frescoes under construction by Allied engineers

operational categories until then acquired. The Allies experts - except in rare cases - never entered in the merits of technical choices in the restoration of monuments in the regions controlled by the Allied Military Government, whose planning was always the sole responsibility of the Italian authorities. However, that does not mean to say that the Monuments, Fine Arts and Archives Subcommission did not have at least a criteria to select which monuments were deserving of the most important organizational and economic efforts in the Allied program of «first aid» to the Italian monuments damaged by war. Already in the planning phase of operations, which consisted in the compilation of the «Lists of Protected Monuments», it was necessary to discriminate

against those deemed most significant. The oldest buildings were thus privileged - such as classical or Norman architecture in Sicily - or those regarded as characterizing the artistic aims of a place - like the baroque palaces in Turin - or, again, the «picturesque» villages sets of

concealed by baroque structures, the most striking perhaps regarded the church of Santa Chiara in Naples that was - according to the Allies - restored «in its revealed original Gothic form». Having defined the general context in which the activities of the Sub-commission are put into place, this research may be the path for another study, both in relation to Italy and its protagonists, as well as the environment for which, in Allied countries, the intention of this ambitious project for the protection of the European artistic heritage threatened by war was developed. Further investigating the individual personalities involved and their cultural context will add a contribution of knowledge to an issue, the preservation of artistic heritage in the event of armed conflict, still dramatically present.

ALFREDO DE ANDRADE (1839-1915) IN PORTUGAL: CITY, HERITAGE AND ARCHITECTURE

Teresa Sofia Faria Da Cunha Ferreira

This study is intended to provide a thorough view of the work of Alfredo de Andrade (1839-1915), architect and painter of Portuguese origin whose artistic training took place in Italy, where he settled and reached an outstanding role in conservation and restoration during the late nineteenth and early twentieth centuries. The aim of this work is to develop further aspects of his less explored professional activity, using a different point of view: starting out from his birth country, Portugal. Through the analysis of his presence in his country of origin, where he travelled from north to south, this research deals with issues related to architectural production (plans for the city and *ex-novo* residential architecture) and to the study and safeguard of the artistic and monumental heritage. In the "century of the nations" Alfredo de Andrade is – considering his circle of relationships, his work and the different areas of activity – a key to the understand both fields of action, Italy and Portugal.

The novelty of the study is based on investigation pursued in public and private archives – in particular the archive kept by his descendants – fundamental to its development, as well as to the interpretation, framework and confrontation with other archival and bibliographic

sources, and built work. Concerning city's intervention, the plans for Lisbon he conceived when he was young (1857-64) are presented – they are marked by an enthusiasm for the theme of urban renovation which interested almost every European capital –, directly inspired by the Neo-classical models that he learned in Genoa and in his travels, namely to Paris and London. However, they reflect an intelligent understanding of urban issues and of the "site", designing a continuous and monumental proposal for Lisbon's waterfront and for the expansion of the city to the north. Although these plans did not leave his studio, 25 years later Alfredo de Andrade will take part, at last, in the transformation of his birth town, in which he supported the building of Neo-Renaissance private houses for his Family. He contracted Italian architects and artists - such as Sebastiano Locati, Ludovico Pogliaghi and Nicola Bigaglia -, come of which advised by its colleague and friend Camillo Boito.

Although he did not make restoration work in Portugal, he was deeply interest and involved in issues concerning the preservation of the artistic and monumental heritage. Following the period of Neo-classical learning, his activity reflected

a profound change of artistic orientation, marked by the "discovery" of Neo-mediaeval culture. This was influenced by his contact with the Italian *verista* painting environment, where anti-academic discussions germinated, such as the rehabilitation of the decorative arts, the defence of realism and the search for a language that could express the new identity of the unified Italy. The assimilation of this debate is reflected in the teaching methods on the *Scuola d'Ornato*, directed by him, in the teaching artistic reform's proposals, both in Italy and in Portugal, as well as in the *Borgo Medioevale*, which was built for the Italian National Exhibition, in 1884, a cultural, artistic, architectural, political and pedagogic manifesto of an élite of which Alfredo de Andrade, through his concept, was the spokesman.

His main intervention in Portugal's heritage involved "artistic visits" through the country, the majority of which by request of the Lisbon Academy of Fine Arts, for which he produced drawings and reports concerning buildings and objects to be incorporated into a future National Museum (1880-81). Alfredo de Andrade does not pay attention just to the great monuments of his birth country, but also to the artistic handicrafts, urban,

minor architecture, and the vast autochthonous' rural heritage, from different epochs, scattered through out the country. The "spirit" underlying his journeys in Portugal was the search of the "origins" of national art, through a methodology – *Nulla Dies sine Linae* – based on direct



1. Project for Praça do Comercio enlargement

contact with the work, using drawing as an instrument of research and representation. His prestigious interlocutors in Portugal demonstrated the progressive affirmation of a national intellectual and professional class, regarding teaching, study and preservation of the artistic and monumental heritage, as well as architectural production. From this context and reading the private archive we were able to understand the reasons why Alfredo de Andrade's contribution in Portugal was not as important as the one that took place in the young Italy.

His architectural production is also considered through Alfredo de Andrade's own residences, both in Italy and in Portugal: the reconstruction of the Castle of Pavone (1885-1915), in Piemonte, and the construction



2. Castelo de Bragança

architect-client, the programme, the contemporaneousness, the building technologies and the workers, and a suggestive common theme, the "castle". The intervention in Pavone'Castle is a good example of Alfredo de Andrade's restoration methodology, but also a concrete proof of the proximity of the Boito's ideology. But to mark the future of his descendents, an autobiographic testimony left in Portugal, the only *ex-novo* project of his professional career, with no restrictions of any kind, which therefore allows us to try to interpret what was his idea of architecture. Inserted in *fin-de-siècle* eclectic production, he designed the "total work", marked by experimentalism, building quality, focus on details and on critical meditation about the selection of the models to be adopted that characterise all his work.

of Font'Alva (1894-1915), in Alentejo. Although one of these projects concerned a pre-existent and the other a completely new building, we found some parallel features: methodological and ideological inherent to an historicist concept of architecture – the same

This one does not innovate conceptually: at the dawn of new construction techniques such as steel and concrete, Alfredo de Andrade, whose professional activity had been consolidated in "restoration" work, would naturally prefer a traditional technology and an



3. FontAlva

historicist architectural language, according to his training and experience. He did invest, however, in the modernisation of farm machinery and in reinforced-concrete silos, among the first to be built in Portugal. Even though the contribution in Portugal is limited when compared to what he has done in the young Italy, this study congregates a fragmentary vision and introduces new interpretative aspects to the study of this nineteenth century protagonist deeply integrated on his epoch.

PROGRAMMED MAINTENANCE: THE CASE OF THE CASTLES IN VALTENESI

Barbara Scala

Would like to start discussing an issue that was covered during the 1999 Bressanone Conference, which is the maintenance of buildings and historical sites. The title of this convention was "Re-think maintenance". During this convention, we had the occasion to debate and discuss the maintenance of buildings and historical sites. New definitions emerged from this convention. It is an issue rarely discussed. The people who attended this conference on maintenance, learned new knowledge and techniques that were presented by the many speakers that spoke at the conference.

And the speakers at the conference, gave new definitions of terms of maintenance but also referred to older terms and technology used to date. The demonstrated and gave us specific examples of maintenance activities used in the past.

They noted that these practices were regularly followed in the past.

The speaker spoke of analysing the area that had to be restored, where maintenance had to be done.

He spoke about the necessity of using computer software today to register data on the area to be maintained before and after the maintenance intervention. The speaker spoke of the

importance to record all information necessary prior to maintenance.

At this conference, the importance of the difference between maintenance and restauration was underlined. But, at the end of this conference one primary problem still remained!

Today, how must we maintain or restore delicate and deteriorating historical buildings by the weather, smog or population, and the normal-deteriorating age process of a building. Now, we know that this problem of maintaining buildings is a real problem. Before, in the past, it was a theory but today it is reality. We are conscience of our responsibility to maintain history as well as maintaining the physical structure historical building. Ten years after the convention of 1999, new objectives were made and beyond academic goals. Following many pilot projects initiated by for example, the region of Lombardia, following predecessors in Europe that already many years before protected and restored historical sites, Italy including the region of Lombardia are changing their attitude and priority towards the protection of historical monuments and sites.

Research regarding the restoration and maintenance of buildings has been funded by

many City Hall councils that are within the area of Valtenesi. This is a vast territory near Lake Garda in Brescia.

The administrative councils for numerous City Halls are the property owners of various castles that have also been developed into private residences within the castle complexes.

In this zone of Valtenesi, there are various castles, however, I decided to concentrate on studying only seven particular castles. All of these castles are similar in structure, and therefore, I wished to study their similarities: the same stones used for their construction, and constructed roughly during the same period of time.

These seven castles also used a simple but functional means of communications to be used as a system of defense. My research includes a scientific analyse of the structure of the castles, stone analysis, chemical analysis, to establish the stability of each structure and to arrive at a fundamental understanding of the state of health of the structure and the appropriate action necessary to improve its present deteriorating state.

A historical background check and control of all original documents regarding the drawings and blueprints of all castles were analysed and documented for future use.

With the advancement of computer technology, we have a great benefit through software such as the management of maintenance being available to assist with technical procedures that communities such as the Region of Lombardia are presently using to record, register and maintain control of all buildings under restoration and maintenance. This programme has been placed at the disposition of the Region of Lombardia and is fully operational in the restoration and maintenance of the most complex procedures required for the restoration of the castle of Moniga del Garda. There are many software programmes to restore new building but this is the only unique software programme that I was able to find, and found to be efficient for the restoration of only historical buildings and sites. All of the research I did on photographs, and on-site control of the vegetation surrounding areas of the castles led me to the conclusion that there areas of each castle that may contribute to damaging the infrastructure of the castles. Such points are not only weather conditions such as rain and snow penetration into deteriorating roofs, but also surrounding trees and areas that contribute to water infiltration of the building's infrastructure thereby

causing a greater exterior risk to the structure.

I call these critical points, outdoor critical points that may further increase or directly contribute to the eroding of the foundations of the castles. Therefore, it was necessary for me to modify the programme adding classifications and codes for all wall structures. For example, a castle did not have a first floor, second floor etc, but the programme had to be modified to the blueprint of the castles. My conclusions throughout the time that the research took place were that it was more necessary to research on-site at the castle rather. I verified the ways in which one could actually analyse a castle through the use of ladders, scaffolding that is used in the restoration of castles, and even hanging swing apparatus for areas that are not accessible from the ground level.

I also created a project explaining the use of fixed points of the roof or infrastructure where a hanging apparatus can be attached to lower platforms to restore areas inaccessible from the ground, or to repair towers that are only accessible from the roofs. I also invented a machine, named verticiclo (Verticle bi-cycle) that permits the average person without a diploma to work on exterior walls. This machine is made

out of aluminium and is light enough for labourers to operate while hanging from fixed points to work on unaccessible areas of a building. I would like to note that this machine is exceptionally economic and therefore reduces restoration costs.

Whereas, most apparatus used today is very expensive to mount and dismount.

Also most exterior or interior restoration apparatus has security regulations that must be guaranteed.

A certificate guaranteeing the security of the machine that I have invented has been verified to be a plausible and in future, probable reality.

I invented this machine out of necessity because to do my research there was not anything at my disposition that was similar or as effective.

To protect these historical buildings in the future it is important that regions regularly control sites on even a yearly basis. Moreover, these controls must be done by competent and certified individuals who monitor historical buildings maintain a record and register of all maintenance done.

CULTURE AND PRACTICE OF CONSERVATION AND RESTORATION IN THE SOVIET OCCUPATION ZONE (1945-1949) AND IN THE GERMAN DEMOCRATIC REPUBLIC (1949-1989) AND FUTURE OF THE ECCLESIASTICAL BUILDINGS IN THE RECONSTRUCTION PROJECTS IN THE POST-WAR PERIOD

Claudia Zanolungo

In the German Democratic Republic, as in many other totalitarian regimes, the conservation of the cultural heritage was indeed a very important tool of the state power representation; but it would be wrong to reduce the east German *Denkmalpflege* (care of monuments) only to that. Although this could be absolutely true for works with a great national interest and a huge international echo (as the district around the church of *St. Nikolaus* and the theatre of Berlin), it is completely different for less important *ensembles* or buildings without any special social and political interest or with no symbolic and touristic values.

This study starts with the analysis of the socialist and democratic government ideology and of its social, political and economical background, assuming that this is the only way to understand the contradictions and the sudden ideological changes held by the GDR regime and by the SED (Socialist Unity Party of Germany). For example, the *Denkmalpflege* has always been considered one of the top notch social duties of the State and, more specifically, it was part of the heritage appropriation program.

The transformation course that involved the repairs and rebuilding activities on

monuments (first of all an ideological process, and only secondarily a theoretical and practical one) can't be explained without relating to the close and schizophrenic connection that the discipline had with the *Past*. Monuments, as material documents of the memory, reflected the complicate relationship of the socialist state with its own history; a relation that involves moral needs of a definitive break with its youngest past, desire of new roots and of a rebirth and, at the same time, social needs to regain their own national heritage.

Not only the recent past had been accused but also the *Denkmalpflege* itself: the traditional German restoration was seen as an accomplice of the National Socialism and blamed for its ideological positions, that were too far from the social reality of the work class; its birth was also related to the origin of the middle-class mentality. The '50s search of a moral and intellectual revival through an ideological *Denkmalpflege* became later (in the '70s) a pure material activity with practical targets aimed at social needs.

During the GDR the cultural heritage safeguard was the result of many internal forces and tensions: a central control of the activities was taken by the Institute of Restoration in Berlin,

but as a matter of fact the autonomy of the local offices (most of all of those in Dresden and Halle) remained almost untouched. The largest part of the scientific and practical work on single buildings, supported by historical studies and theoretical principles, has been done there, and not in Berlin; a work that could be compared with the coeval international criteria.

Especially the tradition of these two departments (a tradition that went back to the beginning of the 20th century) could remain very vivacious also in the post war period and, as in many other fields concerning architecture and urban planning (in these cases, however only for the first few years), a certain continuity could be assured both in the methodological approach and in the offices.

For these reasons, this study tries not only to present thoughts and behaviours of the main protagonists of the *Denkmalpflege* as a 'result' of an obliged course, it rather makes them understandable through the analysis of the cultural background and the academic and professional experiences of these conservators: many of the actors of the first era ('45-'60) obtained their qualification (as many of their colleagues in the Federal German Republic) at the *Bauhaus* of Weimar (in

the '20s) and at the school of Stuttgart (at the time of National Socialism, '30s-'40s). Only in this way it would be possible both to understand the compromises that these offices could make with the request of the political power and to make out the strategies that at the same time they managed to find in opposition to that same power, or to judge fairly their conquests and their failures.

This research project deals with the specific case of the repairs and restoration works on churches sited in Berlin (the capital of GDR) and in the ancient five east German states (Saxony, Saxony-Anhalt, Thuringia, Mecklenburg-Western Pomerania, Brandenburg), *Länder* that from 1952 had been abolished and divided in 14 *Bezirke* (districts), with the purpose to wipe away from the population the memory of their own nation and *Heimat* (literally 'country homeland').

The analysis refers to the epoch of the soviet occupation (1945-1949) and to the 40 years of the GDR (1949-1989), ended with the fall of the Berlin wall and the related fading of the socialist government and of its economical-political system; it encloses the unusual relationship between the atheistic Socialist State and the Christian Church, in its precarious and difficult positions between cooperation and conflict. Actually, the German democratic regime acknowledged the Christian Church as a very important instrument of control, to establish an antifascist democratic social system. Exemptions and many other economical favours had been granted by the state, particularly

to the Evangelic Church, which boasted the big part of the believers (in the early post war years it numbered up to 80% of the population). In comparison with every other socialist country, the situation of the Church in the GDR was unique: for example, compared with Poland and Czechoslovakia, the Church preserved a great autonomy and was able to maintain its own offices and architects. Nevertheless, the government could have a powerful control on the repairs work and on the reconstruction/ construction activities through the bureaucratic distribution process of building materials, workers, financial support, licence grantings and so on. In conclusion, it's also important to point out that the relation between the local departments of the Institute of Restoration and the ecclesiastic building offices was of great collaboration and their activities could always arouse a great deal of interest and appreciation from the citizens.

The study gives a systematic analysis of the various methods of dealing with the ruins of churches that have been entirely destroyed or seriously/partially damaged during the 2nd War World: this symbolic behaviour with a difficult and heavy past could include the destruction of their remains (justified by ideological and political reasons but also by the new urban and architectural socialist visions), their conservation as pure ruins (supported by the 'Beauty of Ruins' theory of Eberhard Hempel), the partial reconstruction with moderns elements (structural components and/or furniture), the total

faithful reconstruction '*come era - dove era*' and later, in the '70s, adaptations to museums, concert halls, community centers and administration offices, with more or less invasive transformation of the architecture essence. Among these different positions, there were also some new scientific approaches that aimed to respect and preserve as much as possible the authenticity of the architecture and the historical growing processes as regards spacial and aesthetic peculiarities: it's important to mention the '*Halle way*' and its restoration method '*nach Befund*' (based on findings), and the '*Dresden way*' with its turning point in the '60s from an artistic-creative dealing with the original materials to a more scientific one, thanks to the meticulous studies run by a new generation of art historians. To give some practical examples that could help the comprehension of these methodological, theoretical and ideologic attitudes, the second part of the work presents eleven ecclesiastical buildings, chosen between the most representative repair works led by the local offices and by the Central Institute of Berlin during the 45 years of the Soviet Occupation Zone and of the German Democratic Republic.