

# **Modernist Heritage Conservation: An Evaluation of Theories and Current Practice**

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## Abbreviations

<b>AIA</b>	Association for industrial Archaeology
<b>CIAM</b>	Congrès Internationaux d'Architecture Moderne
<b>CLG</b>	Community and Local Government
<b>DCMS</b>	Department of Culture, Media and Sport
<b>DDR</b>	Deutsche Demokratische Republik
<b>DEFRA</b>	Department for Environment, Food and Rural Affairs
<b>do.co.mo.mo.</b>	International Working Party for the Documentation and Conservation of the Modern Movement
<b>EC</b>	European Commission
<b>EEC</b>	European Economic Community
<b>EU-ETS</b>	European Union: Emissions Trading Scheme
<b>EUROAce</b>	European Alliance of Companies for Energy Efficiency in Buildings
<b>EPBD</b>	Energy Performance of Buildings Directive
<b>EPFL</b>	Ecole Polytechnique Fédérale de Lausanne
<b>EPSRC</b>	Engineering Physical Science Research Council
<b>GMAU</b>	Greater Manchester Archaeological Unit
<b>HPD</b>	Heritage Protection Department
<b>ICOMOS</b>	International Council on Monuments and Sites
<b>ICT</b>	Information Communications Technology
<b>ISC</b>	International Specialist Committee
<b>ISC20C</b>	International Scientific Committee on Twentieth Century Heritage

<b>IUCN</b>	International Union for Conservation of Nature and Natural Resources
<b>LCA</b>	Life Cycle Assessment
<b>LCCA</b>	Life Cycle Cost Assessment
<b>MIT</b>	Massachusetts Institute of Technology
<b>MoMA</b>	Museum of Modern Art (N.Y.)
<b>NPPF</b>	National Planning Policy Framework
<b>nZEB</b>	nearly Zero Energy Buildings
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PPS5</b>	Planning Policy Statement 5
<b>PPG15</b>	Planning Policy Guidance 15
<b>RCHME</b>	Royal Commission on the Historical Monuments in England
<b>RIBA</b>	Royal Institute of British Architects
<b>SED</b>	Sozialistische Einheitspartei Deutschlands
<b>SPAB</b>	Society for the Protection of Ancient Buildings
<b>TICCIH</b>	The International Committee for the Conservation of Industrial Heritage
<b>UN</b>	United Nations
<b>UNCED</b>	United Nations Conference on Environment and Development
<b>UNESCO</b>	United Nations Educational Scientific Cultural Organisation
<b>WCED</b>	World Commission on Environment and Development
<b>WHC</b>	World Heritage Committee
<b>WHL</b>	World Heritage List

## Note

In April 2015, the former English Heritage split into two separate bodies. What is now known as *English Heritage* is a charitable trust that looks after heritage properties in the country, whilst the newly named *Historic England* retains what has traditionally been English Heritage's former regulatory role. Since the bibliography in this dissertation mostly refers to English Heritage publications dating back to before 2015, the original name of the organisation will be used accordingly.



## Abstract

This dissertation is concerned with the contentious issue of treating buildings of the recent past as part of a common architectural heritage to be protected. Specifically, it is concerned with issues of environmental compatibility, economic feasibility and social viability in the built environment. After an initial investigation of the topic generally, the research identifies the most pressing issues arising from the conservation of modernist heritage, whilst analysing key international cases emblematic of the Modern Movement.

This approach develops a series of constructive observations that are intended to question the current conservation practice and that ensure that over-arching objectives of sustainability are met. A particular focus is given to recent practice in the U.K.. Policies are considered in the light of the current theoretical and legislative framework, particularly highlighting English Heritage's recent move since the late 1990s towards a more sustainable, integrated practice on post-war heritage.

Originating from the theoretical roots of '*Conservazione Integrata*', an Italian concept that was later promoted by the Council of Europe with the 1975 Charter of Architectural Heritage, the current idea of 'Planned and Integrated Conservation' has gradually replaced the traditional concept of restoration and preservation, whilst also facing the emerging dispute over sustainability.

Through my research, I have investigated the discourse within international socially embedded contexts, where architectural heritage represents a source of social, environmental and economic values to be preserved and passed on to future generations.

## Preface

### Rationale

The object of modernist heritage conservation is to deal with architecture that was once new and, has now been attributed, often controversially, the status of heritage. My research interest in this field, enhanced by contacts with do.co.mo.mo Italia, has particularly been encouraged by attending a workshop at Bauhaus in Dessau that focussed on the viability of heritage preservation strategies. Such experience has been possible thanks to my former Supervisor at Politecnico di Milano, Prof. Andrea Canziani. As an enthusiast of twentieth century architecture, and General Secretary of do.co.mo.mo Italia, he has guided me to appreciate modernist heritage studies, and has supported and encouraged me throughout my academic career.

Taking place a few months into my PhD, the Bauhaus workshop has proved to be a key experience which has brought me closer to the topic and made me further acknowledge the historical, aesthetical and philosophical link between the spirit of Modern Movement architecture and the one left by the industrial legacy.

The Erasmus Intensive Programme in which I participated run from 14th to 28th April 2012, and had the theme of *Reworking the Bauhaus in Dessau - An Energy Masterplan for the Bauhaus Buildings in Dessau*. It was promoted by the University of Applied Science (Frankfurt) in conjunction with Politecnico di Milano, Raymond Lemaire International Centre for Conservation (Leuven), the Estonian Academy of Arts (Tallin), and The Royal Danish Academy of Fine Arts, School of Architecture (Copenhagen). The variety of academic backgrounds contributed to the multidisciplinary nature of the lectures and workgroups, which demonstrated the need for integration of knowledge and a degree of inclusivity in the practice. Due to its nature, the workshop has focussed on the conservation of early twentieth century heritage, which in a country like Germany, for historical and social reasons, is a topic of major concern in the present day.

Within the context of twentieth century heritage, it is worth mentioning that a major paradigm shift occurred after the Second World War. This historical period witnessed the revision of the ideals heralded during early Modernism, which this dissertation explores in the first chapter against the international background. As architect and planner Tony Lloyd Jones recalls (Lloyd Jones, 1994), the war shook up British social life, deeply changing the attitude towards collective issues within the context of new urban planning schemes. This has inevitably led to an increased concern for the remaining built and natural resources, and a need to promote efficient planning practices that would comprehensively embrace the needs of a growing, however still shaken, country.

In addition to this, the thematic issues illustrated in the first five chapters lead to the question of dealing with the technological, philosophical and historical complexities of the late twentieth century modernist building stock. This particular time of the century raised the difficulty of putting into practice the so-called 'international ideals' heralded through cultural forms and technological experimentations. After the Second World War, the loss of internationally shared ideals triggered uncertainties on the applicability, if not validity, of what had been sought at the turn of the century, with regard to new building forms and technologies.

Also, the urgent demand for quick reconstruction, of public buildings to housing, of local schools to commercial developments, jeopardised the success of post-war projects, which is evident both at an urban and architectural level. Examples of this careless reconstruction can be seen in the unlikely viability of the new planning visions, often far too unrealistic while heavily relying on ring roads (Lloyd Jones, 1994), and in the low quality of components being used, mainly due to underdeveloped knowledge of new technologies.

My interest in post-war technologies has developed greatly since the start of my academic career with my BA Dissertation in Architecture (Zamburlini G., 2007). In this dissertation I made a comparative study between prefabrication systems in Italy and France after the Second World War.

It is on the basis of the knowledge acquired through my previous dissertations that the topic of this research has evolved from my initial proposal on industrial heritage conservation. My interest in new technologies and keenness to learn more about heritage conservation have also contributed to the development of the present research, which attempts to explore the impact of architectural forms and modernist ideologies onto collective memory.

The history of modernist architecture is not the same as the history of twentieth century architecture, and neither are their buildings. However this dissertation is concerned only with the history of modernism and those buildings that represent it due to the particular practical and theoretical challenges they present.

## **Methodology**

The present research has undergone significant changes throughout the period of my Doctoral Studies. They consist first of a major shift in methodology, which occurred in September 2014, three years after starting my Doctoral Studies. A minor adaptation of focus has then occurred during the final stages of the writing up, in early 2016, and consisted in a re-adjustment of the scope of research, from the specificity of post-war to a wider range of modernist heritage.

In particular, the first shift has proved to be of overall benefit in critically analysing the context of the study, as well as validating the efficiency of the methods in use for more accurate outcomes. This section illustrates the development of the methodology and highlights the strategy undertaken in order for the change to have minimum impact on the overall development of the research.

The strong contextual nature of the research and the underlying issues of heritage conservation initially led me to undertake data collection through mixed methods. On the basis of the emerging thematic issues, interviews and questionnaires have first been appointed as the best complimentary methods for data triangulation. This strategy was designed to engage a wide array of stakeholders involved in heritage

conservation, thus allowing the exploration of different disciplines, and provide the opportunity to investigate the context in depth.

It is worth noting that, within this initial strategy, stakeholders who were invited for interviews had previously been selected on the basis of their relevance and experience in the specific discipline of modernist heritage conservation. Potential respondents to questionnaires were found instead through a broader search of contacts, among those who currently worked or had previously been involved with heritage conservation in England.

Although this research strategy would have ideally been beneficial in providing both a wide and an in-depth perspective on the subject, with quantitative data bridging the information gap of qualitative sources, and qualitative data providing more solid context, this methodology was of limited success, due to the non-compatibility of the quantitative methods with the subject.

However, part of the data collected during this phase, which consists in the semi-structured interviews conducted in 2013 and 2014, has been revisited to be integrated into the revised methodology. Hence, it was constructively used to corroborate the observations arisen with the thematic issues of the first five chapters.

At the time of the interviews, the questions to the stakeholders were divided into thematic issues, starting with the general factors that have prompted post-war heritage conservation, to the specificity of conservation legislation in England. They have served to highlight an array of topics whose breadth has depended on each respondent being interviewed. Some stakeholders, for instance, highlighted the mechanism of designation and listing, whereas some others preferred to focus on the philosophical factors related to the conservation of recent heritage, due to their major involvement with research and academia.

The breadth of this enquiry has been particularly useful to gather a range of disciplinary perspectives on the subject, and cast light on the gaps existing within the field of conservation. A full transcription of the questions selected for the semi-structured interviews is provided in Appendix A (p. 226)

During the development of the mixed methods strategy, upon completion of the interviews, web-based questionnaires were designed and sent over to hundreds of contacts, however resulting in a low rate of response notwithstanding multiple chase-ups by different means (e-mail, telephone). This inconvenience has encouraged me to review the strategy and think of the possible reasons behind this, so as to amend the strategy accordingly.

Although the subject of conservation is widely reckoned to be cross-disciplinary and connected with a range of intertwining theories, hence methodologies, it is still strongly regarded as a contextually embedded practice. Heritage itself is in fact in constant change, as it is primarily a cultural construct. The involvement of the chosen respondents with the project, and the relevance of the project within its context, cannot transcend the rich discourse of a complex reality where, notwithstanding the benefits of mixed method, there is little room for objective analysis as expected from the collection of quantitative data.

This observation has not only been discussed in the earliest stage of the design strategy, where initially a qualitative-only data collection had been proposed (March 2013, upon submission of the ethical approval). It has also arisen during the phase of data collection, where a few of those contacted have declined, but preferred to share their personal view on the methodology.

As witnessed by those, the reason of their rejection proved to be the nature of the survey, mainly based on general terms of practice. The majority pointed out that this topic may have needed in-depth investigation, hence more specific terms of reference - a given case study, a chosen building type or construction technology, a specific context etc. Another main reason for the declinations received is also dependent on the fact that a relevant part of the stakeholders contacted was not specifically involved in modernist heritage.

Although the very little data gathered has proved unusable, and not relevant to my research questions, this research stage has helped to re-approach the initial perspective proposed, according to which qualitative data only would be collected and

analysed. This choice was initially discussed and eventually appointed in September 2014, at which date only seventeen questionnaires responses had been gathered over a period of two months of e-mail invitations to take part to the project, followed by chase-ups.

Dr. Julian Holder, new Supervisor since September 2014, has supported the research in this choice, which it is argued is more beneficial to the overall quality of the dissertation. As above explained, this has not only occurred on account of the very low rate of responses to the questionnaires, but also in the consideration of the strong contextual nature of the subject, and also explains the reluctant attitude of potential respondents towards undertaking such type of survey. The change has represented a positive turning point for the research, as it has recognised the need to investigate within a framework that reflects the complexity of a socially constructed reality.

In order to provide the research with a broad and in-depth array of data, a case study approach was revisited. Two sets of case studies were chosen: the first, developed from the literature, focuses on early Modern Movement buildings that, being industrial in nature, are key in understanding the issues of conserving the legacy left by new technologies and materials. Also, they serve to outline the development of such issues from the earliest industrial assets until the present day. As a development, a final case study is instead representative of post-war architecture in England. It takes into consideration a specific commercial asset (the CIS Tower in Manchester), which was chosen for the debate initiated over the sustainability of its conservation, and on account of commercial buildings being amongst those that are most subject to change over the course of time.

It is worth noting that the initial approach to the new methodology considered implementing more than one post-war case study, as the aim of the research was to investigate best practice in this specific context. As explained further below, this has only partially been achieved due to time constraints, however the solid enough research ground generated by the literature has enabled to shift the scope towards the wider-embracing analysis of modernist heritage.

The material originally gathered through the interviews between 2013 and 2014 was useful in implementing the new methodology adopted as of September 2014. The transcription of all twenty-three interviews has proved useful to cast light on a wide range of issues, and to include in this dissertation some of the views shared by the respondents. The richness of this material is primarily given by the choice of the respondents that was at the basis of the original methodology. Whereas individuals chosen for the questionnaires were selected only on the basis of their involvement with conservation in the general sense, those chosen for the interviews were approached because of their specific academic / practice involvement in the field of modernist architecture. Such criteria have proved to be particularly relevant, as the material gathered through the interviews was in fact still significant to the new strategy, and could therefore be used after the shift in methodology.

It was recognised that using such a set of data as an extra, parallel source of literature review, would be the best method to ensure triangulation. This should strengthen the theoretical knowledge acquired from the research with further evidence from the profession and the academia. Having conducted semi-structured interviews allowed for a more active enquiry into the topics discussed and left room for debate and clarification in most of the interviews carried out.

Once the final case study was chosen, the CIS Tower in Manchester, two additional interviews were then conducted. The first one, in person, was with Katie Wray, who is Assistant Planning Manager at the Co-operative Estates (November 2014). The second one, with Andrew Martindale, was instead carried out over the phone in June 2015. Andrew was former Historic Area Advisor for English Heritage in 2003, and now works at Historic Scotland.

This material has served as complimentary data to some Archival Research conducted by myself at Manchester City Council. On this occasion, reference was made to several documents and correspondence regarding the CIS overcladding, which required Listed Building Consent, in 2003.



Although the initial aim of the study was to explore further the case of post-war heritage, this has only been partially achieved. Because of time constraints, mainly dictated by the late change in methodology, the research has been refashioned to take account of unexpected results. This has involved a revision of the subject, which embraces issues that are common to modernist heritage conservation.

As suggested by the thematic issues observed in the first five chapters, however, the peculiarity of post-war heritage consists in the variety of building types that have arisen within an extensive building program. Also, the demand for quick reconstruction and the increased concern for the remaining built and natural resources have led to uncertainties in the applicability of the ideas of Modernism. On this basis, it would have been beneficial for this thesis to explore such factors with more consistent data from post-war studies, thus comparing, for instance, the conservation of different building types, which brings up a wide array of both philosophical and practical issues.

Within the context of the post-war case study, particular stress is placed on the consistency of sustainable conservation strategies within the traditionally established theoretical concerns. At the same time, the overall strategy pursued by the present research represents a point of departure for further investigation in the subject matter, as it casts lights on a set of theories and on the potential obstacles when conserving different heritage types and periods, whilst attempting to raise the need of an integrated practice.

## **Aim**

The study aims to develop a series of constructive observations that attempt to describe best practice for the acknowledgement, coordination and planning of modernist heritage conservation.

## **Objectives**

To achieve this aim, the objectives are:

### **I. Factors**

To explore modernist heritage buildings and their historical context with particular attention on the legacy left by industrial heritage.

### **II. Theory and Practice**

To highlight the development of the theoretical framework in conservation and its applicability to modernist heritage, where different issues of philosophical and practical nature arise.

### **III. Sustainability**

To critically analyse the development and challenges of sustainability in conservation, while attempting to identify an integrated definition in the light of post-war approaches to the environment.

### **IV. Integrated Conservation**

To develop a critique on the current status of national policies and international guidance in the light of recent developments on integrated conservation.

## **Research Question**

As a result of the methodological questions arisen from the literature review, this dissertation is focussed on highlighting the rift between theory and practice. In order

to understand to what extent theoretical perspectives influence practice, the core research question is therefore:

*Is there a substantial difference in conserving modernist as opposed to traditional heritage?*

## **Thesis Structure**

This dissertation contains two distinct parts. The first part includes data gathered from the literature, the semi-structured interviews and the chosen international case studies. The second part focuses on one national case study, the CIS Tower in Manchester. These two parts are preceded by the Preface, which introduces the dissertation's methodology, and are followed by a conclusive chapter, the Bibliography and an Appendix.

The **Thematic Issues** section (chapters 1 to 5) merges literature and findings gathered through semi-structured interviews. This section begins with chapter 1, which outlines the topic of modernity in architecture, whilst raising issues on conservation in this specific context. It also serves as a comparison of the relationship between the rationale of the present thesis and the findings of my previous studies.

While chapter 1 is mainly involved with the historical development of architecture over the last two centuries, highlighting the innovation brought about by the so-called 'Dimensions of Modernity' (p. 20), chapter 2 describes the growing concern for sustainability raised in the last few decades, led by the three overarching Principles of Sustainable Development (p. 39)

In order to give solid theoretical support to the historical context and practical difficulties of conservation, chapter 3 deals with some of the major concerns in meeting these theoretical imperatives and practical objectives.

Chapters 4 and 5 aim to provide an overarching perspective on the history and the theories of heritage conservation. Also, whereas each of the first three chapters ends

with an exploration of international cases, the other two embrace conservation issues on the management and legislation ground.

The case studies included in the first set of chapters (1 to 3) all belong to the inter-war period, and have been chosen to address issues related to a variety of aspects underlying modernity in the context of heritage sites.

Although stemming from different conservation perspectives, the intervention processes that have been carried out on the three sites demonstrate the viability of non-traditional approaches to modernist heritage. This is key to understanding how twentieth century heritage can be historically analysed, conceived and preserved. By starting at the international roots of this development, namely where modernity began, it is possible to grow historical awareness of this shift.

The three cases, analysed in depth at the end of each literature review chapters, all highlight how common conservation principles may be incompatible with the nature of the buildings from the Modern Movement, whose function, form and use of materials adopt non-traditional approaches. It becomes clear that the retention of architectural and historical fabric is only partially a criterion for good practice, and is gradually leaving room for new principles.

These cases introduce the idea of architecture being the symbol of a movement Manifesto, as can be seen with The Bauhaus in the municipality of Dessau, former East Germany. Heritage listing inevitably influences the approach towards the urban context within which a building is inserted, and starts to involve the viability of an overarching sustainable approach. A sustainable approach is one where the building is connected to its social and cultural value, as well as to its surrounding urban context.

While the Van Nelle Factory, only recently made UNESCO Heritage Site, carries a similar symbolic significance, the Zonnestraal Sanatorium represents a social experiment aimed at the sustainable optimisation of materials and costs, and therefore brings about the discourse of temporality. This is opposed to the imperative of permanence normally required from heritage. Each of these early twentieth century

cases are analysed in order to illustrate the relationship between the industrial legacy and the expression of their modern architecture.

After the first set of three chapters and international cases, the research perspective shifts onto management and legislation issues. Whereas chapter 4, dedicated to a 'Planned and Integrated Conservation', explores the development of this concept in the light of its sustainability aspect, chapter 5, dedicated to 'Legislation', provides thorough insight into the development of theories and milestones that have enabled the most recent approaches to conservation in the U.K.

This serves to provide context for the England-based case study illustrated in chapter 6, and also highlights how English Heritage, now Historic England, has taken the approach further by introducing a post-war listing programme, which has been key in tackling several issues concerning the conservation and management of recent heritage.

The second part of the thesis, consisting of **Data Collection**, includes chapter 6, which is dedicated to the CIS Tower. In here, the data gathered through Archival Research and additional, case-specific interviews develop the discourse on a relevant example of national heritage listing, whilst investigating the Thematic Issues previously explored in the first part of the dissertation.

This body of work leads to a set of observations based on the diversification of conservation issues upon the consideration of heritage periods and building types. It is highlighted how the growing post-war awareness of new heritage values is attributed to a gradual appreciation of new values. In the **Conclusions** (chapter 7), reflections concerning the intrinsic nature of Modernism will attempt to convey considerations that go beyond mere historical perspectives, and instead take into account the shift in time as a sign of a deep-rooted change: a change that is not only part of the culture within which conservation occurs, but that is inherent in the architectural object as an expression of its cultural significance.

# 1 QUESTIONS OF MODERNITY

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Figure 0 | Between tradition and Modernism: towards an internationally shared design approach: AEG Turbine Factory, Berlin by Peter Behrens 1910. Behrens, whilst working for AEG, brought a new level of architectural sophistication to industrial products and buildings not previously seen in such functional buildings.

(Source: <https://www.bauhaus100.de>)

‘Design is not about decorating functional forms - it is about creating forms that accord with the character of the object and that show new technologies to advantage.’ (Behrens, as cited in Poulin, 2012, p.69)

## 1.1 Introduction

### Research background

The present study stems from my keen interest in architectural conservation, which has developed out of earlier academic work. As part of my M.Sc in Architecture at Politecnico di Milano, I wrote a dissertation titled *The Cotton Mills, Ancoats - A Critical Approach to the Heritage Memory* (Zamburlini G., 2009), which was supervised by Prof. Stefano Della Torre and Prof. Andrea Canziani. This dissertation focussed on the development of industrial culture in Manchester in the nineteenth century. Whilst analysing the architectural and urban forms that resulted from this culture, it also sought to raise questions on how to deal with its memory as a social and built legacy.

The following year, whilst studying in the United Kingdom for the MA in Architecture and Urbanism, I took this interest in Manchester's industrial heritage further, by pursuing a design-led dissertation on *An Analytical Overview and Viable Design Approach to Manchester's Industrial Heritage - Piccadilly Basin and the Brownsfield Mill* (Zamburlini G., 2010). Supervised by Dr. Eamonn Canniffe, the dissertation considered Piccadilly Basin in Manchester as an outstanding example of a former mixed-use industrial area. In this area, the Brownsfield Mill site was chosen as a relevant case study to experiment a methodology of analysis and design approach, mainly inspired by the layering of historical phases that the building and its surroundings have gone through.

Following acceptance of an offer to pursue Engineering Physical Science Research Council ('EPSRC') funded doctoral research at Salford University in October 2011, I initially proposed further work on the topic of industrial heritage in England. The intention was to investigate successful strategies for architectural conversion and urban regeneration within the context of Conservation Areas in the North-West of England, where case studies from former industrial sites could be investigated. Approximately six months into my PhD, and as a result of initial reading, my research interests gradually turned to post-war heritage in England as a more urgent issue: a brief outline of the reasons behind this

choice, as well as the logical discourse developed through literature and academic training, is outlined below.

### **Documenting industrial heritage**

As outlined above, the subject of industrial heritage conservation had particularly drawn my attention in the early stages of my academic career, when compiling an extensive archival research for my M.Sc. dissertation. For this present dissertation, I had the opportunity to consult *The Greater Manchester Textile Mills Survey* (GMAU & RCHME, 1992) in John Rylands Library's Special Collection Archive. Also, additional documents were kindly provided by archaeologists Norman Redhead and Mike Williams, co-author of the book in which the survey results have been made accessible to the general public (Williams & Farnie, 1998), and author of other journal papers on the subject of industrial heritage conservation (Williams, 1988; 1993).

The chance to make use of the extensive documentation and survey results has not only been fundamental for the quality and type of data gathered, but also for casting light on a new research methodology at the time of the survey. The document is considered to be '... the most comprehensive thematic record in the North of England' (Palmer & Neaverson, 1998, p. 80) revealing over 2,400 sites, among which around 1,000 were surveyed in detail. It also contains two other pioneering studies on the woollen mills in Yorkshire and the silk and cotton mills in East Cheshire (Nevell, 2010). The significance of this study is demonstrated by the adoption of thematic criteria for building-type specific analysis, which, as Palmer and Neaverson outline, has provided a methodology that is applicable to other types of buildings too:

'The authors have since recognised the limitations of this method, as the functions of various mills buildings were more complex than previously realised, but it did enable the rapid recording of 1400 mill sites with standing remains.'  
(Palmer & Neaverson, 1998, p. 80)

This documentary field-study system represented the application of an extensive survey method to a new category of heritage, which went beyond the traditional one of



vernacular buildings, developed by architect and historian Ronald Brunskill. It also demonstrates the effort to expand beyond the pure functional analysis of the landscape and built environment, whilst taking into consideration cultural meaning and value.

Although highly innovative at the time, the approach used for *The Greater Manchester Textile Mills Survey* is now considered a standard research technique in industrial and building archaeology. In a similar way to area surveys, thematic surveys require field evidence as well as a thorough documentary search. As Palmer and Neaverson write:

‘The essence of industrial archaeology is the interrelationship between the field evidence ... and the evidence from written sources.’ (Palmer & Neaverson, 1998, p. 105)

This documentary field-study method, adopted in the late 1980s and increasingly implemented in practice, retains major significance nowadays. It poses the basis to a socially driven approach to documentation and recording that takes into account the cultural context of the site, therefore influencing new approaches to heritage listing. According to Falconer and Gould:

‘Many tools have been developed to refine and translate this understanding into the more effective management of the resources ... But maintaining the quality of all these records and the site investigations that underpin them depends on nurturing an expert workforce and the transfer of skills and knowledge.’ (Falconer & Gould, 2011, p. 9)

In reference to the development of a potential research framework for recording and excavating industrial mills, Nevell states that:

‘... there is also a need to understand the development of different types of process machinery and power features such as engine houses, boiler houses and wheelpits, as a way of revealing the technological history of a textile site where there are no standing remains.’ (Nevell, 2010, p. 166)

It was while studying this method in the context of the Greater Manchester Mills Survey that additional questions arose which became fundamental in the development of my research.

### **New perspectives**

The development of approaches in the context of industrial heritage can be traced back to the early 1970s. The gradual acknowledgment of industrial heritage's legacy has pushed with broader perspectives on the actual value of industrial, and subsequently, modern techniques of construction. In 2011, Miles Oglethorpe recalled how the International Committee for the Conservation of Industrial Heritage ('TICCIH') has made a significant contribution to the conservation of industrial heritage both in England and abroad. The TICCIH was founded during a conference hosted in Ironbridge in 1973, and its role has been key for several decades, until the establishment of TICCIH groups resulted in the UK in an agreement with the Association of Industrial Archaeology ('AIA'), and the consequent creation of TICCIH GB. (Oglethorpe, 2011, p. 49)

As Norman Redhaed from the Greater Manchester Archaeological Unit ('GMAU') also recounts,

'The focus on recording industrial sites for the HER began in earnest around 1990 and was stimulated by several factors: a greater understanding of the significance of Manchester's industrial legacy, a growing awareness of how vulnerable this resource was to development pressure, the need to enter onto the then-SMR more than 1,000 records from the recently completed Textile Mills Survey and technological advances in database software.' (Redhead, 2011)

We therefore gather that the contextually and thematically driven methodology sparked in the post-war period has provided solid ground to the exploration of different building functions, and is now one major criterion for the thematic approach to building archaeology as well as architectural conservation (English Heritage, 2011a).

### **From industrial to twentieth century heritage**

The debate concerning industrial heritage conservation has proved to be fundamental in defining the methodology of this dissertation. The question as to what is the best way to conserve and display the remains of the Industrial Revolution has triggered a different

approach to conservation in terms of methodology, and the effectiveness of this approach is still deeply disputed:

‘For 50 years discussion has waxed and waned on the issue of the distinctiveness - or not - of the material legacy of industrialisation ... Over the past dozen years two English Heritage reports have examined the nature and sustainability of this portfolio and it is clear that important and complex challenges remain if we are to hand on intact our preserved sites to future generations.’ (White, 2011, p. 21)

Within this perspective, the use of new technology in both industrial and twentieth century architecture has made it increasingly difficult to choose an approach, as one must consider factors other than those of a technical nature. In a recent issue of *English Heritage’s Conservation Bulletin*, it is argued that:

‘Heritage assets from the industrial age have always been more difficult to protect than those from earlier periods. They frequently fail to meet the conventional criteria for designation and it has been too easy ... to underrate their significance –not least because, as monuments to a period of unprecedented technological change, they often exhibit evidence of continual modification.’ (Smith J. , 2011, p. 25)

This dissertation argues that twentieth century heritage shares these problems of continual modification, although they are described as intrinsic to industrial heritage. In many respects, it develops the ideas of functionality, flexibility and transitoriness that have become central to modernist architecture, as identified by Andrea Canziani, when he argued that:

‘ ... they create a dilemma for their conservation since they conflict with the permanence we require from heritage. What was useful to facilitate the evolution of progress is at present a very perplexing conceptual problem.’ (Canziani, 2009, p. 39)

There is a theoretical conflict in the idea that we require permanence from heritage. The common idea that architecture is built for eternity recalls the notion of permanence, which remains central to architecture as a discipline, as well as to conservation as a practice.

‘For conservationists, the finite character of natural resources provided a powerful metaphor in favour of permanence and restraint, not only in economic and social policy ... but also in the heritage.’ (Glendinning, 2013, p. 403)

However, the ideals of the Modern Movement have heralded a new relationship between function and form, thus challenging the idea of permanence and replacing it with a functionalist architecture of transitoriness, whilst contradictorily claiming that new materials are potentially meant to be infallible and can endure the challenge of time. English architectural critic Martin Pawley made the point forcibly in the early years of English Heritage’s programme and the establishment of the International Working Party for the Documentation and Conservation of the Modern Movement (‘do.co.mo.mo’):

‘What Pawley was advocating and what Banham saw lacking in modernist architects’ works was a truly inventive approach to architectural design that challenged and met building design problems in the best way that the best engineers and applied scientists do in their respective field.’ (Kronenburg, 2014, p. 78)

The strong relationship established between the building and its function is hard to be retained when the function itself becomes outdated, and vice versa, when the form starts to show signs of decay. Not only does this broken relationship affect the materiality of which the form is made, but it also outlines an intrinsic contradiction within the Modernist Manifesto itself, which was claiming for the work of architecture to be eternal.

If on one side it was contemplating the flexibility of forms more than traditional architecture ever did, it was also rejecting the idea of preserving modern fabrics. The newness of the latest materials and technology persuaded the modernists of their presumed high efficiency, ability to exhibit longevity and not to present any form of decay in the future. As a result of this, the commonly held myth that architecture from the Modern Movement had to look good in order to look new and vice versa was generated, which today raises the interesting issue of the restoration of Modern Movement buildings. In *The Architects’ Journal* several years ago I asked the rhetorical question “Would you pay

good money to visit the rusting remains of a Modern Movement building?" Probably not. Yet the day may be coming closer when this happens.' (Holder, 2001)

The formal aspects of early twentieth century architecture have thoroughly been discussed by Le Corbusier, who articulates the identification of function throughout the different scales of the project, initially starting with the definition of house as 'a machine for living' (Le Corbusier, 1924, p. 67). A few years later, a similar debate occurred at the 'Functional City' Congrès Nationale d'Architecture Moderne ('CIAM') Seminar, held in Moscow in 1933 (Mumford, 2000), whose debate contributed to integrating the concept of land planning based upon function-based zones. As Eric Mumford observed:

'The concept of the Functional City, the most significant theoretical approach of CIAM, began to dominate its discourse immediately after the Brussels Congress. ... The underlying concept was a simple one, where ... the problem for the urban designer was to determine the mutual relation of the functional units of the metropolis.' (Mumford, 2000, pp. 60-61)

Whilst drawing on the parallels between the systemic performance of an individual housing unit and the efficiency of places dedicated to industrial production, the discourse of function at urban level was further developed by Le Corbusier in the recognition of functional patterns within urban hierarchies. This critique went alongside the praise that the Le Corbusier illustrated in regard to engineering aesthetics, which can be read in detail in *Vers Une Architecture* (Le Corbusier, 1924, pp. 17-23). These studies find, in the early 1950s, an exemplary implementation of this theory in his design for the Indian city of Chandigarh.

It is reclaimed by UNESCO (the United Nations Educational Scientific Cultural Organisation) that all the existing natural and artificial elements of the city '... were given due consideration in the distribution of functions, establishing the hierarchy of the roads and giving the city its ultimate civic form.' (UNESCO, 2006). This was achieved by implementing distribution of function, hierarchical circulation and built mass regulation through the careful control of volumes, facades and textures.

The same theories on hierarchical systems have also been employed by Le Corbusier with the creation of the '*Modulor*', which was conceived to be implemented at all the scales of architectural design (Le Corbusier, 1950): in this systemic and universal reference of design, he identifies a viable way of adapting his 'machine for living' theories to the social and material conditions of the time. Cohen argues that this constitutes an excellent example of the attitudes in the times of post-war reconstruction:

'The question of proportions had become a central issue in the post-war French reconstruction, as architects struggled to keep their status in the process of a modernized building production in which standardization and modularity were fundamental strategies.' (Cohen, 2014, p. 8)

### **Beyond disciplinary boundaries**

With innovative urban forms contributing to the development of new values within the built environment, it has become clear how similar the issues are behind industrial and modernist heritage awareness. As explained, such issues principally dwell on similar premises departing from concepts of function, construction techniques and aesthetics.

The implementation of mass-production technologies in different uses reflects onto the discourse of social acceptance of new forms and meanings, aesthetics and styles. This contributes to developing a complex discourse touching upon different disciplinary aspects, which the present research will attempt to highlight and describe through the provision of cross-disciplinary guidance.

In the field of industrial archaeology, for instance, the basic skills needed to form pluri-disciplinarity are identified as:

' ... common to many disciplines and include the capacity to study maps and documents, an understanding of topography and the ability to survey sites and record standing structures. Work on industrial sites also requires some understanding of the technology and economic background of particular industries, not just to make an adequate record but also to interpret sites in their regional, national or even international context.' (Palmer, 2011, p. 9)

In the specific case of industrial archaeology, which only later was recognised as a discipline of its own, it is acknowledged that:

‘ ... increasingly, the emphasis has shifted to multi-disciplinary investigations of entire landscapes, whether rural or urban.’ (Catell, 2011)

Originally, archaeological studies were not used for implementing a multi-perspective approach, which instead was the case, after gradual development, in the late post-war era. Researchers in the field started to feel that a major turnover of the discipline was needed, and urged architects to go beyond the study of individual sites and industries. With the development of archaeology as a disciplinary field of its own, which occurred first in 1944 upon the foundation of the Council for British Archaeology and then with the setting up of the first Industrial Archaeology Research Committee in 1959, a different approach was adopted:

‘ ... It chose not to limit this to the archaeology of the industrial age, which would have constrained it to a specific period, but made a conscious decision to adopt an inclusive approach (of historic, technical, architectural and educational interest.)’ (Chitty, 2011, p. 41)

It was only in the 1970s, however, that industrial heritage was perceived in the UK as a separate branch of archaeology, with many practitioners coming from an inclusive variety of disciplinary backgrounds. The AIA was formed in 1973 and still, after more than forty years, represents the interests of both professionals and volunteer-led local groups and preservation societies.

‘ ... English Heritage’s initiative to identify and prioritise the industrial heritage at risk is a brave one. It demands the support of us all. It is one of the toughest conservation challenges the nation faces, tough because in its nature and scale it demands more than conservation agencies are yet to deliver.’ (Cossons, 2011, p. 6)

The challenge described by Cossons in all its complexity is very close to the one we are bound to face when considering modernist heritage conservation, which also supports the claim to be treated as a discipline of its own.

‘Within the field, there is an ongoing discussion as to whether the philosophical approach to conserving modern heritage should be different from that used for the heritage of other eras.’ (Normandin & MacDonald, 2013, p. 3)

To this concern, the Getty Conservation Institute organised a ‘Colloquium to advance the practice of modern heritage conservation’. The discussion raised interesting issues on the matter, principally as to whether any different types of methodologies or frameworks were needed in local, regional and national designation processes for modernist heritage places.

‘The unanimous response indicated that while the standard methodologies for comparative analysis are useful for all types of heritage, some of these methodologies are not well understood or universally applied. ... A historic thematic framework - as opposed to architectural appraisals - would provide clarity about typologies and broad historical movements through which individual sites could be contextualized.’ (Normandin & MacDonald, 2013, p. 16)

This is in agreement with another recent perspective, stated at the Madrid Conference on ‘Approaches for the Conservation of 20<sup>th</sup> Century Architectural Heritage’. This perspective states on the premises that:

‘Understanding how cultural significance is manifest in the architectural heritage of the twentieth century, and how different attributes and values contribute to that significance, is essential ... Buildings evolve over time and later alterations may have cultural significance. Different conservation approaches and methods may be necessary within one site. The input of the original designer or builder should be sought, where relevant.’ (Ministerio de Cultura, 2011, p. 30)

Questions of authenticity and integrity, namely concerned with the relationship with the original artefact, are given particular attention in relation to modernist heritage. The typological diversification that was initially sparked by industrial architecture and gradually became relevant in all construction works, withholds remarkable links with the use of a place (which can be altered through time, thus changing the original destination of use),



the perception from the users (subject to cultural change) and the materials and technologies being used (ideally through compatible alterations).

### **Setting up an inclusive framework**

With the present dissertation stemming from the hypothesis that attempts to conserve industrial heritage have represented a major turning point towards different approaches, it is useful to look back and verify whether, to some extent, the same approach can be transposed to the case of modern heritage assets. White recognises that the focus of traditional heritage was put:

‘... on structures associated with people - the space where they had lived, fought, worshipped, worked and were buried during the Pre-Industrial Era. The industrial heritage, by contrast, required an understanding of structures associated with process, where the machine increasingly dominated. That required relationships with individuals and organisations beyond the prevailing conservation constituency.’ (White, 2011, p. 23)

Hence, based upon a slow but developing awareness of industrial heritage principles, where the factor of ‘recentness’ plays a fundamental part in the acceptance of such legacy, it becomes clear how changes in time, as well as perspectives, define the strong contextual meaning of a place.

The formalisation of such an approach took place with the Industrial Monuments Survey in 1963, after the demolition of the Euston Arch in London. This work served to feed an updated National Record of Industrial Monuments, and is considered the first systematic survey in England to have been made upon the acknowledgment of the impellent need for reconstruction.

However, the most significant re-survey of the architectural heritage was completed in 1989. This played a significant role in determining which assets should be put on the statutory list (Pickard 2002), and it has also sparked the interest of English heritage towards thematic surveys.

In 1986, the Monument Protection Programme was also established. In spite of its main purpose being to update the archaeological criteria of the Ancient Monuments Schedules, it has given way to extensive field assessment. This resulted in both listing and scheduling designation, thus facilitating the gradual acknowledgment of assets that until then had been disregarded as monuments of national importance.

## 1.2 Defining modernity

### What is modernity?

Since most of the controversial issues around the conservation of twentieth century heritage are concerned with misunderstandings and interpretations about the relationship between form and function, it is fundamental to highlight the nature of modernity as a character that goes beyond traditional design schemes.

Modern architecture takes the form of different movements and schools of design that often defy any type of classification. In the present time, it is ironically less difficult to define what the reaction to Modernism has been in terms of styles (post-modern, neo-modern) than to identify a common thread among the different manifestations from the Modern Movement onwards.

The critique developed on modernist architecture, alongside with the present effort to devise suitable conservation strategies, seem to have little to do with styles. Instead, the roots of the movement, to be found in the social and political upheaval of the time in concomitance with technological development and aesthetic taste, better pinpoints some of the features that are commonly shared among the variety of modernist buildings.

Many critics have attempted to delineate an underlying common practice to Modernism, starting from the identification of an International Style. This new style was described by Hitchcock and Johnson during the Modern Architecture International Exhibition at the Museum of Modern Art ('MoMA') in New York, which took place in February and March of 1932.

In the authors' work (Hitchcock & Johnson, 1966), the characteristics of International Style have been associated with:

- Architecture as volume, as opposed to mass
- Regularity, in the place of classical symmetry
- Expulsion of ornament

Although the above three points touch upon fundamental areas of interest such as material experimentation (the volume), formal achievement (regularity) and functional expression (no ornament), architect and historian Panayotis Tournikiotis casts a critical view on Hitchcock and Johnson's work. He claims that, what is left aside, is the technical and social aspects of the new architecture, in favour of the morphological and compositional dimension that instead tends to convey an aesthetic character only.

Hitchcock and Johnson's seminal work was conceived in the early decades of the twentieth century. Subsequently, the advent of the war brought several changes in the mindset of architects, making architecture more socially conscious. As Tournikiotis notes:

'However, even in 1951 Hitchcock was rightly drawing the attention of architects to a shift in the meaning of the label ... (he) also availed himself of the opportunity to predict - with admirable foresight - that architecture had then already entered a late period of the International Style, whose main features would be the academic repetition of standardized formulas and a reaction against the principles of the Style.'  
(Tournikiotis, 1999)

In the early years of post-war architecture, Reyner Banham, a critic of contemporary architecture as well as an art historian by background, pointed out the common misconceptions and myths about Modernism. He did this by analysing modern structures in relation to the legacy that had been left by industrial architecture (Banham, 1960) and then proposing a broader perspectives that goes beyond the idea of functionalism being subject to formal structures (Banham, 1962)

Banham's work is important in identifying the shift that occurred in the post-war years. He points at contemporary architectural historians as the ones who have created an idea of the Modernist Movement, while offering a rough classification of the various '-isms' in architecture. However, his classifications were not very well received and now risk failing into historicism and positivism. According to Banham, the aforementioned characteristics tend to fall into two macro-categories, which either tend to label a movement or promote it as a slogan. In his seminal 1955 essay on *The New Brutalism*, he observed that:

‘It is entirely characteristic of the New Brutalism - our first native art-movement since the New Art-History arrived here - that should confound these categories and belong to both at once.’ (Banham, 1955)

It is in a similar fashion that Charles Jencks developed his theories into one of his most influential works, *Modern Movements in Architecture*, a development of his previous PhD dissertation, written under the supervision of Banham. Here he aims to devise a ‘fusion of opposites within an ironic unity’ (Jencks, 1973, p. 26), on account of a history that is complex and discontinuous, as opposed to one thriving on a single line of development associated with the so-called ‘pioneers’.

In his work, he graphically and conceptually attempts to trace the degree of changes over what he refers to as the ‘Evolutionary Tree’ (Jencks, 1973, p. 29). Jencks selectively uses architectural concepts, where six major traditions interweave and overlap throughout the decades. This standpoint allows him to trace the characteristics of a multivalent architecture through the unfolding of a spatial experience, whilst providing a thought-provoking diagram (Figure 1) based on a post-structuralist analysis of Modernism (Jencks, 2011).

Jenck’s perspective still represents a fresh overlook supported by structuralist thinking, which has to some extent developed, throughout his later works, into post-structuralism. Shortly after, this approach has paved the way for the premises of Post-Modernism in architecture. Being one of his most influential works, *Modern Movements in Architecture* has not only helped to cast light on the epistemological critique of Modernism mastered by Jencks on the footsteps of Banham. It has also addressed questions on conservation in the post-war era whilst giving semiotics a role in the identification of plural forms and content, signifiers and signified (Haddad, 2009).

Since its invention by linguist Fernand de Saussure, semiotics has been given primary attention in various disciplinary backgrounds. It inspired the structuralist mode of reasoning and its vision of an overarching system, where every aspect of culture is to be understood through the interrelations taking place between them. Adopting this semiotic approach to architecture, Jencks’ critique may be interpreted as the corresponding

philosophical standpoint to Foucault's *The Archaeology of Knowledge* (Foucault, 1989), whose critical approach to hermeneutics results in a similar search for contextual meaning.

Foucault's work stems from the previous findings of relativist theories, while venturing into more discursive territory. According to Foucault, statements of knowledge are borne out of their sequence and contextual adoption, therefore out of the interaction between the temporal and spatial dimension. It is on such premises that given assumptions become part of a necessary theoretical structure, which both Jencks and Foucault picture as a diagram laden with discontinuities, rather than one of homogeneity. Although from different generations and historical context, they defy the traditional footprint of history as a taxonomic discipline of positivist categorisation, which instead is normal practice within archaeology, seeking to give form and measure to temporality (Ugo, 2007, p. 24).

On these premises it is possible to embrace the broader meaning of 'style' as a plurality of articulations conceived in a formal unity. As much of the multifold Modern Movements in architecture illustrated by Jencks (Jencks, 1973) are gathered under the common idea of Modernism, a semiotic approach helps to enhance an understanding of form and function through the interpretation of syntagma rather than through the univocal analysis of paradigms.

It is important to note that, major concerns in heritage conservation had begun to arise in the early post-war period, at the same time as the notion of structuralism was being adopted. Such concerns regarded the cultural landscape and social context in which heritage had been defined, thus paving the way for an attitude of re-codification and interpretation in the social sciences. As a definition by Jonathan Glancey, the architecture editor of *The Guardian*, sums up:

'Modernism was not simply a style: but more of an attitude, a determination to break with the past and free the architect from the stifling rules of convention and etiquette.' (Glancey in Bose, 2008)

Taking this assumption, Modernism can be compared to a design concept and a working method. Only by this approach does it become possible to move towards a definition of its aesthetic and functional content, as opposed to one of mere form.

It is also worth noting that such an attitude becomes more evident in the post-war period. As Jencks suggested by drawing up a map representing ‘Modern Movements in Architecture’ (Jencks, 2000), stylistic expressions and functional differentiation may multiply, but are still unified by the roots of the early Modernism.

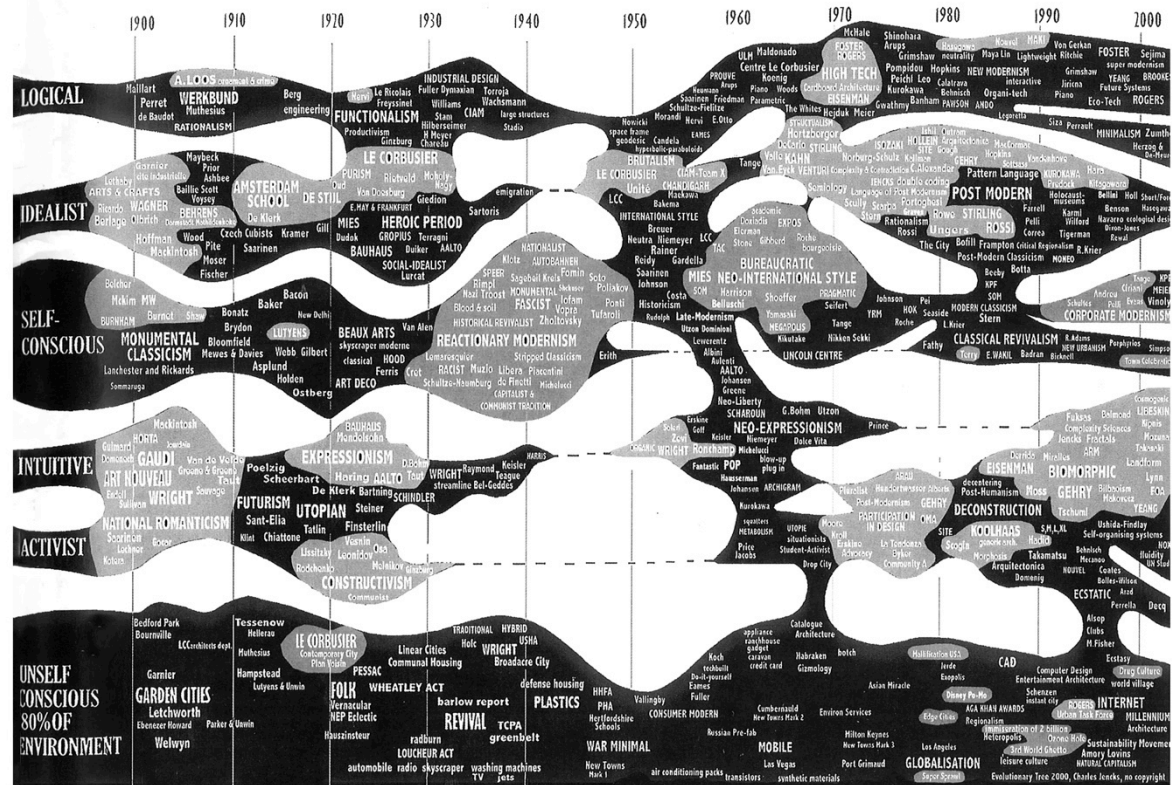


Figure 1 | Charles Jencks's map of 'Modern Movements in Architecture', originally drawn in the 1970s (Credits: Charles Jencks 1973. Source: Jencks, 1973, p. 77), and as above illustrated updated by the author in 2000 on *The Architectural Review* (Jencks, 2000)

In a time where definitions fail to achieve their intent, what is still advisable is a cohesive approach towards modern innovation as a cultural and plural manifestation: but also, towards conservation as an embracing discipline, stretching from understanding the past to acknowledging the present and anticipating future changes.

Elain Harwood identifies this phenomenon, within the English context, in her latest comprehensive work on post-war architecture, titled *Space, Hope and Brutalism*:

‘The enquiring spirit of the immediate post-war years continued to refine the brief and thereby the plan, and was

enforced by the sense of a building belonging to a programme. This was particularly true of schools ... but was adopted too in housing, libraries and railway architecture, and by individual architects setting new trends in the design of churches, hospitals and theatres.' (Harwood E. , 2015, p. xxvi)

As a consequence of Modernism not being defined as a style, or traduced into formalist aesthetics, it is not even possible to identify it in a common international context anymore. Since modern technologies have gradually assumed strong regional attributes, it has become a mix of movements whose peculiarity is to be contextual, hence transitory. This condition also makes it harder to find guidelines covering a wide array of heritage types from different temporal and geo-cultural backgrounds. This could possibly suggest the need for a more accurate and specific analysis beyond statutory evaluation and recognition.

### **Historical framework**

Writing in *Technology and Culture* in 1967, Rex Wailes demonstrated how the complexities of heritage acceptance contribute to a range of issues in the development of conservation in the early post-war years, particularly when looking at the industrial legacy. According to Wailes (Wailes, 1967, p. 200), appointed consultant to the Ministry of Public Buildings to advise on the conduct of the Industrial Monuments Survey in 1963, these are mainly identifiable at legislative and organisational level. On this basis, he attempted to define the rationale underlying the conservation of industrial monuments, whose criteria of importance, accessibility, protection and completeness were set to drive a new methodological approach.

Discussed in the late 1960s, these principles reflect the theoretical pillars of the contemporary Venice Charter, identified by the International Council on Monuments and Sites (ICOMOS, 1964). Since then, a change of perspectives has been witnessed throughout the second half of the twentieth century, and been revised in relation to the philosophical background and the type of heritage being taken into consideration.



Drawing from the circumstances of such theoretical, and consequently methodological changes, the concern that has informed the development of this dissertation underpins the three 'Dimensions of Modernity' as identified by Catherine Cooke and Ivor Richards at the 1992 do.co.mo.mo. International Conference, held at the Bauhaus in Dessau (Henket H. J., 2005, p. 77):

- a) Technical Innovation
- b) Aesthetic Innovation
- c) Social Innovation

### **Dimensions of Modernity**

- a) Technical Innovation:

Modernist heritage embraces a variety of new technologies. The discourse spans from the historical overview on the new, industry-based technologies in construction, to the consequent philosophical and practical dilemmas that arise in heritage conservation. The Industrial Revolution, with its focus on fast-paced manufacturing, influenced more than simple processes and materials. It transformed both the places of production themselves, while contributing to enrich the urban landscape with mills and warehouses, and the nature of building typologies. In short, technologies are not simply to be intended within their substantial, tangible character, but to be investigated in their intangible essence, whilst seeking for what Ola Wedeburn elegantly defines as a 'technology of sensations' (Wedeburn, 2003).

However, constraints are encountered when considering architecture from the second half of the century onwards. Their values are based upon the realisation that the much sought after optimism in technological advancement, typical of the Modern Movement, has become hardly applicable. The image of scientific progress, explains architect Hubert-Jan Henket: '... has shown terrible cracks and robbed us of the comfortable belief of being in a total and manageable control.' (Henket H. J., 2002, p. 14).

This has generated the so-called 'battle of the tenses' (Lewi, 2002, p. 354), which is evident in the conservation of newness. While referring to this concept, Andrea Canziani (Canziani, 2009, p. 40) remarks that the issue of newness, and the value it withholds, seems to embody the significance of Modernism. Although the same newness we refer to has been inevitably lost with the ageing, this brings about the shift in approach occurring in the consideration of traditional and modernist heritage.

We find ourselves in a phase where our historical consciousness needs to embrace the nature of modernity and overcome methodological challenges that are at the basis of technical problems. On one side, any potential maintenance of modernist assets may be run through the substitution of elements, consistently with the possibilities of technical reproduction in an industrialised era. On the other, it is also clear that only through preserving the original materials, hence retaining authenticity, it is possible to ensure the chance of historical evidence,

' ... even if our aim is preserving the intangible value of a conceptual authenticity. The consequence of the division between the concept and the object –that is to say: the idea of "work of art" – just as materialization of a pure artistic value is forgetting that any documentary evidence retains the chance of different interpretation and keeps open the possibilities of deeper levels of analysis and the role of the interpretants.' (Canziani, 2009, p. 41)

The appreciation of this philosophical gap suggests that the aspect of dealing with new technologies, other than requiring the tool of specific knowledge, needs to be addressed through a broader, methodology-driven perspective, as opposed to a mere technical solution.

b) Aesthetic Innovation:

The phenomenon of the Modern Movement can be identified in the aesthetical and functional criteria debated by CIAM between 1928 and 1959. Despite the congresses being initially developed alongside the principles of the CIAM Congress in Athens in the early 1930s, where architecture was required to harmonize the quality of life in aiming at the main functions of the city - dwelling, recreation, work, transportation - (Le Corbusier,

1933), CIAM's approach thoroughly changed after the war. This suggests that the Second World War was a turning point for an architectural style that not only had to meet certain aesthetical and functional criteria, as it already did in the early decades of the century, but also one that had to deal with fast-approaching changes in the environment and in the social structure, as well as a much sought after improvement of construction technologies.

A few years after the foundation of Team X, established in 1953 amongst some of CIAM members as critical judgement of its recent institutionalisation of urbanism, the Congress drew to an end with the Otterlo meeting in 1959, which was documented by Oscar Newman at the behest of Jacob Bakema (Newman, 1961). Founded as a small, avant-garde interest group in 1928, CIAM had grown to be, by the mid-1940s, a leading and international institution, as documented in the comprehensive *The CIAM discourse on Urbanism 1928-1960* (Mumford, 2000).

There is little doubt that CIAM made a worldwide impact on the architectural and urban planning projects of the post-war era, as well as on the academic discourse. However, it also attempted to institutionalise Modernism within a network of a few, well known individuals, thus interweaving new relations, interests and concerns for public attention that made stark contrast with the principles heralded in the early decades. As Laurent Stalder notes:

‘The renown and sheer number of participants in the postwar congresses, their pivotal role in international and state institutions or in tertiary education, and the worldwide impact of CIAM doctrine on postwar practices leave little doubt that the CIAM's organizational structure was a singular achievement in the architectural field - yet the potential and the risks that this implies must also be acknowledged.’ (Stalder, 2012)

Despite the many and diverse post-war uncertainties, by the times reconstruction consolidated and the demand towards implementing new urban functions and uses increased, the distinction between building types started to play a fundamental role in the drawing up of social programmes.

During the course of the Second World War, the flow of architectural debate had already begun to shift its course, since utilitarian problems had started to arise. As Nicholas Bullock states:

‘Utilitarian problems shaped the working lives of architects, who continued to design temporary housing, hospitals, airfields and military buildings necessary to the war effort and the invasion of Europe.’ (Bullock, 2002, p. 25)

Shortly after the conflict ceased, the growing hope, albeit naïve, was that a new campaign for post-war planning would enable modernist architecture to simply carry on from where it had left off in 1939.

Understanding the nature of these new building types, as well as the historical factors that triggered their existence, is fundamental to the purpose of this dissertation, in the context of post-war England. The distinction between functions sets the basis for English Heritage’s protection criteria of both traditional and modernist assets, thereby re-considering any changes in features that have occurred throughout time and traditions.

It is possible to recognise this as a key methodological turning point. Prior to the post-war listing programme established by English Heritage, which saw the Bracken House in London as the first building of its kind to be listed in 1987, research on existing buildings was always based on area surveys. Within these surveys, buildings of all ages were assessed against general, predominantly art historian criteria. Thus, the recognition of building typology, a modernist notion in itself, came to overtake the traditional principles of conservation.

It is notable that such a methodology also came to influence the foremost historian of the Modern Movement, Nikolaus Pevsner (1902 - 1983) (Games, 2010). Before the Second World War, it was his 1936 work *Pioneers of the Modern Movement; from William Morris to Walter Gropius* that gave credibility to modernist architecture and design. By 1976 he had published *A history of building types*, which supported the theoretical basis to the building inspection organised by the Ministry of Culture in 1967, for which he was offered to produce a ‘Top 50’ list of recommendations for discussion. (Cherry, 2002).

## c) Social Innovation

In its 'constructional veracity and representation of the manufacturing process' (Hughes, 1985, p. 410), industrial culture has not only deeply influenced science and technology, but also the intellectual and artistic trend of the twentieth century. From the perspective of social innovation, it has drawn a common thread between the work of historians of modernist architecture and historians of the Industrial Revolution.

Relevant evidence of this can be found in the recognition that research methods traditionally used by architectural historians and those employed by historians of other fields can be comparable (Hunter Bradley, 1995). More specifically, art historical analysis, strongly grounded in aesthetic values, is not the only valid framework within which to consider the goals accomplished in the Modern Movement Era, and among which to find solid basis for viable protection criteria.

In his review of *Industriekultur: Peter Behrens and the AEG: 1907-1914* (Buddensieg, 1984), Hughes explains how the late architect's effort to create an industrial culture is reckoned to be best identified in the techniques of mass production (Hughes, 1985).

The common thread between the industrial and modern culture, which has formed a narrative throughout this dissertation, reminds of the historically fundamental position held by industrial heritage onto the current architectural critique. Its legacy, whose gradual change is best expressed in buildings such as the AEG factory in Berlin (Figure 0) eventually finds in twentieth century Modernism its best philosophical expression, on the path to contributing to a communal, international aspiration as dictated by the Bauhaus Manifesto (Gropius, 1919).

What occurs is a communion of function and artistic sensibility, which contributes to the establishment of an industrial culture transcending materialism and functionalism, while architecturally and artistically expressing the essential characteristics of modern technology (Hughes, 1985, p. 409).

At the turn of the nineteenth century into the twentieth, on the path dictated by this new cultural wave, the question also seemed to shift towards the definition of an approach more than a style, which is perhaps one of the issues behind the difficulty in accepting the

new aesthetic and social paradigm. It is on account of this new position that my previous dissertations, upon which this research builds, have aimed to identify how the shift has influenced not only architectural history and critique, but also current conservation approaches to the entire twentieth century heritage, which has proved to be strongly rooted in the previous tradition of industrial architecture.

### **A look into the early modern**

What follows is an analysis of one of the greatest existing case studies of early twentieth century industrial architecture, situated in the North West of Rotterdam. It was conceived to be an example of 'ideal' factory, open to the outside world and now embodying the symbol of the modernist and functionalist culture of the inter-war period. It serves to highlight the strong connections with the previous industrial heritage and the expression of the ideals of the time, which were expressed since the early start of the Modern Movement, in a variety of sectors, including industry and production (The Van Nelle Factory: p. 26), education (The Bauhaus, p. 61) and third sector for health services (Zonnestraal Sanatorium, p. 109).

The three case studies that follow are representative of the inter-war period and are drawn from two European countries, while serving to illustrate the main topics that arose internationally with the earliest forms of Modernism. With the advent of the war, however, the visibility of architectural change has stemmed from these premises, and consequently left marks on culture and society, while bringing up both opportunities and constraints that are strictly interwoven with that modern past.

In contrast, the cases illustrated in this dissertation will instead highlight these issues and point at what has occurred at social and political level. Most of the issues related to the conservation of its heritage seem to arise from the context of a society that is rooted in the positivism and internationalism of Modernism which, in the projection towards the future, has disregarded the inevitable process of change, and of the search for national identity.

### 1.3 The Van Nelle Factory: conserving a modern icon

Figure 2 | Coffee, Tea and Tobacco Factory, built on the canal side of the Spaanse Polder industrial Zone.  
(Source: <http://www.mimoa.eu>)

Van Nelle Factory. Rotterdam (Netherland)

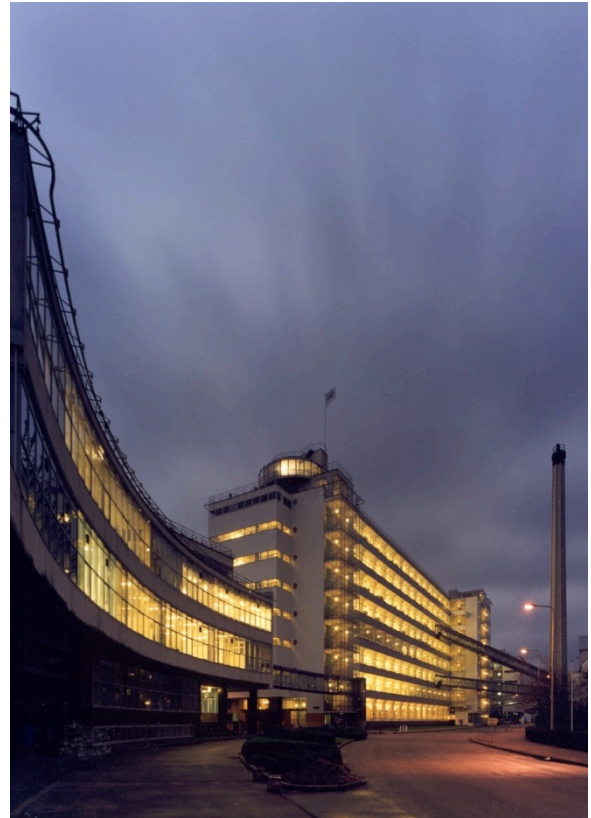
Built: 1925-1931

Architects:

Johannes Brinkman (1902-1949); Leendert Van Der Vlugt (1894-1936)

Included in the UNESCO WHL in 2014  
(criteria ii and iv)

Co-ownership: Municipality of Rotterdam & Sara Lee / Douwe Egberts



#### History

The architects of the earliest years of the twentieth century had to face major social issues, and responded to these by translating them into inspiration and creativity. This is particularly true and worthy of mention in the context of the Dutch Modern Movement. At a time when this had been silenced in Germany due to political reasons, it was brilliantly carried forward in the Netherlands, and the Van Nelle Factory constitutes one of the most remarkable examples of architecture from the Modern Movement.

The challenge was to cope with the short-term functional need of the industrial society and associated restricted budgets, which required new ideals being translated into form. Such ideas included the vertical stacking of functions, the processing cycle of goods, and the use of elevators and conveyor belts as inspired by the American assembly line models.

It also required social expressions such as life as an essential aspect of architecture, and not only because of its functional role but first and foremost for its symbolic significance.

As one of the first factories in the Netherlands to be constructed on a concrete foundation, The Van Nelle Complex (Figure 2) is unique in its rational planning and industrial efficiency, and features an interesting experimentation of beamless floors. It represents one of the most remarkable architectural expressions of the Modern Movement in the Netherlands. Because of its innovative characteristics, it still shows a radical application of cultural and technical concepts that had first appeared with the Machine Age:

‘The changeability and manageability of the 1925-31 Van Nelle factories in Rotterdam ... allows for a long functional lifespan, and the buildings have been constructed with a long technical life expectancy in mind.’ (De Jonge, 2004a)

The site was originally chosen for its accessibility, specifically, for its proximity to the water of the Schie River, to the nearby railroad and roads, and for being close to the workers’ housing in the new nearby neighbourhood. Before the construction of the new plant, the factory was located in outdated buildings that prevented the implementation of new management strategies. Upon these considerations, co-owner and director Kees Van Der Leeuw first commissioned the complex to architects Michiel Brinkman first, who had developed a good range of proposals for the site since 1914.

However, the untimely death of Brinkman in 1925, brought Van Der Leeuw to commission the project to Michiel Brinkman’s young son, architecture student Johannes, in partnership with architect Leendert Van Der Vlugt (1894 - 1936). Van Der Leeuw’s communication skills and abilities were remarkable, facilitating the dialogue in between client and architects, resulting in a successful project of great proportions and importance in the history of Modernism. His abilities were enhanced by his thorough knowledge of the Taylorist and Fordist models, based on first hand observations during his trips to the United States since 1911.

Upon the development of different masterplans, in 1926 it was finally decided that the project would have to be developed along a factory street and on a single slab volume. Also, it would ideally follow the American daylight factory concept, which boasted a light



and transparent working environment surrounded by a green area. However, it is worth mentioning that adaptations and alterations were made to tailor the Dutch factory to specific needs. Whereas the Van Nelle presented a single elongated volume, the American model was subdivided into multiple rectangles. With Director and Co-owner Van Der Leeuw being a strong follower of theosophy, the study of light played an essential part in the project, both for the contribution to the state of wellbeing and also for its symbolic significance.

The complex includes a long rectangular volume subdivided into three production sections respectively for tea, coffee and tobacco. It also hosts a curved office building to the South, and a strip of warehouses, dispatch buildings, a boiler house, and the mechanics department between the yard and the canal. A degree of freedom for future uses and needs was also contemplated in the masterplan, so that, while additional storage facilities were built to the East, the factory could still be extended westward.

Its appearance had to be, according to the briefing at the time, the direct consequence of the internal layout requirements, which saw the masterplan being continually adjusted to meet new functional requests.

Also, the compatibility and use of the architectural elements with the surrounding environment (relationship with the green surrounding, the water of the river, the maximisation of light etc.) particularly demonstrates the concern for earlier concepts of sustainability.

The complex was shown at the Weissenhöf exhibition in Stuttgart in 1927, even before completion. It was also displayed at the exhibition on early twentieth century architecture at the MoMA in New York in 1932, curated by architects Henry-Russell Hitchcock and Philip Johnson.

It was kept in its original use until 1995, with coffee, tea and tobacco still being produced on the premises. The complex included a canteen, tea room on the roof, a cinema, a library and sports facilities, making it a pleasant, bright and hygienic place to work.

‘These social aspirations blended well with the commercial considerations of the client - Taylorism and efficiency - as

well as with his spiritual inspiration - Theosophy - in which daylight has a particular meaning.' (De Jonge, 2002b, p. 2)

When production ceased due to the economic downturn of the late 1990s, the Van Nelle Factory went through the risk of demolition, which would have occurred if the complex had not been bought by a buyer who was committed to respecting the original values withheld in the building.

In the late 1990s, the complex was rented out to multiple medium-sized companies, thus following that enlightened spirit of enterprise within which the asset had first been conceived. Therefore, in the restoration process, additional internal partitions were required for sound adaptation to the current needs, however with full attention to the original spatial quality of the building and to the preservation of the overall transparency.

The execution of the first and main phase of the redevelopment was started in the summer of 2000, with the other buildings being completed a few years later and redeveloped into offices and production space.

## **Description**

Today, the complex hosts a Centre for the Creative Industries. Wessel De Jonge Architecten Office, who have been in charge of the redevelopment project, is also located on the premises:

'The 1926 masterplan involved an extendable structure for a modern and transparent working environment in green space ... The masterplan served as a blueprint for future developments and was continually adjusted to respond to new insights.' (De Jonge, 2002a)

The structural grid measuring 5m x 5.70m, with columns on the perimeter of the slab, creates a functional differentiation within the same space, so that the facade could once be used for systems and conveyors while reflecting the spirit of the newly re-discovered Machine Age. The characteristics of transparency and lightness also allowed for modern features such as light fixtures and engines to be shown through the building envelope.

The choice of beamless floors, which allowed more flexibility to the use of the space, and daylight to enter freely, gives the complex a luminous appearance. This is also provided by the equilibrium in between the surface of glazing and the depth of the building, appointed to be of 19m.

The original project shows a variety of features that seem to contemplate adaptability to future uses and a particular aesthetics that has proved to be ground breaking for the time, and very much in harmony with an aesthetic of architectural lightness. The curtain wall would run the whole height of the building, transforming the complex into one of the best examples of curtain wall systems where solids and voids are skilfully combined.

Widely regarded as an example for its technological innovation because of its curtain wall system (Figure 3), the Van Nelle Factory boasted admirers from as far as the United States, while anticipating technological changes and experimentation that would then become a distinctive sign of Modernism in a wide variety of sectors.

The redevelopment scheme has taken advantage of the rational layout, whilst attempting to bridge the gap between cultural mission and economic ends. De Jonge's writes:

' ... a balance has been defined between historic meanings, future functions and relatively sustainable solutions in terms of energy consumption, daylight and so on.' (De Jonge, 2002a)

Notwithstanding the different changes the building has witnessed, it is important to recognise that the ensemble still represents the spirit of the Machine Age. This expression was instrumental at the time, and aimed at communicating the primacy of the early twentieth century economy, inserted in a context where both avant-gardist and conservatives agreed on the successfulness of the new means in architecture.

## **Significance**

The idea of sustainability, at its earliest development but still largely influencing the original project, has been carried forward up to the present day. Currently, it is intrinsic in the attentive technological and managerial choices that have surrounded the

redevelopment of the building. In this regard, a Green Key Certification at Golden Level has been appointed, which certifies that the international standard for environmental care in the tourism and hospitality sector has been achieved.

The design of the building demonstrates the idea of dematerialisation, which produces a universal aesthetic. The building exemplifies the need to address social needs through the use of new techniques, which is indeed part of the modern philosophies in architecture and has constituted the inspiring element for the redevelopment of the project:

‘Although the new aesthetics was partly derived from artistic movements like Cubism and De Stijl, as well as the imagery of cars, aircraft and ocean liners, a key factor was the idealized role attributed to technology, which, in the early period at least, was often well in advance of the realities of building construction.’ (De Jonge, 2002a)

In order to address the current needs, a secondary glazing has been very carefully put in place and has been fundamental to ensure the energy performance of the building due to its different function, but also to keep the original design evident, and at the same time protected. This brief overview of a much more complex project is enough to underline the subtleness of some of



the choices architects have to face with modernist heritage conservation. The secondary glazing, for instance,

Figure 3 | The Van Nelle Factory: Conservation of the outer glass façade.  
(Source: Albani 2011)

highlights the tension between content and surface, especially when new programmes are not always fully compatible with original uses (i.e., in the Van Nelle complex, this particularly occurs with the shift from a factory, where windows were to stay open most of the times, to a commercial building that needs to ensure comfortable temperatures, especially in winter time).

‘The conservation of the glass façades was made possible because from the outset the designers sought the solution not only within a range of technical capabilities and systems, but also in the wider picture of the distribution and functional organization of the buildings.’ (Albani, 2011, p. 319)

With authenticity being best expressed by the character of transparency, as in the case of glass-enclosed volumes, the challenge becomes not to alter, or at least not to add any more element to the substance itself - the material presence of the curtain wall in this case - in order not to lose the essence. The secondary glazing, added interiorly and creating a semi-climatised corridor by the perimeter of the building, therefore acts on a dual binary whilst ensuring the overall authenticity of the building after restoration. It also acts functionally, because it is in control of the energy performance, and formally, while ensuring that the transparency and continuity of the facade is not lost.

‘It was not just its architectural style, but also its response to the social challenges of the day that made the Van Nelle factory special. It was designed on the premise that a modern, transparent, and healthy working environment in green surroundings would be good both for production and for workers' welfare.’ (De Jonge, 2012)

The atmosphere of former industrial activities has been transmitted and kept in the redeveloped complex, where, notwithstanding the sub-division into numerous industries and practices, the communal hall provides a unique space where people from different business can meet and enjoy their spare time. This clearly adds to the dynamicity of the building, which is a vital condition for it to be kept alive.

## **Management**

In the occasion of the Getty Seminar on ‘Continuity and Change’, held in November 2012, De Jonge has declared that:

‘ ... rather than producing historic building surveys with a lot of texts, the difference is that we used a lot of graphic

material and visual material, which was very helpful in the design process.’ (De Jonge, 2012)

Historic atlases have been consulted for the survey phase of the project, which has enabled the particularities of historic materialisation to be displayed in documents and therefore accessed for classification and discussion with the heritage officials, before the design process is too far advanced.

The study of this documentation has clearly shown that the building still expresses a strong and unique industrial character. To this extent, criterion ii for the World Heritage List, has been attributed to the asset. This criterion mentions the recognition of: ‘... an interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town planning or landscape design.’ (UNESCO, 2013a). Specifically for the Van Nelle Factory, the listing recognises its: ‘... technical and architectural ideas originating from various parts of Europe and North America in the early twentieth century. It is exceptionally successful both in terms of its industrial setup and its degree of architectural and aesthetical accomplishment.’ (UNESCO, 2014)

The building represents the expression of the Machine Age, hence reflecting its aesthetics and functionalism. The redevelopment project, which began in the late 1990s, has also been inspired by this observation, and made every effort to reflect the context of our Information Age as a natural continuation and shift of cultural expression.

Some changes in view had to be made, however. First of all, during the development process, a challenge to be faced was the economic decline in the Information Communications Technology (‘ICT’) sector, which was one of the strengths of the original programme. It had been anticipated that roles such as those of web designers would be moving into the restored premises, but when the economic crisis came and the whole sector was reduced, a shift of programme towards a broader concept had to be envisaged. This has been achieved by replacing the ICT business with the leisure and entertainment industry.

De Jonge goes on to explain that although this has constituted a valid choice, also supported by the business itself, it has also brought about a few issues in terms of permissions and security. For instance, the addition of leisure facilities in the immediate working environment, which was not part of the original idea at the start of the redevelopment project, has required a more flexible zoning law, which was only revised ten years after the initiative started. Although this may be regarded as a weak point in terms of risk management, functionally speaking, the inclusion of extra leisure activities has proved to be successful and has also been welcomed by the businesses based in the restored factory.

On top of the implementation of different industries in the development, one of the other spin offs from this project was the enhanced architectural tourism. It was important, in terms of place-making, to get more people and spread the knowledge on the building. Since the proposal for it to be added to the World Heritage List ('WHL') first failed in 2003, but was actually started in 2011 with the Statement of Outstanding Universal Value, discussions regarding aspect of durability and accessibility arose in 2013. This resulted in plans for a visitor centre for the future, still currently ongoing, and in the already implemented decision to open the building to visitors each September on European Heritage Days. Also, regular tours are organised throughout the year by Rotterdam ArchiGuides.

With the recent inclusion in the World Heritage List, careful considerations have had to be made on the concepts of authenticity and integrity of the complex. These are fundamental in order to guide the management plan and inspire it according to values and features to be retained. During his recent talk at the Getty Seminar, De Jonge has recognised that:

‘The critical phase for preserving the architectural integrity for any project of this site is the mid and long term development, not the initial one ... And this is a bit of weak point in the project: we forget to design the maintenance and the management for when we would be done and we leave that to the new owner’ (De Jonge, 2012)

The Van Nelle inscription on the World Heritage List also identifies integrity on a long-term perspective, recognising that the building has been devoted to the same activity of

industrial processing while keeping a strong connection between functional relationships and logistical spaces. Following the functional change, the conditions for integrity (such as functional relationship with the territory, panoramic views etc.) have been kept safe, both in terms of composition at a large-scale and in terms of architecture.

It must be recognised that no major alteration has been made to the building since its original construction, which is a favourable condition for the maintenance of its authenticity. On account of its original rationalist design, emphasis has been laid on the design authenticity, thereby opting for a conceptual restoration and also avoiding meaningless reconstruction of spaces that had instead long disappeared.

In light of these observations, it is clear that the approach to the building has taken consideration of its development throughout cultural changes, as opposed to concentrating on its mere historical and architectural features 'as a process, more than as a product.' (De Jonge, 2012)

This viewpoint is not only in line with the most recent approaches of conservation: in this specific case, it also redraws on the idea of process that is proper of industrial systems, and that, in the Van Nelle Factory, is expressed technologically and aesthetically in the name of the doctrine of spiritual economy.

The focus on process as opposed to product enables a restoration process that is more conceptual rather than design-driven, and well reflects Van Nelle being counted as one of the world's outstanding icons of industrial architecture from the early twentieth century. This brings to treat one of the most characterising elements, the envelope, by stressing on the systemic interactions established by the elements as opposed to their own presence, with an intervention that particularly highlights the absence of material, the lightness of technologies and the transparency of light.

The exercise of conceptual restoration can be well compared to the dynamic building up of semiotical constructs in philosophy, as suggested at the 2008 do.co.mo.mo International Conference (Vanlaethem & Poisson, 2008). This perspective replaces the role of the interpreter, as described by Saussure in his discourse on the dualism between signifier and



signified (Saussure, de, 1966, pp. 114-117), with the one of interpretants (Peirce, 1974, pp. 323-342). In this new perspective, the interpretant is described by the author as

‘... all that is explicit in the sign itself, apart from its context and its circumstances of utterance.’ (Peirce, 1974, p. 325).

What differs from de Saussure’s philosophy is that major stress is placed on the reference that the interpretant intertwines with reference to the object, thus suggesting the strong cultural embeddedness intrinsic in the action of architectural conservation. When translating this philosophical concept into architectural terms, it becomes clear that allowing for a degree of interpretation of the architectural object is key in any conservation project, and therefore discourages relentlessly aiming at a visual replication of the sign itself. This standpoint relies on the acceptance of a multiple system of analyses, and therefore accepts the passing of time as an inevitable succession of phases as well as of different interpretations that are deeply rooted in our own culture.

It is interesting to note that ‘The Challenge of Change’, the biennial International do.co.mo.mo International Conference of 2008 (Van Der Heuvel *et al.*, 2008), was held in the Van Nelle Factory itself. This has well proved that the possibility of adaptation to new uses has the strength to enable the challenge of interpretation and change, with a view to always fulfilling sustainability criteria throughout the process of change.

## 2 SUSTAINABILITY

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Figure 4 | Housing Complex Le Lignon, Geneva (Switzerland). Built between 1963 and 1971, refurbishment works were completed in 2012 under direction of Jean-Paul Jaccaud Architectes, in collaboration with the TSAM laboratory at the Ecole Polytechnique Fédérale de Lausanne ('EPFL'), Switzerland.

(Credits: Thomas Struth, 1989. Source: <http://www.metmuseum.org>).

'Our study affords an opportunity to look more widely at large-scale contemporary heritage and its future. The convergence of heritage, economic constraints and energy issues call for a global strategy, for specially-designed, forward looking preventive conservation tools to enable consistent legal frameworks to be developed.' (Graf & Marino, 2011, p. 38)

## 2.1 Introduction

### The concept of sustainable development

Sustainability is a theme that has increasingly been discussed in the second half of the twentieth century up to the present day, and has become an issue that underpins a wide range of disciplines. Most commonly associated with the environment, particularly in the early debate brought about by the 1970s Oil Crisis, sustainability is now perceived as a major driving factor in a broad array of industries.

The clear link between sustainability and conservation has long been argued, but they are still often seen to be in conflict:

‘As Britain faces the challenges posed by climate change, economic austerity and affordable housing shortages, it should be increasingly clear that we need to find appropriate ways of upgrading existing buildings rather than constructing new ones. Building less is an obvious way to preserve precious resources.’ (Hines, 2011)

An overview on the history of sustainability is important to understand the assumptions underlying its specific political, economic, cultural and social context (Centre for History and Economics, 2008).

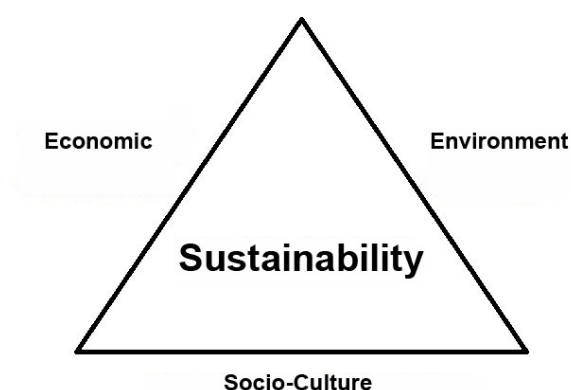


Figure 5 | Principles of Sustainable Development (adapted from Munasinghe 1992).

The literature demonstrates the immense impact of modern developments on the environment. The rise of environmental concern has emerged from these developments, as well as interested disciplines such as anthropology, demography and ecology. This has led to a broader context of research that spans the social and natural sciences, targeting the achievement of resilient systems.

### **Overarching principles**

One of the key themes carried forward in this dissertation is the recognition of sustainability as the best tool for responding to the demanding and diverse needs of a changing world, within which strong interconnections with existing assets and urban fabrics are established. This theme is commented on by several authors, whose perspectives will be explored in more detail in this section. On this basis, it is worth pinpointing the main working framework around which the whole discourse of sustainable development has been built. This framework identifies the collectively known 'Sustainable Development Triangle (Figure 5), introduced by Munasinghe in the occasion of the Rio de Janeiro United Nations Earth Summit (Munasinghe, 1992).

### **Principles of Sustainable Development**

- a) Economic: 'Growth, Efficiency and Stability',  
to facilitate the long-term shaping of resilient processes and dynamic change;
- b) Environmental: 'Resilience and Biodiversity, Natural Resources, Pollution',  
to cast light onto the compatibility of technological choices with the surrounding environment;
- c) Social: 'Empowerment, Inclusion, Consultation, Institutions and Governance',  
to highlight the importance of users as those playing an active part in the local authorities' decision-making process.

The above key principles have been considered in order to meet two main targets. First, they aim at improving future opportunities for generations to come, and second, they attempt to ensure the achievement of aspirations over time, while ensuring resilience (Munasinghe, 2004, p. 1).

The Sustainable Development Triangle has been recognised as a valid starting point for assessing resources and impacts, recalling the position of methodologies for well

consolidated business analysis, such as that one of PEST (Political, Economic, Social, Technological), first introduced in the late 1960s (Aguilar, 1967).

Although there are several variations of the PEST analysis (PEST, PESTLE, STEEPLE, STEP, with SWOT being used as a diagnostic tool), this method has come under criticism for some academics. The well known PESTLE model (Political, Economic, Social, Technological, Legal and Environmental) is described as:

‘ ... mechanistic, key-word driven ..., employed as a handy mnemonic device, leading to a regular, tabular and consequentially formulaic documentation of issues external to the business. ... Such an output does not allow the expression of causal relationships between individual environmental issues.’ (Collins, 2010, p. 2)

Alternative methods of analysis have proven more effective for some business leaders. Collins suggests enabling threads of causal relationship and deep engagement with the reasoning around the subject matter, which may facilitate a wider perspective on the framework and more ground for flexibility and innovation within the process. Collins articulates his theory by establishing a diagrammatic tool that explores and explains the logic behind the different areas that play a part in sustainability.

Driven by a comparable shift towards sustainability, the UK Government has expressed its long-term commitment towards the future by embracing pluri-disciplinarity and in-depth investigation in all fields that require equity and balance in their planning and organisation. As the Department for Environment, Food and Rural Affairs (‘DEFRA’) states:

‘Greening Government Commitments are targets for central government departments and their agencies to significantly reduce waste, water usage and carbon emissions by 2015, together with making our procurement more sustainable. They’re mainly meant to reduce impact on the environment ... but they are also there to improve operational efficiency.’ (DEFRA, 2014)

In order to understand this perspective in the context of the built environment, and more specifically in conservation, it is necessary to consider how the concept of sustainability has developed internationally. The cultural changes taking place in the second half of the

twentieth century have strongly influenced the attitude and principles of many disciplines, and have led to a meaningful interpretation of the sustainability principles which I have considered below.

### **The roots of sustainability principles**

The general definition of sustainable development, as acknowledged worldwide, is the one given in the *Brundtland Report*. This is a key publication by the World Commission on Environment and Development ('WCED') of the United Nations, also known by its more popular title of *Our Common Future*:

'Sustainable development meets the needs of current generations without compromising the ability of future generation to meet their own needs.' (WCED, 1987, par.3, art.27)

With this definition in mind, several attempts to further define the concept of sustainability and its corollary meanings have been made in the following decades. If, as Roders and Van Oers observe (Roders & Van Oers, 2011), by the end of the 1980s development had been identified through assuming that economic growth is still possible without environmental damage, it is also fundamental to understand the extent of what can be considered as a viable consumption. This stresses the requirement of safeguarding future users, thus leading to a definition of what exactly sustainable consumption is.

Sustainable consumption is described by the Organisation for Economic Co-operation and Development as one '... of goods and services that meet basic needs and quality of life, without jeopardizing the needs of future generations.' (OECD, 2002).

The attempt to undertake viable strategies aimed at benefitting communities is clearly shown in this definition, and it becomes evident in the numerous efforts to operationalise sustainability, mainly through the identification of its three constituent principles: social, environmental and economic. Several frameworks depict the vision underpinning the declaration in the *Brundtland Report*, with such frameworks including the pillar-based,

principle-based and eventually the vision-based approach. According to Kemp, the 'pillar-based' model has:

'... have gained great popularity, in particular in business ... but often suffered from insufficient attention to overlaps and interdependencies and a tendency to facilitate continued separation of social, economic and ecological analysis. Alternative depictions stressing interconnections and considerations of institutional aspects offer a useful way forward.' (Kemp, 2006, p. 45)

The second approach, 'principle-based', is believed to contain a more layered and in-depth understanding of such interconnections, as each of the three principles is linked to different disciplinary fields. Kemp identifies Gibson's contribution as the one that best exemplifies the principle-based framework. Gibson states that the sustainability literature developed on a varying number of principles/pillars reflects conventional disciplinary categories. What he proposes is instead based on key changes needed in human arrangements and activities, aimed towards long-term viability and wellbeing. The characteristics of Gibson's principle-based approach to sustainability include:

- Integrity
- Sufficiency and opportunity
- Equity
- Efficiency
- Democracy and civility
- Precaution
- Immediate and long-term integration

(Gibson, 2001, pp. 12-22)

The third type of approach, known as '*vision-based*', pursues an integrated approach but encounters different visions and paths within the same process. An example of this approach is the 'transition management system', which is based on the combination of

two or more models, where the most suitable elements from each model are chosen. The vision-based approach was tested in a project for the Dutch Government in the late 1990s. According to Kemp and Martens it ‘... offers a set of strategies for working towards sociotechnical “regime-changes” - alternative systems for production and consumption that can help to reduce environmental impacts while yielding attractive services for users.’ (Kemp & Martens, 2007, p. 11)

Sustainability-wise, this approach is oriented towards long-term goals, as well as a bottom-up attitude. This is also reflected, at an embryonic level, in the 3-P approach, which identifies ‘People, Planet, and Profit’ as the pillars of sustainable development, correlating with the wider areas of concern related to sustainability.

The 3-P framework, also known as the ‘triple bottom line’, was coined by Elkington in 1994. Elkington had previously founded the international consulting firm ‘*SustainAbility*’ in the late 1980s and, upon development of the model, further formulated the 3-P concept into *Cannibals with Forks: The triple bottom line of 21st century business* (Elkington, 1998).

This framework was later revisited at the World Summit on Sustainable Development in Johannesburg (UN, 2002) and has developed into what is now known as the ‘People, Planet, and Prosperity’ model. In a time where major stress is being put on social programmes, aiming more at ‘Prosperity’ rather than mere ‘Profit’, a development agenda has been established based on eight Millennium Goals of an educational, cultural and health-related nature (UNESCO, 2005, p. 3). This agenda was established a few years after the Millennium Declaration (UN, 2000) and marked an operationalization of the *Agenda 21* from the 1992 Rio de Janeiro United Nations Conference on Environment and Development (‘UNCED’) meeting (Sitarz, 1993).

This cultural climate of environmental concern, deeply influenced by the earlier economic crisis of the 1970s, has pushed towards an implementation of sustainability principles in practice. It has also broadened their disciplinary field of application, thus meeting the need for preserving historical buildings. Amongst these buildings, heritage assets play a fundamental role on account of their cultural relevance as a resource for future generations.



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## 2.2 Sustainability in practice

### Sustainability principles in the construction sector

Towards the end of the 1990s, the *Kyoto Protocol* (UN, 1997) shifted the focus of sustainability towards the decreasing of ecological, health and poverty issues, while encouraging a holistic perspective on cultural growth. This has marked the formal, internationally shared will to enable and enhance low-energy consumption economies, in order to combat climate change.

This international agreement was a turning point in the construction sector and triggered a range of initiatives worldwide that support the need for more viable strategies. A clear example of this is represented by the EU Directive on energy efficiency (EPBD, 2003), identified in the Building Platform as the ‘Energy Performance of Buildings Directive’ (‘EPBD’) 2002/91/EC.

Processes such as Environmental Impact Assessment and Energy Certifications Schemes were not new at the time, being previously outlined in the 1985 Environmental Impact Assessment Directive (1985/337/EEC: EEC, 1985, amended in 1997, 2003 and 2009, and now found under 2014/52/EU: EC, 2014). However, the 2002 amendments specifically targeted the construction sector, accelerating the implementation of newly conceived methods to calculate energy performance. Both the Environmental Impact Assessment and the Strategic Environmental Assessment, an extension of the former, are targeted ‘... not only to minimise the impacts over a short period, but to maximise the value of the resource in a long-term (historical, cultural) perspective.’ (Hassler *et al.*, 2002, p. 111).

With this aim in mind, the 2002 Directive enables the process of engaging State Members in the reduction of energy consumption, whilst still allowing them to establish their own minimum requirements according to building and intervention types (Pianezze, 2012).

Yet, Pianezze recognises that despite efforts to integrate the actual practice with the setting of new and often challenging targets affecting the construction industry, it is still

extremely difficult to find common ground between the disciplinary field of conservation and that of energy efficiency, perhaps due to the challenges posed by multi-disciplinarity.

‘It is clear that many political, social, economic, cultural, and technical challenges lie ahead. Undoubtedly, there are conflicts inherent in any discussion about sustainability and the historic environment. But I do think a sideways shift in thinking is happening.’ (Hines, 2011)

Some of the relevant initiatives for the construction industry include standards for limiting gas emissions (2003/87/EC: EU-ETS, 2003). This document was later revised by the more recent EU Directive (2008/101/EC: EC, 2008), which allowed for a more comprehensive scheme within all greenhouse gases emissions standards. During the same time period these provisions were enforced and new measures started to be adopted by several State Members of the European Union, aimed at fighting climate change through a set of binding legislation that would promote green growth. This effort has been formalised under the name of the ‘*European Union Climate and Energy Package*’ (EC, 2011), launched in 2007 and taking full effect the year later. Within this Package, an additional target was established for the minimum reduction of domestic emissions by 2020, which was first set at 20% (EC, 2007) so as to hopefully bring economic and social benefits in the medium-to-long term time.

However, within the EPBD scheme, and specifically concerning the construction sector, further restrictions on reduction levels have been proposed, in an attempt to abrogate former instructions based on the *Kyoto Protocol* and the *Climate and Energy Package*. This is fully detailed in the 2010 Directive (2010/31/EU: EC, 2010), which constitutes a distinctive attempt to encourage the role of building certifications (Pianezze, 2012). Furthermore, the 2010 Directive also contributes to laying the basis for Nearly Zero Energy Building (‘nZEB’) targets by 2018/2020, depending on the type (existing or new-build) and function of building (public or private use) (EUROAce, 2013).

Notwithstanding the step forward represented by the new EU Directive, the distinction between existing and new-build assets is maintained. This could lead to different funding

schemes for achieving new energy targets, thus resulting in a bias towards new construction schemes over existing and heritage buildings, of any age.

In *Energy Efficiency for Historic Buildings*, a publication by English Heritage that illustrates the application of Part L of the Building Regulations to historic buildings, it is recognised that:

‘Sustainability is about overlapping environmental, social and economic requirements and the need to bring them all into harmony. All of them are relevant to older buildings, but for the purposes of Part L of the Building Regulations the greatest emphasis must lie on the environmental aspect, and specifically the use of fossil energy.’ (English Heritage, 2012, p. 7)

However, it is worth noting that the focus on sustainability should be wide-embracing and identify resilience at different levels, including, but not limited to, energy performance. This is where the true complexity of achieving sustainable conservation seems to lie: if meeting given criteria may seem relatively easy, achieving good integration is another matter. As Hines observes:

‘A building’s aesthetic is linked to its performance. ... To put it another way, sustainable building design is not just about performance, but about how users respond to the building. The quality of the direct emotional impact they have on us (soft to the touch, warm and able to grow old gracefully) are living, human qualities.’ (Hines, 2011)

### **Sustainability in conservation**

It is worth noting that, although there are evident difficulties in implementing sustainable development on existing assets, attention towards interventions within historical contexts has been shown, for the first time, in the World Heritage Convention (UNESCO, 1972). This Convention coincided with the first conference on Human Environment (held in Stockholm in the same year) and, not accidentally, with the start of the Oil Crisis and the 1970s recession, which witnessed globally raised attention towards the environment and its resources. Such key dates culminate in the late post-war period, where concerns were

raised about the validity of the early post-war economic and social model. This contribution to sustainability was not only a question of economic and environmental issues, but principally a matter of approaches to the social dimension.

Roders and Van Oers believe that ‘... the ratification of this Convention by 187 Countries, out of 193 UNESCO Member States, makes this a near Universal tool employed around the world, thereby increasing its power and impact.’ (Roders & Van Oers, 2011, p. 10)

The two decades that have followed the World Heritage Convention have witnessed several attempts to integrate sympathetic approaches to conservation into common practice. With the institution of the World Heritage Committee, meeting once a year since 1977 in order to revise UNESCO World Heritage Sites (UNESCO, 1977) and the World Conservation Strategy supporting ecological aspects of diversity (IUCN, 1980), holistic perspectives on heritage conservation have arisen. These perspectives have focussed on heritage management, whilst starting to pave the way for a more comprehensive understanding of how sustainability is applied to conservation practice. With an emphasis on sustainability, this is how conservation may be defined:

‘... in its broader trans-disciplinary and global sense as the dynamic management of change, including both tangible and intangible aspects of cultural, historic and natural resources. This broader concept of ‘conservation’ embraces the notion of mixed cultural and natural environments, culture-nature relationships, spiritual and sacred values, traditions, skills, oral knowledge and material legacy, constituted by artifactual [movable] and built [immovable] heritage, environments and landscapes produced by different and diverse civilizations –both traditional and modern.’ (Rosvall *et al.*, 2007, p.93)

Attempts to implement the concept of sustainability in the architectural and the conservation field have been made since the early 1970s, and further implemented with the *Brundtland Report* in 1987. The three pillars’ principle (referred to as the 3-P approach: People, Planet and Profit) has gained great popularity in business circles, but alternative models have been proposed on behalf of culture-focussed approaches.

It is reckoned that major attention needs to be given to local cultures and communities-based decision making, which, Kemp and Martens argue, ‘... is a strategy that renders sustainable development less technocratic’ (Kemp & Martens, 2007, p. 6). Difficulties lie in the management of subjective practices, particularly in attempts to rigorously define concepts that instead require interpretative flexibility (Kemp & Martens, 2007), an increased capacity for reflection, and an adaptive framework for making choices.

It is interesting to define sustainability in terms of ‘dimensions’ instead of areas of interest. Nazli Choucri, Professor of Political Sciences at the Massachusetts Institute of Technology (‘MIT’), refers to this upon recognising the inapplicability of traditional patterns of industrial activities, as well as the limits of the *Brundtland Report*, which in his opinion is insufficient as an analytical guide or policy directive.

Choucri describes a framework that includes the following dimensions, where the institutional component complements the organisational structure of the holistic system:

- **Ecological balance:** preserving the resilience of natural environments;
- **Economic performance:** enabling markets for generating production and consumption pattern
- **Institutional capacity:** meeting the organisational needs of private entities and firm
- **Viable governance:** ensuring effective policy, regulation and accountability.

(Choucri, 1998, p. ix)

The above definition partially draws from the three pillars approach, whilst also showing compatibility with the target of long-term commitment set by the *Brundtland Report*. It encourages the use of creative and effective strategies of response, which should facilitate innovation, adaptation and evolution, while pursuing sociocultural sustainability. This is described in the literature as ‘... a state of balance ... Though not necessarily obtainable as a perfect state, the pursuit of ever more sustainability improves a greater proportion of lives.’ (Lawrence, 2010, p. 4)

In an attempt to examine the meaning of sociocultural sustainability, Lawrence explores the social history of heritage conservation, while describing the development of preservation strategies aimed at enhancing the socio-cultural values of a community. Lawrence's definition of cultural sustainability is in line with the description of a system where:

'... the building becomes one cell in a larger ecological and cultural system: an understanding of the future viewed through the lens of the past and systems upon which we depend.' (Scott, 1998, p. 2)

The integration of this notion of cultural sustainability, specifically in the context of architectural conservation, draws its principles from the framework of sustainable development illustrated before (p.39):

#### 1) Economic Principle in Conservation:

In the context of built heritage, a clear example of this relationship between existing assets and their financial impact on the surrounding environment can be analysed through the concept of Life Cycle Assessment ('LCA') and Life Cycle Cost Assessment ('LCCA'), which are key-tools in the field of green building and rating building performance:

'However, there are considerable obstacles to applying LCA to entire building projects. The number of variables is simply overwhelming.' (Elefante, 2007, p. 33)

The difficulties, as Elefante highlights, lie in the discrepancy between the numerous protocols for rating impacts and performance and their usability on the basis of a broad set of variables at play. However, economic growth is of fundamental importance to the enhancement of cultural capital, and while the quantitative, tangible terms of economic growth are important for a society, creative industries and cultural heritage also contribute to raising standards of living.

#### 2) Environmental Principle in Conservation:

The debate about reducing consumption and CO<sub>2</sub> emissions in buildings is widespread.

Various measures and technologies are already attempting to address efficiency and carbon emissions targets. However, there is still a range of practical difficulties in assessing and making interventions on built assets. Mansfield argues that:

‘Sustainable refurbishment programs can incorporate various measures and technologies to help to address the current efficiency and emission targets. Yet while specific improvements to energy efficiency and carbon emission may be technically possible, it seems that they are unnecessarily hampered by a series of hurdles.’ (Mansfield, 2011, p. 120)

As the author goes on to argue, these difficulties range from the measurement of a building’s energy consumption, to environmental assessment and economic cost comparison. Although the process of greening existing buildings is slowly gaining recognition, the use of certification schemes seem to more generally set performance targets and establish imperatives for new build projects, as opposed to refurbishment activities.

The effort to preserve environmental resources through the upkeep of existing assets often finds several constraints, facing which ‘we need to develop options and means that allow us to balance, on a case by case basis, this often diverging public interests, and to find constructive ways of resolving them.’ (Graf & Marino, 2011, p. 33)

This perspective suggests the adoptions of *ad hoc* strategies of intervention, as it occurred with the intervention on the Cité du Lignon (Figure 4), whose energy-related dilemmas are described in full detail by Franz Graf and Giulia Marino in the do.co.mo.mo Journal dedicated to sustainability, *Modern and Sustainable* (Tostões, 2011a).

### 3) Social Principle in Conservation:

Social Principle is where the sense of belonging, social traditions, and cultural identities form and it is through the buildings themselves that it is possible to question and analyse the legacy that has reached us. In fact, the way we perceive the urban environment is strongly linked with the surrounding built and cultural legacy. This relies on procedures of aesthetical recognition and formal perception that trigger processes of

identification and cultural appropriation, upon which our knowledge needs to be built. For this reason, a more comprehensive understanding of urban built heritage is needed, 'one that would enable taking into considerations cultural aspects and (integrating) them into adaptive conservation solutions.' (Dupagne, 2004, p. 10)

### **Cultural meaning in sustainable re-use**

Despite difficulties in dealing with viable practices of conservation, activities of regeneration and re-use foster more awareness of strategies in preservation thinking. With regards to refurbishment projects, for instance, it is argued that they are:

'... becoming aligned with the general sustainability agenda, and it could even be argued that it represents the best practice in implementing sustainability principles.' (Mansfield, 2011, p. 127)

To some extent then, sustainability may be identified as a measurable concept. This is true especially at the environmental level, through the use of certification schemes, both undertaken locally and internationally. These range from EPBDs certificates, introduced in the UK to meet the requirements of the *Energy Performance of Buildings Directive* (2002/91/EC: EC, 2002), to third party certification schemes such as BREEAM (UK), LEED (USA) and HQE (France).

However, feasibility studies are nowadays increasingly geared towards a numerical form of analysis as opposed to the more conventional form, based upon technical aspects of design and specification (Mansfield, 2011, p. 127). The cultural dimension of such technical activities is hard to measure, and Bandarin states on the issue of 'cultural invisibility':

'Oddly enough, cultural impact is often unaccounted for because of its very omnipresence. The workings of culture are so intricately interwoven with and rooted in every aspect of economic, political, social and environmental activity that it is difficult to single them out and to measure their influence with precision.' (Bandarin *et al.*, 2011, p. 16)



This operational incommensurability of methods poses obstacles to more viable and integrated strategies of preservation. If the meaning of 're-use' is to be both environmentally sustainable and culturally relevant, it is important to note that sustainable development is defined as culture-sensitive (Bandarin *et al.*, 2011, p. 21). Therefore, the core questions lies within the relationship between environmental sustainability and cultural processes, and focuses on how to enhance compatible conversion schemes, whilst seeking out the underpinning significance of new functions. As Barthes noted, 'Use never does anything but shelter meaning' (Barthes, 1979, p. 174)

It is argued by Johansson *et al.* that one of the issues encountered in bridging the gap between environmental sustainability and cultural processes is the general tendency to avoid identification of the problems to be addressed, whilst attributing more importance to the disciplines that a sustainable practice is meant to employ (Johansson *et al.*, 2010, p. 5).

Orbasli claims that re-use and adaptation contribute to regeneration and sustainability at many levels (Orbasli, 2009). Hence it is important to identify the potential value of the building stock so that they can be recognised as part of the sustainable development.

This task is often considered difficult because sustainable strategies are meant to take into account the whole array of targets and not only environmental ones. Re-use and adaptation therefore need to consider:

' ... a means of making buildings that are more user responsive, more humane places to inhabit, more intelligent in the way they balance their energy flows, more respectful of nature and the resources it offers and more understanding of buildings having a life-span during which they undergo substantial change and adaptation.' (Scott, 1998, p. 2)

### **Sustaining new uses through collective memory**

The broad range of user gains, including improved energy efficiency, enhances valid cultural meaning, whereby architecture, explains Hassler *et al.* (2002), is recognised to be

‘the long-term memory of society’. It is indeed on the dilemma that arises from comparing invisible qualities and tangible forms that methodological problems are posed to the common procedures on aesthetics. The modern attitude has shown a complex relation with the materiality of things, where visible signs of decay often become at odds with the notions of purity dictated by modernity.

The crumbling remains of Cardross Seminary in Scotland (Figure 6) provide a good case study of this complex relation. Abandoned in the 1980s, and listed at Category A, the highest level of protection, it is a majestic piece that proved to be obsolete even by the time of completion in 1966.

After being used for twenty years as a catholic college and seminary, it closed down due to the decline in number of students. Since then the building has lain derelict for decades, and is considered as one of the best examples of modernist ruin, situated on a hilltop just outside Cardcross, West of Glasgow.

Recently the arts charity NVA secured funding for the building to become a heritage attraction:

‘The charity, however, won’t fully restore the building; it plans to leave much of it as a raw frame and to keep some of the often highly creative graffiti in which it is covered.’  
(Armour, 2016).

This case study is a counter-example of modernist architecture that manages to withhold a strong relationship with its past, while witnessing the passing of time as opposed to the newness of its materials and technologies.

This stress on the aesthetical and historical value of ruins seems to highlight that the abandonment of this heritage asset, lasting over thirty years, is now as much part of its history as its original function, and fully characterizes the building’s nature today, together with the unusually wild location that gives the asset a special aura.



Figure 6 | St.Peter's Seminary in Cardross, by Gillespie, Kidd and Coia (1966)

(Credits: Mad4Brutalism 2010. Source: <https://commons.wikimedia.org>)

The idea of attributing special value to ruins is particularly prominent in the field of industrial archaeology, where tactile encounters with the space are often offered within the aesthetics of disorder, redundancy and decay. In such ruins, it is hard to distinguish boundaries between past and present, material culture and tangible memory, thus making social sustainability a hard criterion to meet. It is important to point out that 'The materiality of a place is not considered to be decisive ... The crucial issue is the past event, a gone past, and the will to remember it through site embodiments.' (Olsen, 2010)

In the same article Olsen identifies a duality that may well be able to overcome the dilemma of dealing with the materiality of a place and the material culture built around it. He points at two types of memory: re-collective memory, which implies a conscious gaze towards the past, and habit-memory, which is instead implicit in the act of remembering, hence embedded in our body's routines. When a habit is lost, the mnemonic significance also disappears, however what remains is the physical presence.

We therefore gather that this presence needs to be positively re-valued, which can potentially occur only when a revised and compatible habit memory provides the physical presence with new significance.

This is however extremely difficult to put into practice. The controversy on the meaning of nominal or expressive authenticity relates to the much debated discourse of musealization, where topical features tend to be re-proposed regardless of their original nature, as described by Canziani:

‘This standpoint ... might mark the takeover of the fairy tale of a modern consisting of architectural icons to keep untouched or to restore to any previous state. The unsustainability of such a position was already introduced and perfectly highlighted by Marieke Kuipers at the 2002 do.co.mo.mo Conference, ... (who) reconsidered the meaning and the reasons of modern heritage musealization as it had been pursued until then.’ (Canziani, 2009, p. 38)

The philosophical implications deriving from this process often risk altering the inner nature of the cultural legacy underlying the asset, whilst conveying anachronism and historicism.

Such dilemmas are a major concern when considering twentieth century assets. Whereas a monument represents a formal synthesis of the past, frozen in time, the cultural embeddedness of the object in its context inevitably unfolds through temporality, which becomes a prominent issue when considering buildings that are meant to be transitory by the very nature of the technology systems being used. Although probably complicating the process, dealing with modernist heritage allows for conservation to address and explore intangible values, as opposed to complying with historical criteria only.

Here the literature on social theory acknowledges the importance of calling upon the cultural factor generated by the collective memory of a place, and allows ‘the sovereignty of collective consciousness to emerge, as the principle of unity and explanation.’ (Foucault, 1989, p. 24)

The sustainable aspect behind collective memory stands in the fact that, in order to be viable, heritage-related approaches need to be supported by a consistent degree of social

cohesion, which in turn is generated by culture. This has represented one of the key points at the UNESCO Convention for the Safeguarding of Intangible Heritage, which State Members adopted in 2003 (UNESCO, 2005) and which has, to a wider extent, encouraged approaches of public and active participation in decision-making.

By the start of the current century, such methodology seems to slowly, however noticeably, consolidate in the common practice. Hassler *et al.* also draw on the same principle, promoting the vital role of public participation, where towns are interpreted as ‘... living systems, involving social dynamics, technical and building networks and the presence of people living there ... (which) must be kept within sustainable development activity cycles.’ (Hassler *et al.*, 2002, p. 109)

The discourse suggests that the strong relationship between sustainability and social dimension is perhaps one of the most difficult to maintain, due to the invisible nature of memory. There are clearly difficulties in implementing cultural aspects within social, environmental and economic evaluation, which are better represented within material parameters:

‘The objective cannot be to integrate cultural values inside such frameworks, but to enlarge the scope of the evaluation in such a way that cultural and historic dimensions can be recognized.’ (Hassler *et al.*, 2002, p. 111)

On this basis, Hassler *et al.* recognise the notions of time, complexity, quality and signification as additional properties that should facilitate the achievement of a culturally and historically viable integration.

These concepts need to be integrated into a system of significance that can be put into action on the different aspects concerning sustainability. It is common thinking that a comprehensive framework has not been fully defined yet, for which Johansson *et al.* suggest considering a paradigm shift, which can best encourage the adoption of alternative approaches. The discussion of problems, as opposed to disciplines, is meant to address dilemmas arising in sustainable conservation practices. In so doing, Integrated Conservation should include:

‘ ... the assessment, research, documentation, maintenance, management and monitoring of built cultural heritage and related assets ... The theoretical foundation of this paradigm has its roots in sustainable urban design and development, the construction technology and architectural heritage fields, and is to be viewed as an emerging discipline.’  
(Johansson *et al.*, 2010, p. 3)

### **Long-term perspectives and cross-disciplinary approach**

The approach to cultural heritage be cross-disciplinary. This approach is related to the quality of prevention, monitoring and maintenance, and suitable to carry out systematic studies on the building. Thanks to this trend, the way towards an integrative systemic thinking is gradually being created.

Following this trend, the concept of a planned and Integrated conservation has increasingly been discussed in recent literature, and is key in understanding alternative and holistic perspectives on heritage management. Such a tool mainly addresses the unsustainability of fragmented practices. In particular, it tackles the lack of continuity both throughout the life cycle of an asset (which needs the implementation of compatible maintenance processes), and also within the socio-historical context (thus showing integration of current users and needs with the asset in consideration).

This concept of continuity represents an implementation of the extended meaning of sustainability, which needs to be economically and socially viable, hence established and planned in the long term as well as integrated in the cultural context.

In order to follow viable practices of retaining existing resources, whose principles are deeply rooted in the post-war era and consistent with the theories and charters of the time, conservation need to be aimed both at the physical and cultural preservation of an asset. This occurs through retaining the fabric of a place where possible, but also by means of understanding the underlying significance of a place in its context, through historical layers of meaning and alterations.

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## 2.3 Sustainability dilemmas in modernist heritage

### **Buildings: financial, ecological and cultural engines**

Attempts to consider sustainability principles in the context of building conservation allow the emergence of what Browning defines as ‘environmental restoration’ (Browning, 1998, p. 21). Existing assets are ‘engines’, as Browning suggests, that we need to address through consideration of their historical and contextual layers of meaning. Through the means of a well thought out intervention, we can not only potentially source financial profit, but also benefits concerning community development, as well as high-quality energy performance.

As De Grey comments:

‘I think that energy and sustainability ... can only be part of a total picture which links a whole range of issues: urbanism, planning, the function of a building, what it actually looks like and what it ‘s actually like to use, and how people respond to the buildings. The crucial issue that we all face is trying to get that balance and priorities right.’ (De Grey, 1998, p. 117)

The comparison with engines is not a new concept in the theory of architecture. Le Corbusier famously wrote about houses in terms of ‘machines for living’. Though retaining aspects of integrated functionalism, we can look at construction assets as a valuable source of energy, which, as De Grey states, ‘has always been at the root of all the buildings that we have designed’ (De Grey, 1998, p. 117).

Environmental concern is more prominent today when considering modernist heritage conservation. However, if this is the main issue, we need to remember that potential solutions to the problem have to find balance within all the three principles, so that the actual environmental issue becomes enhanced by the integration of all aspects.

Specific issues in conserving modernist assets are mainly found in the use of new materials and technologies. In particular, the amount of literature on the subject demonstrates that curtain-wall systems are, among heritage typologies, one of the most vulnerable ones to tackle.

Relevant examples of early curtain walls in the UK are, in Edinburgh, the former Bread St. Co-op extension (1937) where a patterned wall of glass on a widely-spaced structural frame hangs clear of the structural beams and floorplates (Figure 7). The building has now been successfully converted into hotel and conference facilities, and still confers the feeling of plain rationality achieved through the simple façade patterns and its transparency.

In England one of the best examples of early curtain wall systems is the John Lewis Department Store in Sloane Sq. (London, 1936), which claims to be the first Modern Movement use of curtain walls in Britain. The building (Figure 8) still retains its original retail function and was fully refurbished by John MacAslan and Partners in 2004. The subtlety of composition and the original design has been key in approaching the conservation project:

‘McAslan much admires Crabtree's decision, for instance, to put a four-foot gap between the mullions striped up and down the wave-like curve of the store's steel-and-glass, curtain-wall facade. From a visual point of view, this spacing allows the building to step at a very human pace around Sloane Square and down King's Road, rather than stretching uncomfortably along the street.’ (Glancey, 2004)



Figure 7 - 8 | Left: The Co-Op extension in Bread St., Edinburgh, by design of T.P.Marwick (1937) (Source: <https://www.foa2016.com>);

Right: The John Lewis Store in Sloane Sq., London, by Slater, Crabtree and Moberly Architects (1936) (Source: <http://www.bbc.co.uk>)



### **Modernist misconceptions**

A well-known and outstanding international example of modernist heritage conservation, the Bauhaus in Dessau is described below. I consider this building with the intention of analysing the relevance of sustainability principles across the different phases of its life cycle, from the earliest design principles attached through to the most recent stage of conservation.

Very often, the Bauhaus has been ‘stigmatized for its absence of environmental awareness, while being admired for its radical form-making’ (Berman, 2013). Such a misconception is often taken as truth, as it focuses on the formal achievements of Modernism as opposed to the true principles inspiring its design. It is not to be forgotten, however, that the early modernists imagined architecture for working-class people while also searching for the best solutions that would provide them with dignified environments. Such principles have been at the basis of the enormous changes in architecture at the beginning of the twentieth century, but Berman suggests that the reason why today they are obscured is:

‘ ... the architecture that is considered such a stylistic and intellectual revolution of the late nineteenth and early twentieth century was driven by the contemporary social and political mission to improve public health.’ (Berman, 2013)

However, the very common perception of architecture today is often attributed to an obsession with artistic and stylistic form, which reflects considerably on the focus that is given in terms of conservation approaches. This tends to see modernist heritage through its formal expressions more than through the social value attributed to it, which, as we have seen, is strictly bound to socially responsible environmental choices. The Bauhaus case study brings up considerations of the difficulties encountered in meeting environmental, social and economic concerns, therefore casting light onto major theoretical and practical issues, often arising from philosophical and ethical matters.

## 2.4 The Bauhaus, Dessau: architectural conservation, urban regeneration

Figure 9 | Bauhaus: the workshop wing.  
(Author: Gaia Zamburlini, 2012)

Bauhaus. Dessau (Germany)

Built: 1926

Architect:

Walter Gropius (1883-1969)

Included in the UNESCO WHL in 1996  
(criteria ii, iv and vi)

Ownership: Bauhaus Dessau Foundation



### History: Dessau

Being the host of World Heritage Sites since 1996, the municipality of Dessau can be considered a rare, if not unique, case study, with its controversial history of intertwining phases. Chosen for the relocation of one of the first world wide schools of design, the Bauhaus, in 1925 it became the pulsating centre of experimentation of twentieth century culture, art, architecture, design and new media. The site of Weimar, where the School was first born and was in use through to 1925 whilst gaining relevant attention by the Expressionist and Arts and Crafts Movements, had not been a successful choice in terms of location. Its Manifesto was in fact perceived to be too liberal by the municipality, who appealed for the institution to be relocated to Dessau.

As a result, Dessau's population grew considerably, probably due to its popularity and to the architectural experiments in the residential sector. The second highest peak in its population was registered in 1939, after which a drop coincides with the start of the Second World War. At this time, the atmosphere of political unrest had already caused the closure of the Bauhaus in 1933 and unsuccessfully moved it to Berlin for a few years. The vivacity and fermentation of ideas of the Dessau era was however inevitably lost.

From the 1950s onwards, the city's population rose again by approximately 20,000 inhabitants. Under the Deutsche Demokratische Republik ('DDR'), with Dessau being part of East Germany, socialist ideas were strongly advocated and put across, finding fertile ground on the previous concepts of community living of the Modern Movement. These ideas made use, however with architectural alterations, of the urban assets that had shaped the city of Dessau until that moment. The highest peak in population, totalling 119,377, was reached in 1989 (all statistics and data on historical facts sourced from: (European Structural Funds, 2010)). Despite this, after the reunification and the proclamation of the German Federal Republic, a quick process of de-industrialisation in the Saxon-Anhalt Region took place, causing a considerable loss of inhabitants, which is still an ongoing process (Ministry of Regional Development and Transport Saxony-Anhalt - RABE, 2006).

Drawing from a research project ('Shrinking Cities') established by the Federal Cultural Foundation in collaboration with the Bauhaus Dessau Foundation, the city of Dessau has been labelled a 'shrinking city', due to its steady decrease in population.

Although the Bauhaus and Masters' Houses have the status of UNESCO World Heritage Site (listed in 1996 for criteria ii. iv and vi), this listing is only bringing benefits to the tourism sector (mostly one day visits to the sites), and still struggles to improve its de-population process. 100,000 visitors would come to one of the birthplaces of Modernism every year, however this number is soon expected to drop to 78,681 in 2025, which is the same population stated in the 1930s surveys.

**History: the Bauhaus**

The Bauhaus originated as a new type of design school. After being founded in Weimar, it was moved to Dessau in 1925 for political reasons (Figure 9 and 10). Here, the city provided money for the new school building, thus remaining the owner of the property as well as the owner of the nearby Masters' Houses.

During the 1920s economic crisis, the Bauhaus turned towards industrial design and mass production, and away from the pageantry of Expressionism and the Arts and Crafts Movement. With inflation kicking in, money ceased to have any meaning and, at the same time, the Modern Movement responded with a creative, daring and challenging program that would revolutionise the way reality was looked upon.

The Bauhaus was established at a time of intense economic and political crisis, both in Germany and across Europe. This intensified as the years went by, until Walter Gropius, Bauhaus' Director, was obliged to return to his architectural practice in Berlin, and the Bauhaus school finally closed in 1932. This turmoil, sparked by the economic and political crisis of the time, gave the Bauhaus movement its force and inspiration for the time it lasted, thus generating a powerful cultural and creative response that proposed an alternative of cultural development through functionalist reasoning. After a flourishing period, the Bauhaus in Dessau came to an end due to political pressures from the Nazi Party. It briefly moved to Berlin in 1932, to be then closed for good, as a Foundation, in 1933.

After being used for political purposes during the war, and having suffered heavy air raid damage, the building was repaired and included in the DDR's list of protected monuments in 1972, being restored for the first time in 1976. Ten years later, it reopened under the activities of the Educational Centre Bauhaus Dessau, which opened, two years later, the Centre for Design.

The building was turned into a public Foundation in 1994, which still includes the Workshop, the Collection and the Academy, with its main purpose being very close to the original: '... to preserve, transmit and study the legacy of the historic Bauhaus, as well as contribute to solving the problems involved in designing today's environment.' (Stiftung

Bauhaus Dessau, 1994). The Bauhaus was included in the World Culture and Nature Heritage List in 1996, and the *Bauhaus Kolleg* founded in 1999.

Today, the Bauhaus has not lost its status as an icon of Modernism, with its Foundation still dealing with the promotion of research, teaching and state-of-the-art events in architecture, design and media. However, as much as Dessau is coping with the dramatic decrease in population and the consequent transformation of its urban fabric, hinting at a worrying loss of identity, the issue with the much popular Bauhaus Foundation is of no different nature. The concern remains how to safeguard and communicate its legacy, hence the footprint of its design, architecture and culture.

### **Description**

The Bauhaus concept is strongly linked with sustainability principles, since it was founded on the absolute unity between design and aspects of everyday life, where new processes of building techniques and experimentations on housing typologies were supposed to bring balance to architecture in its surrounding environment.

The extensive glass facades and windows have since defined the character and aesthetics of the Bauhaus, and, to a greater extent, defined the Modern Movement. The design of the building pursues the programmatic concept of a new education strategy, which merges studies on functionality and aesthetics, architecture and design.

In the original building, which has been claimed by Gropius to be the 'Manifesto of the Bauhaus ideas' (Gropius, 1919), all three principles are fused together in a clean, functional and modern design.

'At the time it was possible to construct windows with better insulation, but it seems that Gropius accepted less comfort to set other priorities.' (Markgraf, 2011, p. 25)

In order to match the functional style of the building, Gropius even designed modern furniture and household utensils, in order to stress on that cultural continuum that was meant to be proper of modern philosophy.

Sustainability criteria are met thanks to the concept of a space that is able to enclose and open up spaces according to different and flexible uses, in harmony with the surrounding environment, whilst allowing social principles to emerge out of its spatial and conceptual organisation. Implicitly, the actualisation of such principles in the Bauhaus represents a precursor of the time where sustainable development started to be formalised in the post-war era.

The functionality of the Bauhaus is deeply rooted in the economic context of the time, having borrowed inspiration from pre-war antecedents. In particular, there is agreement on the relationship between artistic and creative independence heralded by the movement, and the increasingly growing attention on rationalised production (Heynen, 2007).

‘The installation of the curtain wall was a major challenge because there was no previous experience with such a modern construction, as evidenced by a dispute with the executing contractor.’ (Markgraf, 2011, p. 24)

On account of this rational attitude, the Modern Movement has often been perceived as somewhat antithetical to nature. This is however arguable, since modernist buildings find their own personal balance with the surrounding environment, evoking an intrinsic equilibrium with the context that cannot be underestimated in the current historical and architectural critique. The layout and spatial functionality of the Bauhaus created architectonic connections between the internal and external space, allowing for a multi-layered interpretation.

In support of this concept, Anker traces the connections between members of the Bauhaus and those of the ecological design movement of the time, while also claiming that the very same ambition towards control and perfection of the Modern Movement characterises ecological design:

‘The unification of art and science is at the heart of the history of ecological design. Bauhaus designers believed that design must follow the laws of nature in order to function effectively.’ (Anker, 2010, p. 126)



Figure 10 | The Bauhaus's Technical School Wing.  
(Author: Gaia Zamburlini, 2012)

We therefore gather that one of the peculiarities of the Modern Movement lies in the attempt to draw closer to nature, while also listening to the needs of the users. This means stressing the search for balance between the natural and human world, where the built environment turns into

an expression of nature, interpreted through scientific eyes and translated into an object of rational investigation.

### Significance

In its early years, the Bauhaus represented one of the most effective and influential movements concerned with design:

'It was a school which developed and applied new pedagogical methods; it was active in the fields of architecture, urban planning, landscape design, industrial design, and graphic design, as well as in the fine arts. At the same time, it was a forum for theoretical debates.' (Thöner, 2005, p. 115)

After the war though, there was a change in attitude towards Modernism, especially out of new political perspectives that arose in the loosening of Stalinist doctrines. Design was becoming less and less influenced by ideology-laden debates, as much as the economic climate was getting noticeably worse. Although theoretical confrontations with the Bauhaus still presented some contradictions, the Bauhaus legacy was also being discussed

as a monument worthy of preservation, going beyond the mere recognition of architectural and historical features.

However, with the gradual acknowledgment of the Bauhaus as a rehabilitated symbol and cultural legacy of the post-war era, a major drive towards its physical reconstruction occurred, and was manifested in the renovation activities of the 1970s.

Several studies have been developed on the reception of the Bauhaus throughout the post-war era, as this represents a complex period of apparently contradictory attitudes. On one side, this is strongly bound to material culture, hence the use of particular form and technologies, materials and concepts. On the other, it is linked with the economic climate as a reflection of political decisions and ranges of action. Referring to the literature on this matter, in particular to the publishing of *Bauhaus Culture, from Weimar to the Cold War* (James-Chakraborty, 2006), Heynen asserts that:

‘ ... If, as this volume stresses, the Cold War gave rise to very particular and distorted readings of the Bauhaus, post Cold War revisions have themselves displayed a strong unwillingness to rethink the place of the radical Left in the period.’ (Heynen, 2007)



Figure 11 | The Fagus Factory in Alfeld, Germany. Designed by Walter Gropius in 1910, since as early as 1946 it has been considered an historic monument. In 2011, it was inscribed on the WHL for criteria ii and iv.  
(Source: <http://www.unesco.org>)

Thriving on the positive reactions it received throughout the time it has been active, and the legacy derived from this, the Bauhaus in Dessau still holds a key role in integrating the idea of industrial culture with art, architecture and design. Interestingly, the industrial culture was first disseminated by the coeval need for new factories, whose construction was influenced by the experiments of the previous



Industrial Revolution. This brought about the first modern factory one of its kind, known as the Fagus Factory (Figure 11).

Built in 1911, its technical and cultural relations with the Bauhaus are illustrated in *Industrial Culture from Werkbund to Bauhaus* (Jaeggi, 2000), which demonstrates the link between the two movements, whilst also suggesting perspectives on how to deal with their legacy.

In terms of social values, it is important to highlight that the Bauhaus Manifesto was issued in April 1919, just after the First World War. This occurred in the midst of searing economic crisis, spreading class war, and still in the hope of a new, ultra-democratic structure.

However, the Bauhaus was always an *élite* phenomenon: with its promise of a mission for the arts, Gropius attracted some of the brightest minds as both students and staff. While establishing the primary target of art as one that would serve social purposes, the Bauhaus movement relied on a pluralistic educational concept, based on the diversity of creative methods and aimed at the individual development of each student.

‘Methods of scientific analysis once again provided feedback, but now from a socio-economic direction, which has resulted in the real compliance of education in this practice-oriented period.’ (Portas & Mendes, 1992)

What the Bauhaus offered was artistic solutions to political dilemmas, within which social problems could potentially be analysed and solved through aesthetics, geometry and imagery. This attitude did not always work, but it expressed the slogan of the new unity established between Art and Technology. Such an attitude reflects the social spirit of the time, and has been aimed at transforming the built environment at all levels, where ‘... architects such as Walter Gropius, Hannes Meyer or Ernst May were convinced at the time that their efforts were to be oriented towards the whole of social reality.’ (Heynen, 1999, p. 136)

In the late 1940s, just after the war finished, a more complex situation arose, influencing our perception of the building as well as its modern philosophy:

‘When ... the teaching of design slowly began again, a wide spectrum of design principles were possible, even in the

Soviet Zone of Occupation in the first years after the end of the war, in the midst of rubble and unspeakable misery.’ (Thöner, 2005, p. 117)

However, after the SED (The Socialist Unity Party of Germany) installed itself as the new power in 1947, modernist concepts started to conflict with the idea of Socialist Realism. The International Style, coined and developed by Johnson *et al.* in 1932, was not compatible anymore with the newly developed theory of art as a reflection and ideological form. Thöner also observes that:

‘The rejection of the Bauhaus, whose concepts were seen as incommensurable with such guidelines ... reached its peak with the so-called “Formalism debate”. In the struggle against Formalism in art and architecture, modernist techniques of planning and design and modernist style were seen by leading SED politicians as an affront to national traditions.’ (Thöner, 2005, p. 120)

After the Second World War and during the DDR, the reception of the Bauhaus varied considerably. It became clear how the pretention of Internationalism heralded in the very beginning of the Modern Movement, and symbolised by the Bauhaus in Dessau, could no longer be applied in the second half of the twentieth century.

This realisation suggests that new forms are to be found alongside more up-to-date sets of values, which in turns influence the perspectives of current conservation approaches, opening up new horizons of interpretation and intervention.

## **Management**

As described above, the building reflects today the inheritance of a stratified past, where state of the art training programmes have shaped the educational background of many students in different areas of art and architectural disciplines. Since the inception of the Dessau Bauhaus, a shadow has been cast on the idea of fundamental unity underlying all branches of design, which has been, as Gropius suggested: ‘the guiding inspiration in founding the Bauhaus’ (Gropius, 1965, p. 51).

Different phases, including the original construction (1926) and conservation interventions (1976 and 2006), have forged the image of this architectural icon. It has left to future generations the task of dealing with the oxymoronic concept of 'the archaeology of the modern', as defined and investigated by architect and Bauhaus former Research Director Monika Markgraf, author of *Archaeology of Modernism* (Markgraf, 2007).

It is through the process of continuous 'hiding and discovering, conserving and curing' (Baunetzwoche, 2012) that attention should be drawn towards a thorough understanding of the socio-technical values associated with the building, whilst pursuing long-term perspectives in management plans that take into account the changing social and urban character of the current city of Dessau.

The idea of the '*Gesamt-Kunstwerk*' (Total Work of Art), as carried forward by the pioneers of the Bauhaus, seems to suggest, after years, the current validity of an integrated approach and the importance of cross-disciplinarity. This idea was once applied to the different areas of research and practice being studied at the Bauhaus. Today, it represents the need to turn to a conservation practice as one of embracing perspectives, where the interaction of cultural values, methods and processes prevails over the individual presence of the architectural object:

'When Gropius was appointed for directing the Bauhaus School, he stated in his opening speech: "the union between Art and Technique is the challenge for the future, and of course, the challenge for Bauhaus".' (Tostões, 2011b, p. 201)

Another particular challenge is represented by the fact that the Bauhaus was always a school of building, but never of architecture:

'Building was always the motivating force behind a curriculum in which architecture could never find a resting place. However contradictory this appears to be, and however frustrated the search for architecture was at the Bauhaus, it is this very situation that may tell us more about the possibilities for architecture than any conventional school ever did.' (Miller, 2006, p. 89)

The Bauhaus building in Dessau not only represents a great example from the Modern Movement of the time, but it also provides rich information on the approach to teaching

architecture and the arts. This approach has influenced forms and styles of the time, and the efforts towards an International Style that failed in the post-war era. When considering the transitional phases the Bauhaus has gone through over the course of the twentieth century, management plans have identified a variety of different approaches to the preservation of its elements, particularly in regards to windows and the curtain wall, considered to be the architectural core of the building:

‘Where, in 1976, the original windows were not repaired but replaced by simplified replicas, today the protection and preservation of the original 1926 structure and material is the highest priority ... in terms of its materiality, and as a piece of historic evidence.’ (Markgraf, 2011, p. 31)

The most recent approaches to conservation, which have also reflected on the management plans of the Bauhaus building, aim at a comprehensive overall concept where energy savings are not only analysed in terms of economic efficiency, but, as Markgraf describes, ‘within the scope of long-term environmental performance.’ (Markgraf, 2011, p. 37)

This phenomenon can be extended to all heritage types. In the specific case of the protection of the Bauhaus in Dessau, and the legacy of Modernism, the prevailing attitude is not one that only embraces the single building and its symbolic and evocative associations, but one that embraces a systematic and continuous care while taking into account new challenges.

The inscription of the Bauhaus building on the World Heritage List (UNESCO, 1996) has raised new questions on the Outstanding Universal Value attributed to the building. This is not only concerned with the Bauhaus as a new architectural Manifesto, but with the Bauhaus as a social institution that has represented different phases of the political history of East Germany, and is still being affected by the surrounding environment of the town of Dessau. The inscription of the building has also raised the debate on the recognition of its authenticity and integrity, especially following the restoration phase of the 1970s, where replacement has been preferred to a long-term strategy of care and maintenance:

‘When the priority is given to the restoration works and there is no certainty about the future use and management

of the site, replacement seems to be safer, more efficient and cost-effective than maintenance. But ... the tendency to include in the project a large proportion of replacements to reduce maintenance problems inevitably leads to losing authenticity, but also technical and financial resources.’ (Canziani & Borgarino, 2011, p. 243)

Following the inscription of the Bauhaus in the World Heritage List in 1996, and the new conservation activities that took place in the following decade, the need for revising the repair approach to the building was recognized. This need is consistent with the acceptance of Bauhaus as a phenomenon that endorsed mass production as an art practice which becomes meaningful even if it was unable to realize this goal to any significant degree:

‘The Bauhaus inserted itself into this system of signification through the ideal of reproduction, and it was willing to sacrifice its auratic and authentic qualities of its objects to do so ... Through their very failure as objects of reproduction and mass of consumption, the products of the Bauhaus paradoxically both retained their authenticity and their aura.’ (Schuldenfrei, 2009, p. 54)

It is therefore important to distinguish when and where the Bauhaus is a diachronic product of layers of meaning and not a simple, however meticulous reconstruction of irreplaceable objects. Such layers can add to new paradigms of significance, whilst ensuring autonomy and authenticity to the work of art itself:

‘In part, this is because the story of the Bauhaus is inextricably fused with the dialectical notion that Art is both tied to and separate from its social construct. In part, it is because the Bauhaus itself presented us with an imperfect paradigm, as a real school, yet also as an idea, as something timeless and without a physical substance.’ (Koehler, 2009, p. 15)

Koehler’s observation is strongly linked with the recognition of the Bauhaus as being representative of criteria ii and iv in the World Heritage List. The Committee has attributed to the building the recognition of human value, since this is the asset that constitutes the seminal works of the Bauhaus architectural school, which has brought relevant artistic,

architectural and technological value. These are also associated with criterion vi, recognised as the intangible criterion, which reads as follows:

‘ ... to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria).’ (UNESCO, 2013a)

More detailed Operational Guidelines are in action compared to the principles on which the Bauhaus was first listed in 1996. Such changes have had a noticeable effect on the listings that have followed, and on the revision of some previously appointed sites, such as the Bauhaus. What has been reached is surely a broader perspective on the significance of this asset, which shifts from individual merit to an inscription that takes into account the cultural process involved as opposed to its mere monumentality.

### 3 CONSERVATION THEORIES

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Figure 12 | Balfron Tower in London (U.K.). Grade II (1996). Designed by Erno Goldfinger (1965-67) as part of the Brownfield Estate in Poplar. It is the architect's first public housing project, and precursor to his design for Trellick Tower in North Kensington.

(Author: Gaia Zamburlini, 2014)

‘A further factor of specific importance to modern buildings, but by no means always recognised, is space - situations where there is no fabric to conserve, only its absence. It is something to which current architectural culture seems blind.’ (Dunnett, 2007, p. 173)

### 3.1 Introduction

#### **A working framework**

This section focuses on three aspects of architectural conservation that have become fundamental in the current practice, especially in the light of post-war international recognition of new perspectives. These aspects are:

- 1) Adaptability: the ability of a building to keep high levels of resiliency through change;
- 2) Authenticity: the compliance with a truthful witnessing of the historical object; and
- 3) Memory: the capability of the building to evoke cultural meaning through functional and formal changes.

#### **Towards the definition of conservation principles**

The rationale of this dissertation is grounded in the idea that conservation principles need to be addressed first before moving onto operational and legislative issues. The practice of conservation, conceived by the Burra Charter as a series of: ‘... all the processes of looking after a site so as to retain its cultural significance’ includes the activities of preservation and maintenance, protection and intervention.

It is important to embrace sustainability on ethical grounds, understanding first *why* conservation is being carried out rather than *how*, is of major importance. Once this is established, one needs to address the cultural relationship established by the community with the built legacy, as opposed to given statutory values.

‘The Government attempts at community participation in conservation have been about explaining why places have been designated, and the consequences of this, rather than finding out why people value places.’ (Hudson & James, 2007, p. 258)



From this perspective, conservation needs to be considered as a methodological rather than a technical exercise, where an integrated and planned activity can guarantee long-term benefits and balance. As Canziani writes:

‘The challenge of Planned Conservation is the capability to shift from the aim of cure to the strategy of care. A challenge that is actually cultural rather than technological.’ (Canziani, 2009a)

There have been many investigations into the different perspectives on conservation approaches. These attempts focus both on the development of theories - whilst explaining the circumstances in which they were generated (Jokilehto, 1986) - and on the philosophical issues that have derived from the investigation of conservation approaches (Stanley-Price, 1996);

Other literature has focussed on giving an overview of the different definitions of conservation as provided by former and contemporary critics (Torsello, 2005). These various definitions highlight dimensions of values and significance, which become prominent in the discourse over the intrinsic difficulties of modernist heritage.

With these difficulties in mind, there is a dichotomy between the altered persistence of the material artefact and the flow of time to which the built environment is subjected. This dichotomy exists between the presumed staticity of preservation activities and the dynamism of Modernism; between the permanence required as an imperative of conservation and the idea of change that is intrinsic in twentieth century technologies.

In his *Essays in Architectural Criticism: Modern Architecture and Historical Change*, Alan Colquhoun develops this focus, from modernist architecture as a symbol presented through its formal and functional dimension, through to architecture in the modern city. This seminal work (Colquhoun, 1981) exemplifies the cultural influence of the time and his perspective on the role of semiology in architectural critique.

Such structure reflects the methodological nature of the debate, and this is also highlighted in Kenneth Frampton’s preface to the book:

‘ ... Colquhoun’s writing seems to break down into three distinct periods, reflecting not only the development of its

own sensibility, but also changes in both the method and the focus of the contemporary architecture debate.’ (Frampton, 1981)

The parallel with semiology, which compares architectural forms with language expressions, casts light on a structure that attempts to coordinate values and meaning in architecture with the contextual rules of communication in language.

This approach is not only consistent with the cultural background of the time, investigated by Alan Colquhoun in his book, but it has been demonstrated by Mojtaba that using the theory and method of semiology can be efficient and successful, especially in sustainable development processes:

‘Based on this approach, the concepts of space and place can be analyzed and discerned on how they emerged in different architectural systems. Moreover, it can be used as a method to reach the concept of identity and sense of place.’ (Mojtaba *et al.*, 2014)

Mojtaba *et al.*’s paper investigates how every building is represented by a mental image, which takes into account a system of formal signs that are interpreted and assigned meaning. This is beneficial when considering the notions of identity and sense of place, as the relation that is being established between signifier and signified (hence between form and meaning) is thought to be optional, yet keeps the meaning content unaltered.

This approach is of a qualitative nature and does not imply any inevitable relation between the architectural mechanism and its meaning. Therefore, it can well be applied to socio-cultural relations in space, allowing a way to deconstruct architecture as one can deconstruct text.

In aesthetic terms, there is conflict between the arbitrary and the material sign:. There is a dilemma when dealing with the duality of signified and signifier because:

‘... since aesthetics systems are socially available, and can be distinguished from language as a social phenomena (and not merely as intellectual constructs) their social function as symbols must be taken into account.’ (Colquhoun, 1981, p. 130)

One hypothesis of this dissertation stems is that modernist heritage conservation is about dealing with a contingent social presence. This presence is not one being from the past, frozen in time, since it still withholds functional, technological and social links with today's environment. When places are analysed as cultural phenomena, the attempt is to define the development of the place itself throughout recent history.

This not only hinders the role of the interpretant, who does not play a completely external role in the attribution of meaning to modernist heritage assets, but it also brings up the modern concept of hermeneutics. Hermeneutics, in the context of architectural and urban forms, can be described, in hermeneutical terms, as a theory that focuses on spaces that are not predetermined or fixed, yet are semiotically defined by the intangible relations between perceptible objects.

The issue of perceiving and interpreting cultural heritage arises especially in the context of modernist buildings, conceived at a time where the problem of care and maintenance had been removed.

‘In the modern Tayloristic approach, aimed at the most effective and economical way of building, connected to the industrialization of the construction sector, durability was not planned or even wanted.’ (Canziani & Borgarino, 2011, p. 241)

Hence, the concept of dynamism further contrasts with the underlying idea of conservation, which is to preserve material legacy and refrain from drastic changes.

‘The issue of ageing is crucial in present-day society and the lack of care and maintenance is bound to affect the image of the fabric and therefore our relationships with the modern heritage.’ (Canziani & Borgarino, 2011, p. 242)

Lack of care and maintenance raises concerns regarding the ethical basis for retaining *essential* features, which inevitably influence the *substantial* dimension of an asset. It is on this point that the idea of cultural significance being embodied in the fabric of a place, as declared in the Burra Charter (ICOMOS Australia, 1979), is put to challenge.

### **Maintenance, authenticity and intangible values**

This section deals with the three interrelated issues of maintenance, authenticity and intangible values. At a time of growing interest in modernist heritage, it becomes indispensable to devise a planned activity of care that goes beyond the aesthetical judgement of the modern icon, and which challenges the otherwise commonly shared principles on the fabric of a place, as heralded by the Burra Charter.

Within this long-term perspective of maintenance, the concept of authenticity assumes stronger significance, mainly on account of the ‘... fragility of a legacy that can be considered in many respects “unreliable”.’ (Colquhoun, 1981, p. 130)

In general terms, the permanence we expect from conserving heritage needs to deal both with the materiality of the fabric to be retained and with the continuity of cultural significance. Conservation activities will therefore secure the preservation of the built environment by the means of systematic maintenance, as proposed by international organisation Monumentenwacht. Nigel Dann, the UK representative, explains that:

‘Both Ruskin and Morris eloquently expounded the importance of regular maintenance based on the principle of minimal intervention ... Yet despite this historical recognition, there is a remarkably stubborn resistance to its logic ... Maintenance is central to protecting cultural significance because, if properly implemented, it will be the least destructive of all the “interventions” which inevitably occur in the process.’ (Dann, 2000, p. 35)

The intervention on architectural fabric questions the universal concept of authenticity. This has been an object of debate upon the increasing recognition of repair issues in materials such as reinforced concrete, and with particular regard to World Heritage Sites. To start with, a longer survival of authentic features can only be guaranteed by careful maintenance, where the cost of intervention represents a beneficial investment for the future. Glendinning states:

‘The effects of the new relativism were felt directly within the doctrinal corpus of conservation itself, especially in a growing tension between the authenticity implications of tangible and intangible heritage. The former, retained the

traditional conservation requirement for historical or material authenticity, the latter presupposed constant remaking.’ (Glendinning, 2013, p. 429)

The problem of retaining both tangible and intangible value without damaging the heritage fabric, has become evident in interventions and alterations on modernist heritage assets. As Dennis Sharp suggests:

‘The selection of structures for the World heritage List is based on two main criteria: outstanding universal value and “authenticity”. The latter term is a problem in relation to the use and nature of modern materials and the transient nature of some modern buildings.’ (Sharp, 1998)

In some cases, major restorations remain necessary and questions are raised as to whether and to what extent the alteration of fabric can still allow for the asset to be perceived in its whole authenticity.

Issues are also raised on the presence of monuments, in the broad sense, as a flagship of identity within the community. This shifts the problem from authenticity as a mere discourse of materiality to one of social memory, therefore intrinsic within specific cultural background and time:

‘If “monument” performs at the level of “recalling” and “communicating” a certain feeling or image, then we realize that the information we receive is all but neutral. It is actually through the emotion of the act of remembering that monuments create a living memory.’ (Casciato, 2004, p. 152)

The acknowledgment of intangible values of cultural significance represents a common dilemma nowadays and, although particularly related to modernist heritage sites because of their ephemeral nature, it affects assets of all periods. It is interesting to note that the inclusion of authenticity becomes specifically relevant at urban scale, where cultural value is emphasised by the need for conservation to be socially progressive, and to not only rely on the integrity of individual buildings or monuments. However, the translation of this concept at urban scale is a difficult task, as ‘Conservation becomes not so much the

protection of architectural fabric but a key element in the processes of urban management.’ (Pendlebury *et al.*, 2009, p. 352)

From these considerations, it can be argued that there is a strong need for underlying theoretical support to the concept of authenticity within a monument. This is to be intended as inheritance from the past as well as a useful resource for the future, within the premises that there is an increasing need to look into the intangible dimensions in order to benefit from every aspect of cultural significance.

When we recall the principles on which the Modern Movement was born, a different perspective on material life-cycles, performance and function is given. And if it is commonly thought that conservation needs to be the leading voice of present as much as past values, whether tangible or intangible, this generates an inevitable paradox when we come to face the cultural inheritance from the twentieth century concerning the duality of permanence and change.

### **Modernist heritage conservation**

The conservation of twentieth century modernist architecture is argued to be a peculiar one on account of both the theoretical and practical issues examined earlier in this section. Notwithstanding similarities with industrial heritage, there is a recognition that:

‘... unlike industrial architecture ... the architecture of the Modern Movement has resisted the escalating process of generalisation that transforms an historic monument, valued by some, into an item of heritage, which would be relevant to all.’ (Vanlaethem, 2004, p. 159)

This statement raises issues of historical recognition. Hence, France Vanlaethem points at the paradoxical nature of combining principles arisen from traditional and contemporary construction techniques, which respectively bear significance of permanence as well as transitoriness. As also David Lowenthal comments:

‘Time-honored goals of eternity, stability, and permanence are nowadays increasingly discarded as unreachable. Cultural guardians who once hoped to husband heritage for

all time, like ecologists who envisaged a timeless, changeless nature, are learning to accept that things are in perpetual flux.’ (Lowenthal, 2000, p. 20)

The conflict between permanence and change is one of the most debated issues in conservation, especially when dealing with the legacy of modern technologies. It is increasingly recognised that the assessment of values aims to understand the use of objects and places throughout time, whilst providing an interpretation of the original intent in the light of contextual changes.

However, if the original philosophy of the Modern Movement was one of transitory and flexible spaces, we now need to address a gap in the effort to conserve modern materials and their significance.

Unlike traditional objects of preservation, the presumed eternity of long lasting materials shifted the attention towards an architectural culture that would not envisage life-cycles, and would instead celebrate the image of an a-temporal dimension. This also opens up to the aspect of the building function through time. To some degree, flexibility is widely acknowledged in current preservation plans, being recognised as a fundamental character to manage change as opposed to a reactive process of conservation that prevents change.

The practice of modernist heritage conservation questions the methodological aspects of the discipline, and therefore its intrinsic philosophical issues. These issues have been subject to discussion since the modern has been officially recognised as heritage to be preserved. A starting point for this was the establishment of ‘do.co.mo.mo. International’ with the Eindhoven Statement published in 1990 (do.co.mo.mo. International, 1990):

‘Do.co.mo.mo.’s unique approach, being specifically directed to the study of the architectural contributions of the Modern Movements and of architects who shared the ethos of modernity, has already influenced the practice and operations of its ... sister organisations.’ (Guillet, 2007).

Do.co.mo.mo.’s activities in each country have been thoroughly supported by the development of the International Specialist Committee (‘ISC’) Registers. The Committee was founded in 1992 during the second conference of the organisation, held in the

premises of the Bauhaus School in Dessau. The documentation produced in the ISC Registers is reviewed annually by members from the organisation, and is kept at the Netherlands Architecture Institute in Rotterdam. For this dissertation, the recently published anthology containing a selection of the Register's case studies has been consulted (Sharp & Cooke, 2000).

While modernist heritage conservation has become increasingly relevant, the issue of sustainability has posed similar questions as to whether change and flexibility can be valid paths towards long-term strategies.

'The fact that sustainability principles are a flexible, negotiable set of standards could be seen as a weakness. In the environmental field, a distinction is made between "strong" versus "weak" sustainability in the environmental sphere ... Weak sustainability allows change, is flexible, and doesn't attempt to freeze things in place. These two versions of sustainability parallel the notion of distinguishing "sacred" versus "tradable" heritage<sup>27</sup> and the a priori privileging of cultural values over economic values by preservationists (or vice versa by investors or policy makers).' (Mason, 2002, p. 27)

Mason raises the need for an axiomatic framework that attributes value on the grounds of philosophical basis, while pursuing environmental and ethical practice. Several contributions have been made towards the social and psychological dimensions that underlie the idea of value in environmental evaluation. Despite advances in value identification techniques, there are still difficulties in the field that point at the intangible nature of heritage:

'The inability to manage that complexity intellectually is attributed to features of human cognition. Namely, problems arise because people routinely and unconsciously avert complexity by relying on a consistent set of biases or "heuristics" (rules of thumb) that make information processing easier and simplify decisions.' (Satterfield, 2002, p. 83)

This dissertation will examine the problems associated with heuristics through an interpretation of the philosophy behind Modernism, which will serve to place a historical



elaboration of the idea of authenticity throughout the development of conservation theories.

### 3.2 Conservation issues in modernist heritage

#### The unfolding of authenticity as an outstanding universal value

Although cultural significance plays a fundamental role in a balanced approach to heritage conservation, a growing need for further definition of values and criteria has raised recent debates on authenticity. Cultural significance, as defined by the Burra Charter, has become an overarching concept in conservation theory and, as I mentioned in the Introduction to this chapter, it will be useful to analyse a historical overview of its development.

The importance of investigating an underlying conceptual framework within the theoretical boundaries of authenticity has been recognised by many architectural scholars. Such an idea is culturally embedded and subject to relativism, yet withholds relevant philosophical connotations that may better inform methodological justifications to the conservation practice.

Before being formalised in the Venice Charter in 1964, authenticity had already been introduced in late nineteenth century, where it was referred to as ‘... a valuable character to be preserved’ (Boni, 1885). The notion of character was considered in terms of material legitimacy, in contrast to the contemporary treatment of ancient monuments performed by the majority of Victorian architects. In the same years, a ground-breaking movement was already starting to change the perspective of conservation in England.

Arguing that ‘... the last fifty years of knowledge and attention have done more for their destruction than all the foregoing centuries of revolution, violence and contempt’ (Morris, 1877), the Society for the Protection of Ancient Buildings (‘SPAB’) was born. William Morris was its major founding member and the author of the Society’s ambitious programme. This programme derived from John Ruskin’s theories, which, not yet speaking in terms of authenticity, were already paving the way towards defining an idea of truth within the monument, as illustrated in the chapter *The Lamps of Truth* in his seminal *The Seven Lamps of Architecture* (Ruskin, 1855, pp. 25-42; Wheeler & Whiteley, 1992)

This new theoretical framework had principally been set against that of Viollet-Le-Duc, who instead believed, according to the precepts of the Romantic Movement of the time, that:

‘Restoration: Both the word and the thing are modern. To restore an edifice means neither to maintain it, nor to repair it, nor to rebuild it; it means to re-establish it in a finished state, which may in fact have never existed at any given time.’ (Viollet-le-Duc, 1854)

With the advent of the SPAB, a new doctrine was formalised, making England the first country ever to see the foundation of assumptions that would be destined to survive, mostly unchanged, until today, when SPAB is still in action. According to historic preservation planner Jeremy C. Wells:

‘... the decision on acceptable and unacceptable interventions in building fabric was codified in 1877. The preservation documents that followed are expansions on the original themes of the SPAB Manifesto, which are in turn derivative of the ideas of Hugo, Ruskin, and Morris.’ (Wells, 2007, p. 5)

The argument to protect buildings, as opposed to restoring them, stems from the fact that the very idea of restoration represents an anachronistic attempt to reproduce artefacts that have neither temporal nor material relevance.

By the early 1930s, the idea of reproduction was being largely investigated, probably fuelled by the new technologies that arose at the turn of the century. The idea of reproduction also provided a consistent philosophical background to the principles declared by the SPAB, and it was during this time that social critic Walter Benjamin stressed the role of authenticity in his writings. By doing this, Benjamin redefined technological boundaries and provided theoretical ground to the presence of the ‘*hic et nunc*’ within the original artefact, which could not be reproduced by any means of imitation or technique:

‘Even the most perfect reproduction of a work of art is lacking in one element: its presence in time and space, its unique existence at the place where it happens to be. This

unique existence of the work of art determined the history to which it was subject throughout the time of its existence.’  
(Benjamin, 1936)

In line with such studies, Jorge Luis Borges and Roland Barthes also focussed on similar topics, respectively developing the idea of artistic reproduction respectively through the concepts of repetition and interpretation. An interesting essay comparing Borges with idealist philosopher Josiah Royce casts light on how:

‘ ... the fact that any interval, even a single point, contains an infinity of points, refutes the idea that all action is a copy or infinite series of copies of some future or past event. Royce domesticates the infinite; Borges denies the possibility of repetition in the universe.’ (Durhan Peters, 2008)

This statement provides a fresh insight into the subject, demonstrating that the presumption of a reproducible history bears little theoretical basis. Hence, we are faced with the interpretation of artefacts according to the early concept of the *‘hic et nunc’*, which confers meaning and context to be discovered throughout a historical unfolding, and not through the mere process of duplication.

What occurs is a dialectics between the signifier and signified, between the material sign that survives through time and the past and present values attributed to it. Within this discourse, interpretation becomes a process by which ‘ ... the initial sign is “rich” in history. Myth functions by depriving it of history and turning it into an empty form to carry a different meaning.’ (Robinson, 2011).

Robinson’s observation is based on an interpretation of Roland Barthes’ mythologies, which attempted to dissect the semiotic process in the art of representation and artistic reproduction. This was an early attempt to justify and give basis to the process of change as an unavoidable and natural factor that brings new significance to the artefact.

The imperative of change is not in contrast with that of authenticity. In fact, change is justified as a valid tool for keeping historical assets alive, provided that certain authenticity criteria are met. To this end, ‘ ... a wider definition was proposed including authenticity of

the idea, authenticity of form, authenticity of construction and details, and authenticity of materials.’ (Van Oers & Haraguchi, 2003, p. 11)

This classification is part of a fairly recent initiative by UNESCO that looks into a specific programme on modernist Heritage Sites, first launched in 2001 in conjunction with ICOMOS and do.co.mo.mo. The increased attention on the subject occurred out of the recognition that these heritage assets ‘... are increasingly subject to serious alteration or destruction, without a proper discussion and assessment of the values embedded in them.’ (Van Oers & Haraguchi, 2003)

Preceded by the Nara Document on Authenticity (1994), from which it derives the debate concerning issues of identity and diversity, the UNESCO report elaborates on the definition of the two overarching concepts of authenticity and integrity. With authenticity being a character of identification and identity, both in its tangible (form, construction and materials) and intangible dimension (idea), the Nara Document states that it is possible to use authenticity as a: ‘... measure of the degree to which the values of a heritage property may be understood to be truthfully, genuinely and credibly, expressed by the attributes carrying the values.’ (Stovel, 2004, p. 3)

Authenticity has also been recently defined in the same terms of broader cultural significance, and identified in:

‘... the quality of a heritage site to express its cultural significance through its material attributes and intangible values in a truthful and credible manner. It depends on the type of cultural heritage site and its cultural context.’  
(Ministerio de Cultura, 2011, p. 7)

This definition relates to the Madrid Document, which will be considered again later (p.127) because of its specific relevance to the conservation of modernist heritage. Since this definition is however given for any heritage type, the document manifests the effort to maintain cultural significance, authenticity and integrity through the means of a good management of change.

This demonstrates that the historical value, bringing age, aesthetics, and architecture-related criteria, should not be considered alone, but taken into account within more

complex layers of significance. The cultural significance may well be impacted by changes, and this is the reason why the conservation of authenticity and integrity is important in urban settlements, for example, where interventions may become more necessary due to everyday use.

The concepts of historical authenticity and physical integrity have become increasingly intertwined, mainly on account of the fundamental variables in historic preservation. Sprinkle writes:

‘ ... important associations with past trends, events, or persons, and they must have some physical evidence of the past - that is, there must be some “there” for a place to be considered a historic place.’ (Sprinkle, 2014, p. 3)

Therefore, it is important to identify the nature of material and cultural integrity, which helps understand the conditions under which historical features may be compromised by new interventions. Drawing from the U.S. *National Register of Historic Places*, integrity is defined as:

‘ ... the authenticity of a property’s historic identity, evidenced by the survival of physical characteristics that existed during the property’s historic period.’ (Van Oers & Haraguchi, 2003, p. 29)

Nation-wide, more precise definitions are provided by the national organisations such as English Heritage and Historic Scotland. The former advises this in *Conservation Principles, Policies and Guidelines: for the Sustainable Management of the Historic Environment*, and demonstrates that tangible integrity is only fully understood when investigated within a more comprehensive framework. This understanding is on account of values that are not physically represented anymore:

‘Decisions about recovering any aspect of integrity (literally, “wholeness, honesty”) that has been compromised must, like authenticity, depend upon a comprehensive understanding of the values of the place, particularly the values of what might be lost in the process.’ (English Heritage, 2008, p. 45)

The combination of tangible and intangible aspects in defining the role of integrity is further explained in a useful analysis from Historic Scotland written by Dorothy Bell. Bell identifies and analyses over seventy national and international statements of conservation principles, aiming to provide the basis for a better approach to building conservation, both nationally and elsewhere.

It is worthy pointing out that Bell's analysis dates back to 1997. Although being published in 1997, and prior to most of the issues that have been debated in the last couple of decades, the document reflects contemporary dilemmas and provides accounts of the most currently debated contradictions arising in the recognition of tangible and intangible values:

‘In their use of the concept of integrity, the Charters combine both its purely physical and the more “*moral*” meanings; material wholeness, soundness, and uncorrupted character. By doing this, they emphasise the need for the professional analysis of a very specific problem, always to be re-assessed in terms of the much broader values and needs of the site as a whole.’ (Bell, D., 1997, p. 30)

### **The shift in aesthetic values**

Unlike archaeology, where traditional conservation principles can be applied by adhering to the principle of reversible, minimal intervention, the contemporary practice of heritage conservation demonstrates a more complex perspective towards cultural significance. This thinking has been produced by the gradual shift from the archaeological document identified in the ruins to one that represents a monument, thus carrying historical and aesthetical values. This phenomenon is clearly identifiable into the consideration of industrial heritage as architectural and historical legacy, as opposed to a complex of relics in disuse.

The shift in aesthetic valued arises when:

‘ ... intrinsic transitional and experimental construction implies poor ageing and accelerated deterioration. In this case integrity and authenticity gave way to an ample and

unfinished debate that handles categories of idea, space and form or materials in different ways, detaching it from criteria that are applied to heritage of previous periods.’ (Van Oers & Haraguchi, 2003, p. 24)

With modernist heritage, the discrepancy between authenticity and integrity becomes more evident. Where the authenticity of materials is hard to be preserved, due to the function and materials being often short-lived, it is still possible to speak of the architectural idea as the character to preserve. For instance, when considering the Van Nelle Complex, architect and critic Wessel De Jonge declared that the inspiration for the intervention on the building has come from ‘... the “*design authenticity*” of the complex, and a choice was made for a conceptual restoration.’ (De Jonge, 2004b, p. 100)

Although on one side this aspect raises the difficulties underlying conserving modernist heritage, on the other one it also fully acknowledges that the problem needs to be dealt with on a case-by-case basis. It also highlights the nature of different cultures, hence construction techniques, materials and social backgrounds, especially in modern times. These difficulties occur particularly where experimentalism challenges the preservation of overlapping layers, each of which needs documentation and recognition prior to attributing significance to the artefact as a whole.

Undoubtedly, the aesthetic value has experienced a major shift with the advent of conservation approaches in the twentieth century, and the once celebrated image of the ruins now struggles to coincide with any idea of heritage that we currently attribute to our historic environment. However, it is specifically with the modernist heritage that a further shift has been encountered in the practice of protection, preservation and enhancement of the modernist architectural legacy, and particularly in the case of post-war assets.

The value that we consider within a modernist building is, as discussed before, the design authenticity of a place. Generally speaking, this has been originally driven by a quest for a new, unified style that witnesses contingency as opposed to history. In order to be able to transmit this aspect of legacy, the imperative logically becomes pointing at the newness of the building, which is not possible either at practical or theoretical level.



Being highly experimental, most of the modern technologies are in fact not fit for purpose, and claim for intervention. If we wanted to restore them to a shiny state, we would eventually be in contradiction with the general principles of conservation. According to these, minimal intervention on the original fabric is required, as well as respect for its historical layers.

However, since ‘... a twentieth century cultural change is the substitution of repair with replace’ (Canziani, 2009, p. 42), what is likely to occur in the process is the loss of historical evidence. This is especially true for post-war assets, which have inherited from the original idea of modernist idea of social concern, but have been quickly overwhelmed by the mass consumer society. It is in these premises that ‘... modern architecture becomes obsolete, not only on functional and technical grounds, but also for symbolic reasons.’ (Vanlaethem, 2004, p. 166)

Vanlaethem’s observation highlights the contradictions of modernist heritage, as well as the change that is both far from the idea of ruins and from that one of monuments, from which permanence is required. This concept can be transferred onto all types of heritage and digs deeper into new philosophical meanings of conservation:

‘As an evident fact the epistemological context influenced also the Cultural Heritage realms, and terms like “diversity” and “dynamic identity” start to be common in UNESCO Conventions, Operational Guidelines and into International Charters.’ (Canziani, 2009, p. 43)

Although the concepts of change and that one of diversity look bound to each other, a fast-paced and changing society brings to the pressures of globalization, where cultural diversity is therefore flattened.

‘The dependence of this heritage on the demands, and laws, of an industrial production guaranteeing its condition as an imitable object, questions the orthodox concept of authenticity with regard to the elements which constitute its material nature and its totality, making a reformulation of it necessary.’ (Hernández León, 2011, p. 18)

This complex relationship demonstrates the need for more thorough theoretical thinking on the premises upon which diversity is nowadays defined, encouraged and integrated through change.

### **Cultural significance in heritage diversity**

Being passed down from generation to generation, heritage is influenced by a variety of cultural factors, which account for the diversity found in time and space. This diversity enriches the unique significance of a place, thus shifting onto the debate of authenticity as the character to be retained. To this extent, on the topic of World Heritage Sites, Stovel recognises that:

‘Many ... have spoken of authenticity as if it were a value in its own right, (and therefore not evaluated authenticity in relation to the particular outstanding universal value proposed); and equally, many more nominations have not chosen to root their analysis in the four attribute areas defined initially for the test of authenticity: design, material, setting, workmanship, and hence have left their authenticity assessments unattached to anything tangible.’ (Stovel, 2007, p. 3)

Stovel highlights the existence of a subtle dimension of authenticity, which is the source of contrasting opinions between traditionalist conservationists and modernists in the context of the late 1980s and early 1990s conservation activities,

‘Two camps were represented; “traditional” conservation practitioners ... and do.co.mo.mo, who specifically argued in favour of design authenticity over material authenticity and suggested a new philosophical approach was therefore necessary.’ (MacDonald, 2009)

In our current perspective, authenticity not only limits itself to the material presence of an asset, but goes more in depth into its fabric. This is intended as the multiplicity of cultural, social and historical characters that are engraved into the object, characterising its unique significance.

The fundamental role of the social dimension in cultural diversity is also confirmed by *The Nara Document on Authenticity*, which declares that:

‘In a world that is increasingly subject to the forces of globalization and homogenization ... the essential contribution made by the consideration of authenticity in conservation practice is to clarify and illuminate the collective memory of humanity.’ (World Heritage Committee, 1994, art.4)

The Nara Document stresses the importance of cultural diversity, following in the footsteps of the Charter of Venice (ICOMOS, 1964). As other charters of its kind, the Venice Charter has been mutually agreed on a European basis, triggering the pretence of internationalism and diversity attributed to its premises. A more embracing attitude only seems to come to the surface with the most recent revisions of the 1972 World Heritage Convention (ICOMOS Australia, 1979). Whilst referring to the original document, it has been claimed that ‘... the convention goes no further in recognizing the implications which this diversity has for conservation.’ (Rhyne, 1995). A full account of all the additions to the original document is provided on the UNESCO website, detailing the relevant revisions, events and implementation changes from 1977 to 2013 (UNESCO, 2013b).

The literature recognises that the Nara Document has consistently contributed to the full recognition of the dynamic identity of a place. As Joan Domicelj states:

‘It told us that the outstanding values of a place could be sustained dynamically, so long as its stories remained credible and truthful. This message is vital when the very circumstances of each place are surrounded by so much dynamic change, climatically, humanly and in perception.’ (Domicelj, 2009, p. 151)

In the same way that international charters have slowly but gradually accepted the concept of diversity (while departing from a strong post-war feeling of international proudness and truthfulness to be disclosed), the idea of authenticity can be traced back to a similar development. Jukka Jokilehto critiques the concept from eighteenth century onwards, while drawing from the earliest approaches to the most recent contributions.

Domicelji describes how Jokilehto starts by identifying the late eighteenth century perspective in the words of philosopher Gottfried Herder, who called upon an ideal creative unity between past, present and future. This view clearly reflects the cultural background of the Enlightenment Period, and although he still fostered the idea of personal individuality in the creative process, this perspective was still much influenced by the strong presence of Idealism in German philosophy.

This line of thought, supported by strong philosophical roots, is fundamental in understanding the conservation approaches that arose in the nineteenth century, according to which a given truth had to be restored on account of an ideal of image and form, notwithstanding cultural differences. These were stressed in the perspective of Austrian art historian Alois Riegl, who published the first comprehensive and philosophically based interpretation of heritage care (Riegl, 1903), Riegl introduced five fundamental categories of value that allow the development of a more layered and complex discourse on the significance attributed to a place (historical value, artistic value, age value, use value and newness value). In his work, Riegl shifts from the concept of reproducing stylistic features to the creation of new identities, which could also be authentic and original. As Miles Glendinning describes:

‘For Riegl, every monument was a pantheistic work of nature; natural monuments and cultural monuments were part of the same phenomenon. Not only was *Alterswert* [the age value] not concerned with any individual monument; it was not really concerned with the built substance or the facts of heritage at all. ... Around this recognition, he argued, one could build a new, universal, pantheistic conservation philosophy of *Menschheitsgefühl* (human sentiment).’ (Glendinning, *The Conservation Movement: A History of Architectural Preservation : Antiquity to Modernity.*, 2013, p. 142)

The application of Riegl’s values in the identification of cultural significance is of major importance, as it has encouraged a rethinking of contemporary heritage practice. In particular, in the 1980s, German heritage expert Gottfried Kiesow has reformulated the above values, adding the image of a place and questioning, but keeping in the list, the age

value. In Kiesow's perspective, the consideration of the identity of the monument becomes the criteria in the evaluation of the success of the preservation action.

As illustrated in an essay by art historian Petr Kroupa (Kroupa, 2007), Gottfried Kiesow outlines potential cases that identify the importance of considering the interaction amongst different values in order to devise the role of identity. He demonstrates that, in the case of revival, there may be no identity in between the existing monument and its imitation. This is also true in the post-damage reconstruction, where the loss of historic and age value often leads to an identity crisis of the monument.

The literature demonstrates that, through the centuries, there have been various attempts to identify the combination of values that would best fit heritage preservation criteria. This is critical not only for planning purposes, but for the understanding of contextual character in the decision making process.

Since these values can be very broad, and their interrelations quite complex, Randall Mason, Professor of Historic Preservation from the University of Pennsylvania, proposes instead the grouping of heritage value typologies, as devised by various scholars and organisations throughout the twentieth century. Mason observes that:

'The typology suggested in English Heritage's recent paper on sustainability is perhaps the most comprehensive and balanced. This breakdown is well oriented to conservation practice because the value categories focus on how heritage is used and valued (contingently, and by people other than elites and experts), whereas many other typologies resonate more with connoisseurship and professional values and are strongly influenced by the notion of heritage's intrinsic value.' (Mason, 2002, p. 10)

From this observation, he further analyses the diverse range of heritage values, and suggests dividing them into two macro-groups: Socio-cultural and economic. The former category includes values that intermingle with each other (historical, cultural/symbolic, social, spiritual, aesthetic), whereas the latter presents distinctive categories exclusive to one another (use, non-use). Despite the diversity that this subdivision highlights, Mason notes that this subdivision not only exemplifies how values are both socially and spatially

constructed, thus supporting building up a value-laden framework: it also directs to the concept of intrinsic argument, which presumes that some original character, present from the start, therefore historical, witnesses and proves authenticity of material.

### 3.3 Key Charters and Conventions

#### **From the sense of national unity...**

In the post-war era, the need for a unified approach to socio-cultural and political issues was a major tool for ensuring long lasting peace and collaboration among the different nations, This approach also influenced theoretical thinking in conservation.

During this era, the principle of heritage protection had already been established, first with the institution of the SPAB in 1877, and then internationally formalised through the Athens Charter in 1931, adopted at the First International Congress of Architects and Technicians of Historic Monuments. Being the first charter of its kind, this is claimed to have prompted an evident approach of indoctrination in the field, as opposed to the previous preservation system, which was instead ‘... rhizomatic, sending flows of meaning’ (Wells, 2007, p. 3).

However, it was still not as structured and defined as some earlier documents. The Athens Charter, whose main author is thought to be Italian architect Camillo Boito, called upon the importance of safeguarding national historical monuments as evidence of each country’s civilisation. Despite the slightly nationalist feeling, showing evidence of the spirit of the *époque*, the idea of not altering the fabric through falsification or artistic reproduction (i.e. of the missing parts) was clearly expressed, and carried through to the principles found in the Venice Charter in 1964.

Drawn up at the Second International Congress, the Venice Charter inherited the perspective of its predecessor, although particular stress shifted from the notion of civilisation to the notion of culture, from the monument as expression of national character to the monument as witness of historic evidence. Not only does Romantic Nationalism start to fade, allowing for a common ground of action as aimed with the establishment of UNESCO, but a growing concern for philosophical implications arises, while it is claimed that restoration: ‘... must stop at the point where conjecture begins.’ (ICOMOS, 1964, art.9)

This line of thought can also be explained with the unsettling climate generated by the scientific method and its epistemological uncertainties, whose ground of validity claimed for further exploration and assessment. In the case of conservation, this translates into defining some degree of authenticity that could be as objective as possible. Heritage was being considered as a document, whose evidence would only be able to validate assumptions and models, and come close to a given truth. The recommendations of the Venice Charter, however, led to the founding of ICOMOS, who declared its commitment to promote

‘ ... The theory, methodology and technology applied to the conservation, protection and promotion of the worth of monuments and historic areas.’ (Bell, D., 1997, p. 4)

Shortly after the Venice Charter, conservation theories start to diverge, leading to the Burra Charter fifteen years later (ICOMOS Australia, 1979). The shift of theories is subtle, but particularly relevant in terms of methodology. In this regard, Wells observes that the excess of positivism and reliance on a deductive approach in the Venice Charter has led to what he defines as ‘ ... a hermeneutical truth of authenticity’ (Wells, 2007, p. 7).

With Well’s perspective, it is possible to recognise that the Burra Charter clearly set the beginning of epistemic uncertainty in the field, and soon promoted support to the variety of cultural expressions and the recognition of their significance.

### **... to one of cultural diversity**

On the background of the post-empiricist philosophy of science, the relativity of theories advocated by philosopher Paul Feyerabend (Feyerabend, 1975) find fertile ground on theoretical pluralism. According to the philosopher, only this approach is capable of aiding theoretical progression in any field of knowledge, although with the risk of falling into a dimension of questionable coherence of non-compatible ideologies (Halliday, 1990).

In parallel to the dissemination of respect for cultural identities, as found in UNESCO’s Declaration of Principles of International Cultural Co-operation (UNESCO, 1966), the Burra Charter represents, in the conservation field, the beginning of cultural relativism. Whilst



recognising that the significance of a place is ‘... embodied in its fabric, setting and context’ (ICOMOS Australia, 1979, art.1), the document acknowledges the plurality of values, including aesthetic, historic, scientific and social characters altogether.

Cultural pluralism confers particular relevance on intangible criteria and draws back to the concept of authenticity. As Dezzi Bardeschi observed in the Florence conference on ‘Values and Criteria in Heritage Preservation’ (Dezzi Bardeschi, 2007), the term “authenticity” derives from the Greek “autos” = from itself, hinting at the physical identification of intangible signs. However, authenticity still remains a temporal variable, and features a dynamic and modifiable character. In Dezzi Bardeschi’s essay, Benjamin’s own definition of authenticity is reported in the original language used by the philosopher (French) as it is said to best describe the nature of the concept regardless of the translations that have been given afterwards:

‘The authenticity of an object implies all that this can transmit, to future users, of its original state: its duration in time, as well as what it transmits to us, both lie in its materiality. However, this is put again in question by the concept of reproduction, where the physical dimension is being withdrawn in the process. For sure the witness of reproduction can still transmit consistency with the original object to some degree, but it loses authority and the unique importance of the original object.’<sup>i</sup> (Dezzi Bardeschi 2007)

In other words, the intangible character of heritage is culturally embedded. Hence, this is to be considered in relation to the tangible social expressions of a place.

While the Burra Charter introduced relativism, the Nara Document on Authenticity (World Heritage Committee, 1994) has sanctioned an important step in the recognition of cultural

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<sup>i</sup> Translated from French by the author of this thesis. In the original text: ‘L’authenticité d’une chose intègre tout ce qu’elle comporte de transmissible de par son origine, sa durée matérielle, comme son témoignage, reposant sur la matérialité. Elle se voit remis en question par la reproduction, d’où toute matérialité s’est retirée. Sans doute seul ce témoignage est-il atteint, mais en lui est perdue l’autorité de la chose et son poids traditionnel.’

and heritage diversity. In here, the semantic boundaries seem to enlarge and steer towards inclusion and diversification.

As Jukka Jokilehto reports in his foreword to the ICCROM working group document on *Heritage and Society* (Jokilehto, 2005), the complexity of culture had already been highlighted much before Nara, and within different fields of studies. Jokilehto explains how anthropologist Edward Burnett Tylor's, back in late nineteenth century, had shown a commitment to understanding the multiple and non-tangible implications of culture, whilst affirming that:

‘Culture is that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society.’ (Tylor, 1871, p. 1)

With the development of anthropological science in the early 1950s, this term is described as deeply embedded in human behaviour. As the human dimension, found in social, cultural and political activities, is still subject to that ‘hic et nunc’ expressed by Walter Benjamin, historical assets are also considered of cultural relevance, and become intertwined with time and space. Benjamin defines authenticity by the spatial and temporal criteria of the “hic et nunc”, and differentiates it from the meaning of originality. Benjamin goes on to explain that:

‘The most perfect reproduction will always be lacking some component: the ‘hic et nunc’ of the work of art –the uniqueness of its existence in the place where this belongs to.’ ii (Boissière, 2012)

The impossibility of reproducing works of art reflects some of the most relevant and enlightening early theoretical thinking on the issue of authenticity. Also, it pursues an

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ii Translated from French by the author of this thesis. In the original text: ‘À la plus parfaite reproduction il manquera toujours une chose: le hic et nunc de l'oeuvre d'art - l'unicité de son existence au lieu où elle se trouve.’

alternative route by which the fundamental element to look for in an artefact is the intangible significance underlying its spatial (*hic*) and temporal (*nunc*) dimension, which is indeed supposed to inspire viable strategies of conservation.

### **The identification of heritage authenticity and cultural significance**

The criteria for assessing cultural significance are still not clearly defined. There is a strong need to support further in-depth study of the principles of authenticity, as gaps in its conceptualization are clearly visible, making their application in operational terms quite difficult.

The intrinsic nature of authenticity makes it a variable that cannot be underpinned through formal criteria. Although not entirely tangible, it has been identified as a measurable concept, in particular within the drawing of the Riga Charter in 2000 and the consequent debate over this newly defined concept, which hints at potential operational approaches in the foreseeable future (Stovel, 2001). However, as Zancheti *et al.* recognise:

‘The idea of measurement brings with it difficult problems when applied to practice. It is possible to say that an object is authentic, or partially authentic, but it is almost impossible to evaluate the amount of authenticity in an object, since this assessment is the outcome of a judgment about the truth of the authenticity.’ (Zancheti *et al.*, 2011)

The difficulties in underpinning authenticity by identifying clear criteria are mainly dependent on the variety of types of cultural heritage and contexts. Hence, compatible methodologies of study and assessment need to be found, which are especially true for modernist heritage:

‘Historical contextualization and comparative analysis are vital for the identification of the numerous stylistic typologies and historical themes which characterise this century.’ (Rivera, 2011, p. 46)

When stating that the significance of a place is embodied in its fabric and setting, the Burra Charter sets the basis for a broader perspective, embracing not only a monument-

focussed, but also an environment-aware approach to the subject, consistent with recent concerns for sustainability issues. No doubt this position was enhanced by the previous European Charter of Architectural Heritage proclaimed at the Amsterdam Congress (ICOMOS, 1975), which first mentioned the idea of Integrated Conservation as one focusing on:

‘ ... important monuments, but also on groups of lesser buildings in our old towns, and characteristic villages in their natural or manmade settings’ (Jokilehto, 1986, p. 428)

One of the main factors underlying this shift can be tracked back to the post-war effects on the global economy. Following the widespread rise in the living standards in the 1950s and 1960s, which brought and densification, urban sprawl, and therefore the necessity to revise the existing urban planning system (in some cases affecting heritage assets), concern for the impact of such actions started to rise among the affected countries. As a consequence of this, the Amsterdam Congress is the first relevant attempt, within the heritage conservation field, to approach what we define today as sustainable development, embracing an environment-oriented approach.

There is an increasing tendency to look at a broader perspective in heritage conservation, which goes alongside the late post-war development of philosophies concerning cultural relativism. As cited in the contemporary UNESCO General Conference held in Nairobi in 1976:

‘ ... Historic areas afford down the ages the most tangible evidence of the wealth and diversity of cultural, religious and social activities, and that their safeguarding and integration into the life of contemporary society is a basic factor in town-planning and land development.’ (Petzet, 2009, p. 65)

Consistently with this perspective, it is recognised that the cultural significance of a place may as well be intrinsic in the townscape of a particular geographical area or in its spatial qualities, other than in an individual architectural object. On this matter, and with reference to Goldfinger’s Balfron Tower in East London (Figure 12), architect James Dunnett observes that:

‘It shows a refinement of spatial and social conception and of detailed design derived from his student days in the Paris of the 1920s, that birthplace of modern art, culture and design. With Balfron, Goldfinger was for the first time finally able to realise an idea about housing he had first exhibited at the famous Modern Architecture Conference in Athens in 1933.’ (DeZeen, 2014)

The gradual acknowledgment of this perspective not only represents a modification in the object of study, but also in the approach and therefore methodologies to undertake. Heritage conservation is opening up its aim at the achievement of a compatible re-use of the historical asset, transforming the material intervention on the object into a means to attain re-use and fruition, through cultural self-awareness (Carbonara, 2002b). The act of conservation is considered as a cross-disciplinary activity of protection, enhancement and care. In these terms, the regular re-assessment of cultural, social and environmental premises is essential. From Giovanni Carbonara’s perspective:

‘The act of Conservation looks at the future as opposed to the past: its function is one of education and memory for future generations to come: it concerns, in fact, not the mere fulfilling of historical studies and research, but the education of each citizen to a certain quality of life, in the spiritual and tangible sense.’<sup>iii</sup> (Carbonara, 2002b, p. 3)

In 2006, the UK joined other countries to sign the European Landscape Convention (Council of Europe, 2000), which reformulated an integrated approach to the different disciplines involved in landscape protection, whilst anticipating the concept of sustainable development brought up by the Faro Convention (Council of Europe, 2005).

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<sup>iii</sup> Translated from Italian by the author of this thesis. In the original text: ‘Il restauro, infatti, guarda al futuro e non al passato, neppure è riservato al godimento di pochi eletti cultori dell’antico. Esso ha funzioni educative e di memoria, per le future generazioni, per i giovani; riguarda, in fondo, non il compiacimento per gli studi in sé ma la formazione d’ogni cittadino e la sua qualità di vita, intesa nel senso spirituale e materiale più esteso.’

It is essential to understand that there are two different ranges of values: values related to architectural history, for example, which seem to remain the cornerstone of our legislation; and values expressed by the community itself, which could be added to the current structure as an extra set of criteria, or alternatively incorporated into the existing one in order to avoid the loss of a single system, as suggested by Hudson and James (Hudson & James, 2007, p. 261).

Architectural scholars argue that one of the greatest dilemmas within current conservation practice is in preserving the cultural dimension, more than managing change (Petzet, 2009, p. 9). Other critics, instead, prefer discussing the shift from control-based to dynamic approaches of change. In defence of the preservation perspective, Petzet introduces the ICOMOS guidelines on *International Principles of Preservation*, stating that:

‘In the debate about the basic tenets of conservation / preservation we sometimes overlook ... the fact that generally accepted international principles do indeed exist, regardless of whether or not the goals of preservation can be made to prevail within the framework of differing provisions for the protection of cultural property.’ (Petzet, 2009, p. 9)

Setting overarching principles with the purpose of giving solid theoretical ground to conservation practice means, first of all, taking position on the approach to architectural and cultural legacy: Shall we therefore, as Petzet suggests, proceed by ‘... preserving - not altering or destroying - ‘ (Petzet, 2009, p. 101) or instead depart from the recognition that we need to manage change as an unavoidable process that the our built environment will eventually go through? Although it seems possible to have a balance between the two standpoints, where change becomes part of preserving cultural legacy (i.e., the cultural authenticity of a place and not just its physical integrity) Michael Petzet rejects any tolerance for change. In the context of World Heritage listing, he instead proposes that ‘We should stick to our fundamental principles and fight for cultural heritage in a dramatically changing world.’ (Petzet, 2009, p. 9)

In the field of national and local listing, however, the literature takes a slightly different position, which has been increasingly discussed in the last few decades. This position is

predicted upon the recognition of intangible values, the growing significance of cultural landscapes and the appointment of authenticity as dynamic character of a place. In fact, English Heritage is currently undergoing:

‘ ... a shift from control-based approaches to conservation, towards those based on dynamic management of change. Each of these trends presents opportunities and challenges in framing of legislation and policy.’ (Hudson & James, 2007, p. 253)

Hudson and James recognise that this approach stems from a natural development of the principles highlighted in the Burra Charter, which was constituted an early attempt to integrate heritage conservation with sustainable criteria, later developed in the Faro Convention in 2005. The concept of cultural significance has come to embrace a wide variety of heritage values, to be found both in its tangible and intangible features, and to be assessed by criteria of authenticity and integrity. Cultural Significance can therefore be identified in the:

‘ ... aesthetic, historic, scientific, social and/or spiritual value for past, present or future generations. Cultural significance is embodied in the heritage site itself, its setting, fabric, use, associations, meanings, records, related sites and related objects. Heritage sites may have a range of significances for different individuals or groups.’ (Ministerio de Cultura, 2011, p. 34)

### **Conserving the modern: material integrity and cultural authenticity**

The issue of preserving the cultural significance of a place has witnessed the development of a controversial debate in the case of modernist heritage conservation. Here, the role of materials and technologies shifts the definition we normally apply to authenticity and expands its boundaries onto different levels of legitimacy, by which the modern legacy can be interpreted anew:

‘The question that generated debate was whether accepted conservation norms could be applied to places representing the Modern Age, specifically with respect to material

conservation. Could authentic fabric be conserved without compromising design intent, which had been driven by new social ideals?’ (MacDonald, 1998, p. 8)

One of the issues highlighted here is that the theoretical, hence practical gap, lies in the role of technology, whose interpretation follows similar rules to urban semiology. The discipline, thoroughly explored by Roland Barthes in 1967 through the essay *Semiology and the urban* (Leach, 1997) is investigated during his later, poststructuralist period. This represents the study of meaning generated by signs, symbol and their social connotations, and can be easily transferred and applied to the reading of architectural language.

The language of the city is one made of both individual elements that remain stable, the signifiers, and of transient signifieds, subject to critical, constructive interpretation. In such perspective lies Barthes’s main critique to the functionalist study of the city, which is that the city is best interpreted by different readings, since the urban signifieds can easily participate in an infinite chain of signification.

With this approach in mind, it is hard not to think of how the standpoint towards conserving modernist heritage and townscapes unfolds differently in comparison to traditional approaches. Dealing with similar dilemmas, a monographic publication by do.co.mo.mo.’s Technology Committee (Wedeburn *et al.*, 2004) highlights a series of interesting topics. In fact, it does not focus, as one might expect, on general principles of science, but shifts its attention on case-specific technology, in order to target:

‘ ... the sensations evoked in the interrogation between people and buildings ... The aim of the seminar is to characterise the building science of the case study where it could be grasped empirically and individually and at the same time be comprehended as a path of the general progress of theory.’ (Wedeburn *et al.*, 2004, p. 5)

Unlike traditional construction techniques, which were meant to be durable and could be repaired when and where necessary as part of the maintenance programme, modernist materials and techniques require a different approach. This is particularly true with the increased demand for new assets in the 1970s, when many buildings started to perform



poorly, especially within those highly experimental structures such as curtain walling systems and glazing facades.

The peculiarity and impact of this technology on the current architectural and conservation critique is well highlighted by Stephen Kelley, who recognises that:

‘Curtain Wall technology will continue to evolve, resulting in curtain walls that are lighter and economical: new materials will be introduced and used in conjunction with each other. This ever-increasing sophistication, however, will present new challenges in the repair and preservation of curtain walls as the present buildings that they enclose become our children’s heritage.’ (Kelley, 2001)

Kelley’s simple observation demonstrates the acceptance of an intrinsic dynamic of change within twentieth century structures that is hard to leave behind in the consideration of current approaches. The aesthetics itself of Machine Age buildings, which have become our most recent heritage, accounts for a different significance to be attributed to such architectural elements, and therefore for a newly inspired interpretation of their semiotic meaning.

This coincided with the increasing concern for the difficult economic climate during the Oil Crisis, as well as with the raised attention on environmental issues. The straight consequence of this was that the need for different approaches in heritage conservation began to be felt internationally, and had to cope first with assets from the Industrial Era, and now increasingly more with those from the twentieth century.

### 3.4 The Zonnestraal Sanatorium: a social experiment

Figure 13 | The Dresselhuys Pavilion.

(Credits: J. Linders 20-?. Source:  
<https://www.wmf.org>)

Zonnestraal Sanatorium. Hilversum  
(Netherlands).

Built: 1928-1931

Architect:

Jan Duiker (1890-1935)

Included in the UNESCO WH tentative list in  
2011 (proposed for criteria ii, iv, vi)

Ownership: Zonnestraal Estate



#### History

The Zonnestraal Sanatorium building (literally: ‘Sunray’ Sanatorium) was commissioned by the Amsterdam Workers Union in 1924, and expected to be a short-term aftercare colony for tuberculosis patients. The budget was extremely low and the depreciation period that had been set for it was fifty years. Despite these strict financial constraints, every effort was made in order to follow the design concept of a place that would give its patients plenty of light and fresh air to aid their recovery.

The combination of low budget and short-term use requirements positively inspired the architects approach, as he attempted to tailor his design to the tight constraints. On the other hand, the same approach also had a great impact on the decisions made for its restoration, which will be highlighted in this section.

The Sanatorium was in operation from 1928 to 1950. In 1957 it was converted into a general hospital, after which a number of new annexes were added to it, until the complex was left abandoned in the 1970s. With the more demanding need of the post-war new use, the oldest pavilion (Ter Meulen Pavilion, built 1928) underwent a thorough but damaging refurbishment in the late 1950s, and is today unrecognisable compared to the original. Also, due to numerous extensions being added in the second half of the twentieth century, the clarity of the original layout was severely compromised and represents a challenge in dealing with one of the most significant legacies of Dutch architectural and social history.

Although restoration plans began in the early 1980s, works only started on the main building (1928) in 2001, to be then followed in 2008 with restoration works on the Dressalhuis Pavilion, built in 1931 (Figure 13, after intervention, and Figure 14, before). This building had not experienced any thorough refurbishment as the other units did, but was also in a state of serious decay because of abandonment and vandalism.



Figure 14 | The Dressalhuis Pavilion before intervention in 2008

(Credits: R. Wielinga 20-?. Source: <https://www.wmf.org>)

The first research carried out for this purpose in 1982 showed that both the interior and the exterior of the pavilion were still largely original, except for the terrazzo floorings and some other minor changes.

It was only in 2003, upon the completion of works on the main building, that the centre was re-opened as a multi-purpose health care centre, which includes conference facilities and a café. Today, there are still parts of the complex that await refurbishment and restoration, such as the Ter Meulen Pavilion, whose decay is mainly attributed to the refurbishment works of the late 1950s. These works had been carried out with no long-term vision and only to address immediate needs.

### Description

Built in the same years as the Van Nelle Factory, the Sanatorium represents another one of the finest examples of the Dutch Modern Movement. However, the idea on which the two buildings have been conceived differ in a few points, as highlighted by Wessel De Jonge himself, who has been in charge of both restoration projects:

‘Compared with Zonnestraal, the Van Nelle factory is much more rational in design ... It is understandable that despite the external similarities between the two buildings there are great differences due to the distinction between 'functionalism' and 'rationalism.' (De Jonge, 2004a, p. 3)

The desire for optimal construction is to be identified, in Duiker’s words, in the concept of ‘spiritual economy’ that ‘... leads to the ultimate construction, depending on the applied material, and develops towards the immaterial, the spiritual’<sup>iv</sup> (Duiker, 1932)

With the term spiritual economy, Duiker refers here to the design process between engineering knowledge and architecture. The aim of the process is to achieve the finest construction as well as optimisation in the choice of technologies and materials.

The complex was organized around the central ‘*Hoofdgebouw*’, the administration and communal facilities block, built in 1928. Two individual, two-storey buildings were added

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<sup>iv</sup> As translated from Dutch by Wessel De Jonge (De Jonge, 1998, p. 151)

by its side, the Ter Meuler Pavilion in the same year (1928) and the Dresselhuys Pavilion shortly after (1931). The complex also comprises the De Koepel block (1931), a servants' accommodation that was recently restored by students from the Delft University of Technology, and other workshops as well as cabins for individual use.

### **Significance**

The Sanatorium is nowadays regarded as an unrivalled symbol of Dutch social democracy, which was expressed through a 'slightly left wing social experiment' (Buxton, 2013). This social character comes in addition to its architectural and historical relevance, and increases its legacy, as well as the importance of devising a careful restoration and maintenance of the whole complex. In fact, the cultural imperative posed by the Modern Movement played a fundamental part, and translated in this case into a structure that would be beneficial to the diamond workers in Hilversum, representing a recognisable landmark of social history.

The building and its own specific use were linked to the functional life expectancy of the Sanatorium, whose structural life duration was, in turn, adjusted accordingly. This led to major challenges in the restoration project, as it became fundamental to find a solution to the temporariness of the original design, both in terms of spatial organisation and technical and structural detailing, including a desired improvement of the very low energy performance.

'Distress is common to the minimalist concrete work in many modern buildings and poses great problems that are now being mastered in technical terms. At the same time, conceptual questions about longstanding principles of material and design authenticity that arise when dealing with such buildings are still under forceful debate among the profession.' (De Jonge, 1998, p. 149)

## Management

The decision to restore the building was taken in the early 1980s, and carried out by architects Jubert-Jan Henket and Wessel De Jonge. The main concept that has been carried forward, and still influences most of the management and maintenance-related choices on the building and its upkeep, has been not to destroy the original idea of transitoriness. This notionally contrasts advanced restoration technology that would otherwise give a look of newness to restored assets, which in the case of traditional architecture may be accepted due to the stark contrast generated by the diversity of historical layers.

When it comes to dealing with modernist heritage though, conveying the designers' way of thinking is of particular importance. However,

‘At the same time it goes without saying that the preparation of a restoration concept for a throw-away building is a paradox; the team had to find a delicate balance between conservation and change, on both a conceptual and a material level.’ (De Jonge & Henket, 2010, p. 179)

The so-called conceptual restoration was drawn up using a decision-support model that explored the consequences for the building if it were to undergo restorations at different levels of intervention. This highlighted the importance of getting the right balance between the original quality and performance, and the actual intervention costs and future maintenance.

Not only was the building designed for short term needs, therefore calling for a difficult and well-thought out conservation approach, but the Zonnestraal was also expected to be nominated for World Heritage Listing, which would mean a shift from its original use to a monument place. The actual nomination never occurred, and the building has been on the tentative list since 2011, when it was resubmitted with specific emphasis being put on criterion iv:

‘Zonnestraal transcends the ideological and aesthetic character of the 'Nieuwe Bouwen' school of architecture. The complex combines features testifying to Dutch social and political history, and to the technology and medical science of its day.’ (UNESCO, 2011)

Careful functional considerations therefore had to be taken into account, in order for new uses to both benefit any potential monumental quality of the building, but also to allow for the economic feasibility of the project. De Jonge and Henket argue that this perspective reversed Louis Sullivan's principle, which had become the Manifesto of Modernism, and turned it into a 'function follows form' imperative. In other words, the adaptive reuse of the Sanatorium was to be conceived within a programme that would be both compatible with the original state of the buildings and also with their structural and physical performance.

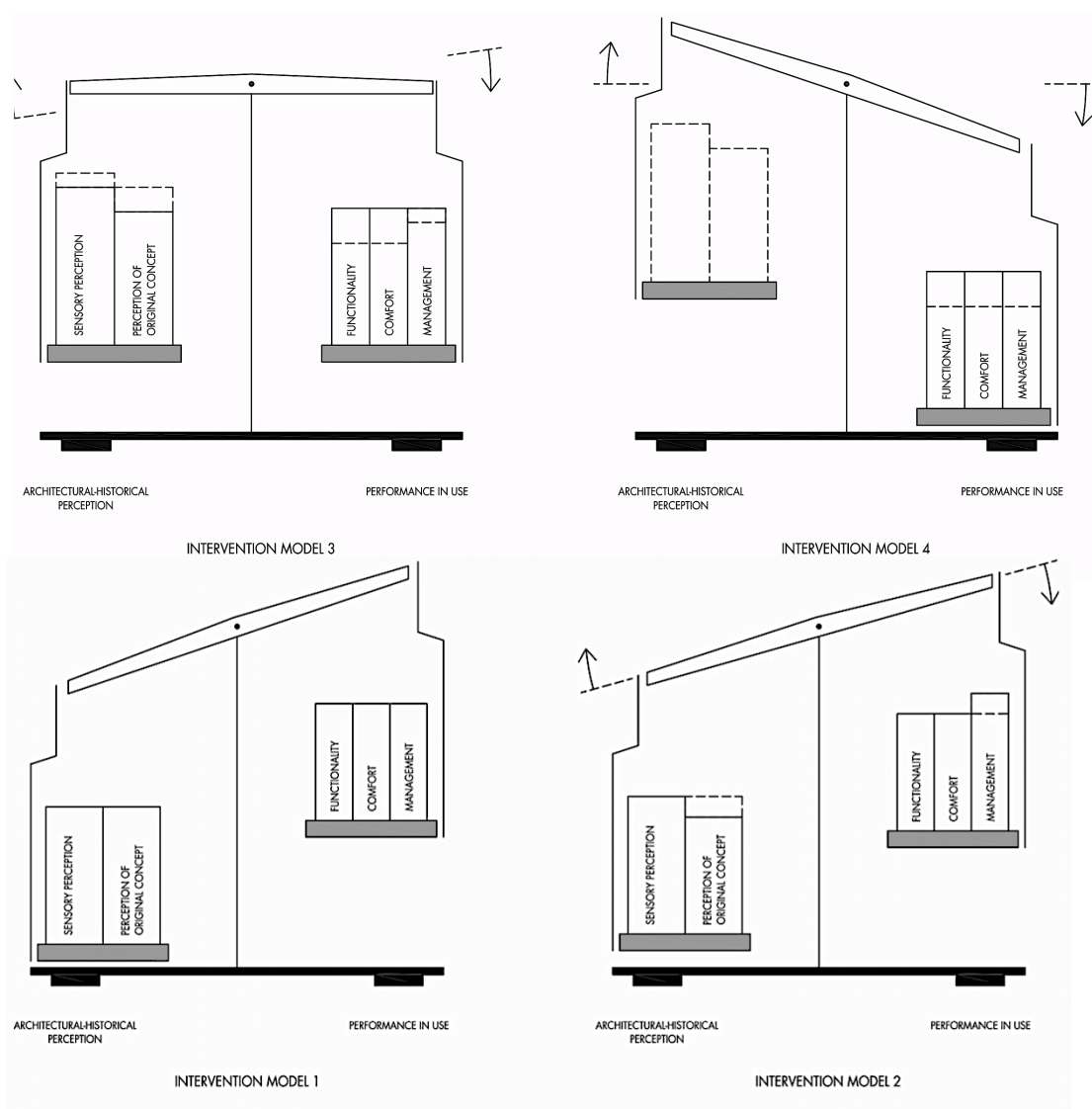


Figure 15 | The four theoretical levels of intervention on the Zonnestraal Sanatorium (Source: De Jonge & Henket 2010, p.181)

Given the intention of keeping consistency with the original concept of the complex and the units showing different conditions at the time of restoration, each block was addressed differently. However, the same line of thought was followed throughout, while supporting the idea of drawing back to a unity in terms of architectural quality and conveying the sense of place that had long been lost.

Because of its condition, the Dresselhuys Pavilion best highlights the approach of conceptual restoration, as it still contains most of the original features. On this ground, the material authenticity of the building has been respected whilst not compromising the design integrity.

De Jonge exemplifies the different approaches that can be taken towards interventions in conservation. By the identification of four theoretical levels of practice (Figure 15), each carrying a different balance between historical value and use value, there are several ways of achieving the desired equilibrium, as well as ways of giving more importance to the building perception as opposed to its performance in use. Through a careful analysis it is concluded how the preference towards one or the other model may well be inspired by the individual situation of the building. In this case, each unit of the Zonnestraal complex is treated separately as different degrees of intervention have been applied throughout the decades.

‘Model II is the guiding principle for the restoration of the Dresselhuys Pavilion. It allows minor, imperceptible technical improvements for the benefit of sustainable use, such as easing the thermal bridge effects by inserting thin strips of insulating material underneath the plaster. The approach to the main building and the first three workshops veers more towards model III, making the limited use of, for example, special insulating glass acceptable.’ (De Jonge & Henket, 2010, p. 182)

The existence of different models of approach is also consistent with architecture being a non-traditional academic discipline, lacking a clearly identifiable body of knowledge. It is instead in continuous mutation, influenced by variables of a cross-disciplinary nature. On this ground,



‘Authenticity, thus, resides as much in the generating principles and functions to be fulfilled as in the fabric, factors which distinguish architecture as a productive art.’  
(Cunningham, 1998, p. 7)

Cunningham clearly exemplifies why case study led research is a valid tool for investigating modernist heritage conservation, where the variables largely depend on the possibility of digging out the original design concept while dealing with often short-lived materials. Also, the idea of authenticity shifts to a much more stratified concept in the context of industrial technologies. This reveals that the authenticity of the materials themselves is not the primary concern and, where it is impossible to maintain the physical presence of some of the building components, the significance will not be lost if the authenticity of form, detail, and spatial quality is retained.

## 4 PLANNED and INTEGRATED CONSERVATION

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Figure 16 | Park Hill Complex in 2013, designed by Jack Lynn and Ivor Smith (1961) and refurbished by regeneration company Urban Splash.

(Author: Gaia Zamburlini 2013)

‘Architecture can only be sustained today as a critical practice if it assumes an *arrière-garde* position, that is to say, one which distances itself equally from the Enlightenment myth of progress and from a reactionary, unrealistic impulse to return to the architectonic forms of the preindustrial past.’ (Frampton, 1983)

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## 4.1 Definition

### The origins of the term in the international debate

The term 'Integrated Conservation' is internationally identifiable in the Amsterdam Declaration (ICOMOS, 1975), where it was discussed that, on the basis of the previous Venice Charter, the protection of heritage needs to be integrated within a management plan that takes into account all the socio-economic aspects of the community. The concept of Integrated Conservation was then re-elaborated and adopted in the 1980s in the Granada Convention (1985) and in the *Charter for the Conservation of Historic Towns*, adopted in Washington a couple of years later (1987).

The Granada Convention specifically indicates the need for implementing conservation policies including the protection of the architectural heritage as an essential town and country planning objective. The Convention also advocates, whenever possible, the conservation and use of certain buildings (Council of Europe, 1985, art. 10).

The idea of Integrated Conservation is an underlying concept of what is recognised as the fundamental document most conservation principles still abide to: the Venice Charter. Over the course of the years, since the early 1970s, appeals for revisions have been made, aimed at updating the Charter to the most recent issues arising with the upcoming needs of post-war reconstruction.

A key figure in the first of these attempts was Raymond Lemaire, General Secretary of ICOMOS, as the key protagonist. His effort culminates in a revision document dated 1978, after he succeeded to friend and colleague Piero Gazzola as President of ICOMOS (1975). His draft for a revised Charter was revised by Jean Sonnier, put forward at the General Assembly in Moscow in the same year, and rejected for being 'more prolix and obscure than the Charter itself' (Houbart, 2014, p. 235).

Although not achieving the intended result, Lemaire's attempt to revise former principles highlights the concern surrounding this project. It is an important factor to point out for the purpose of this thesis, and for better understanding the gradual formulation of the

concept of Integrated Conservation. Lemaire's revisions focused upon the recognition of a system of principles that was not as clear as it should have been, and that was raising doubts and generating misunderstandings. The concern towards some of the aspects of the Venice Charter, first manifested by Lemaire and Gazzola in the early 1970s, was that the document was unable to address the contemporary challenges of preservation.

Notwithstanding this, the Venice Charter (officially drawn up by Piero Gazzola, Chairman of the Committee, and architect-historian Roberto Pane) still remains a milestone document. It recognised the importance of an active plan of protection that is the basis of the most recent development of 'Integrated Conservation', as formulated in the Amsterdam Declaration. The earliest reference to such perspective though, is to be found in the contributions by Giulio Carlo Argan on the importance of a critical and scientific approach to the work of art (Argan, 1938). Likewise, Argan's work is considered a milestone in the preservation philosophy that also engages with the idea of integration in the urban context, as demonstrated by his national involvement with the post-war protection of historical urban centres in Italy.

At the time, there was a need for legislative implementation, as well as an increasing integration with the emerging idea of preventive strategies and sustainable development. With the concept of sustainability being gradually introduced, the idea of Integrated Conservation seems to already suggest a wide-embracing perspective onto the built heritage, thus advocating that promotion and cultural awareness are key contributors to well thought-out intervention programmes on the existing heritage. The defined integrated practice requires the coordination of all stages, from the drawing up of development plans to the procedures for authorising work.

Adopting an integrated approach in conservation encourages activities concerned with promoting programmes for the restoration and maintenance of architectural heritage. The implementation of viable, alternative uses for a building is a key factor in the urban and rural enhancement of architectural heritage, and should always be encouraged.

The degree of acceptance of an integrated practice still varies from country to country. Despite this, in the decade following the Granada Convention, relevant implementation

strategies and management tools have been undertaken, upon the realisation that ‘... at the present time there remains a need to monitor compliance with the existing Granada Convention and to assist national governments in developing procedures that satisfy its articles.’ (Pickard, 2002, p. 363)

It is interesting to note that the enlargement of perspectives considers not only the individual monument on its own, but also the combined notion of cultural landscape. This concept points to the dynamic relationship between nature and men:

‘The term "cultural landscape" embraces a diversity of manifestations of the interaction between humankind and its natural environment.’ (Jokilehto, 2005, pp. 22, art. 37)

What we can define as a large-scale perspective is therefore an attempt to understand matters within their own changing circumstances, rather than a lack of attention for localism. On a spatial level of analysis, this translates into a shift from the monument to the territory, generating an environment-focussed perspective.

On this basis, we recognise that the main concern nowadays is carried forward into two directions: one is the scale of action that the legislative system needs to focus on in order to achieve a collective but at the same time local-oriented action; the other is about the nature of conservation itself, lacking objectivity since it is affected by cultural changes, which generate bias in perspectives.

Other definitions identify the concept of Integrated Conservation, policy-wise as well as theoretically. These have been matched with the principles behind maintenance programmes, which have then brought to define management strategies within a planned and integrated conservation.

### **A preventive practice**

One of the most insightful definitions derives from the concept of ‘Integrated Conservation’ as a preventive action that precedes the actual intervention on the artefact. Before any intervention, it is therefore important to fully understand the asset under

examination, in order for it to be viably preserved for as long as possible with the least physical alteration:

‘Conservation is the mix of urban, social, economic, financial, functional and environmental interventions that are supposed to guarantee its protection; consistently with this, follows the concept of Integrated Conservation, as recently elaborated within the European context. This is about what others would refer to as “prevention” and “preservation”, as advocated by Brandi when referring to that type of conservation that does not interfere with the mere material aspect of the object.’<sup>i</sup> (Carbonara, 2002a)

In terms of disciplinary boundaries, as already anticipated in the Granada Convention, Carbonara goes on to explain that Integrated Conservation needs to be put forward as the main objective of urban planning, and implemented in the intents of heritage conservation, which should not be dealt with as an individual and independent issue.

In the light of a debate that develops over the multi-faceted definitions of conservation, it is interesting to compare the attitudes of conservation critics throughout the twentieth century, as much as it is useful to gain a thorough understanding of the succession of different Charters and conventions. This helps us understand how the principles of integration and planning can gradually and now fully be implemented in the current context, both on a theoretical and a policy-related basis.

In the inter-war period conservation was regarded as a:

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<sup>i</sup> Translated from Italian by the author of this thesis. In the original text: ‘Conservazione sarebbe l'insieme di provvedimenti urbanistici, sociali, economici, finanziari, funzionali ed ecologico-ambientali che dovrebbero garantire alla radice la tutela; da qui, coerentemente, il concetto, elaborato in ambito europeo, di conservazione integrata. Si tratta, con differenti sfumature, di ciò che altri avevano definito prevenzione, preservazione (e infatti in inglese suona 'preservation') e Cesare Brandi 'restauro preventivo' (quel particolare tipo di restauro che, quasi sfuggendo al primo assioma della sua Teoria, non tocca la materia dell'opera).’

‘... rigorously scientific activity: more specifically, one that is philologically inspired, and that is aimed to dig out the original message carried over by the artefact. Also, it is meant to conceal any alteration occurred over time, which prevents the truthful message from being transmitted.’ ii (Argan, 1938, p. 133)

A few decades later, upon the adoption of the Venice Charter, an increased respect for the different historical phases was shown, pointing at the frail system upon which the early twentieth century idea of a single code of values thrived. Still, stress is put on material authenticity and unity as the main target of the action of conservation, As Paul Philippot noted:

‘Any act of conservation must reveal original materials in their current state. Hence, the intervention on the existing becomes, from a critical perspective, the search for balance, one that is closest and most consistent with the original unity of the building.’ iii (Philippot, 1966, pp. 139-140)

With the creation of the Burra Charter, and the recognition of cultural significance as a key element for the interpretation of an object in its context, the definition of conservation activities embraces a broader perspective of the disciplines involved:

‘Conservation represents both elements of history and technique: heritage is, at the same time, subject to

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ii Translated from Italian by the author of this thesis. In the original text: ‘Il restauro ... è oggi concordemente considerato come attività rigorosamente scientifica e precisamente come indagine filologica diretta a ritrovare e rimettere in evidenza il testo originale dell'opera, eliminando alterazioni e sovrapposizioni di ogni genere fino a consentire di quel testo una lettura chiara e storicamente esatta.’

iii ‘Translated from French by the author of this thesis. In the original text: ‘Aucune restauration ne pourra que reveler l etat actuel des matieres originales. (La conservation) devient alors du point de vue critique, la recherche de l’ equilibre actuellement realisable, qui soit le plus fidele a l unite originelle.’

historical-critical judgement, as well as to scientific-technical knowledge.’ iv (Boscarino, 1984)

The above viewpoint is clearly influenced by the coeval philosophies that, by the end of the 1970s, had cast doubt on semiotics issues, widening the meaning of significance to something that had much more to do with a subjective perception of reality. Boscarino’s viewpoint is also strongly influenced by the widespread environmental concern that had started to linger amongst different disciplines since the Oil Crises in the early 1970s. Therefore, it seemed reasonable for conservation to adhere to the common perspective that a more coordinated action had to be taken towards the built environment, while also questioning the traditional attitude towards heritage resources. Since the early post-war era, highly impactful changes to the built and natural environment facilitated the change in attitude when posing the question of significance. Hence, a more holistic practice seemed to be, at that time of uncertainty and cultural changes, the most reliable strategy to take forward.

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iv Translated from Italian by the author of this thesis. In the original text: ‘Il restauro è storia e tecnica contemporaneamente ... Il fare nel restauro è contemporaneamente giudizio storico-critico e sapere tecnico-scientifico e ... in esso sono compresenti gli ambiti umanistici e quelli diagnostico-operativi.’



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## 4.2 Integrated Conservation in context

### The need for heritage planning

Despite the increasing need to devise principle-based strategies to intervene on heritage, and to coordinate the preservation of modernist heritage, it is recognised by Earl that ‘...the conservation of historical structures is not a mechanical activity controlled by formulae’ (Earl, 1997). It is therefore important to understand that the primary need in conservation activities on buildings is first and foremost a need to understand the asset, both pre and post-intervention. It is fundamental, on a case by case basis, to devise a way of examining the life-span and durability level of the interventions proposed, so that maintenance cycles can then be performed when and where necessary, and within the frame of preventive actions.

In the mid-1990s, the basics for heritage planning were defined (Pearson & Sullivan, 1995) by the need for integrating such theoretical thinking into policies and frameworks, so as to provide a sound basis for the political and administrative aspect of conservation. These basic principles are still regarded internationally as valid criteria to be implemented in practice, and support the principles of a planned and integrated conservation as described in the *Italian Encyclopedia of Archaeology* (Carbonara, 2002c). Particularly, they highlight one of the underlying key principles of heritage management and conservation - that the value or significance of a site should determine how it is conserved and managed (Smith L., 2006, p. 92).

Consistent with this line of thought, in one of his academic classes held in Rome in 2002, Carbonara agrees that there is a stronger need for recommendations and directions than there is for policies. Yet, where norms need to be forcibly applied, as in the case of architectural barriers for instance, Carbonara suggests a creative, interpretative way of putting policies into practice, which presumably should lead to an insightful and contextual understanding on a case-by-case basis (Carbonara, 2002b, p. 2).

### **Integrated Conservation of modernist heritage**

In acknowledging the discourse on the conservation of modernist heritage, it is important to cite Sergio Poretti's thought, whose article (Poretti, 2002) is entitled to an 'invisible work of art'. This is because of the nature of architectural legacy, which rejects the traditional perspective of historical criticism that is often applied to traditional heritage. The invisible characteristic to which Poretti refers is the ability to draw back to the original intention of the architect, while exercising a skill that is based on design, historical and philological characteristics, at the same time configuring an elaboration towards new architectural and construction solutions.

In order to face the growing need of involvement with modernist heritage, in 2004 ICOMOS, the official advisory body to UNESCO, formed a specific International Scientific Committee to focus on sites and places built in the twentieth century. This has provided the much sought after theoretical premises for confrontation and dispersion of knowledge, and constitutes the natural development of the MAP20 Initiative, established in 2001, to pre-assess the scope of twentieth century heritage matters. On the footsteps of the do.co.mo.mo.'s Survey from the late 1990s, the MAP20 Initiative sought to estimate the percentage of structures from the twentieth century that are statutorily listed for protection. The benefits of this work are mainly in the fact that '... ICOMOS ISC:C20 will continue to strategically extend and develop the MAP20 Survey work, and to promote the conservation of the significant places therein identified through national committees, special interest groups, and its network of partners internationally.' (MacDonald *et al.*, 2007)

Of particular relevance to this dissertation is how ICOMOS has suggested applying conservation theories and practice to the challenges of modernist heritage. The wide array of literature on the matter recognises that there are contrasting positions regarding the theoretical basis of conservation practice, for which some call for an adoption of the general criteria, whereas others suggest an entirely new set of principles.

The difficulties underlying the specific management of this architectural legacy are found in the misunderstandings of definitions and lack of specification of major concepts such as

authenticity. In addition to this, what is undeniable is the sheer quantity of buildings sites and areas we are gradually becoming familiar with, for which it is extremely difficult to address their heritage value. Furthermore, technical issues arise in terms of materials decay, maintenance and problems such as the presence of asbestos, buildings regulations and functional obsolescence.

The complexity of the topic also arises by the fact that, since its beginning, the discipline of conservation has been enriched with areas of study such as the social and environmental sciences, which have recently proved to be sustainability-oriented. The variety of stakeholders, roles and principles involved is highly stratified, thus enhancing the degree of complexity.

On such basis, a planned and integrated conservation has been indicated as sensible practice towards Heritage, as it fully acknowledges the process of ageing as part of the building's life cycle, encouraging planned strategies of care, rather than cure.

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### 4.3 The Madrid Document (2011)

#### General overview

A key document has been produced in the occasion of the International Conference CAH2011 in Madrid: organised by the Spanish Ministry of Culture in conjunction with the International Scientific Committee for Twentieth Century Heritage ('ISC20C') and the School of Architecture at the Polytechnic University of Madrid, the debate has seen a wide range of different international perspectives on the need for a planned and integrated conservation. In this occasion, twentieth century Heritage has been defined as: '... the youngest cultural heritage in history. It is neither well-known nor greatly valued, and with the exceptions of the famous works of a few masters, not deemed to be worthy of preservation.' (Ministerio de Cultura, 2011, p. 21).

ICOMOS established the criteria for the identification, protection and intervention of twentieth century architectural heritage, as well as all other types of asset that still share common criteria of approach. This has resulted in the Madrid Document as it was presented in the premises of the conference held at Madrid City Council's Palacio de Cibeles (Ministerio de Cultura, 2011, pp. 29-34).

The preface of the proceedings starts with recognising the fundamental charters in heritage conservation. Among these are the Venice Charter in 1964, the do.co.mo.mo. Declaration in 1990, the Nara Document on Authenticity in 1994 and the Burra Charter as revised in 1999. A list of common areas of interest is provided in the introduction to the proceedings, which is also reflected in the structure of the Madrid Document, including:

- Knowledge and Awareness
- Change Management
- Environmental Sustainability
- Interpretation and communication

The aim of the following section is to highlight the most relevant themes that have specifically been discussed in the conference and subsequently summarised in a set of articles within the Madrid Document. For each of these theme, this section of the thesis casts light on the relevant concepts (underlined below each theme) and investigates further the plurality of definitions associated with them over the decades.

This section also examines the development of the theoretical thinking that has occurred alongside cultural changes, contributing to a critical framework within the context of post-war heritage conservation.

### **Theme 1: Identification and recognition of twentieth century architectural heritage**

#### Significance

By definition, 'heritage conservation' is identified in the processes of looking after a building, with the aim of retaining its cultural significance, including aesthetic, historic, scientific, social and/or spiritual values for past, present or future generations. As per the Burra Charter, these values are to be found in the site itself (more specifically, in its setting, fabric, use, associations, meanings, records, related objects). The site may therefore assume a range of significance for different individuals or groups, which contribute to the complexity of heritage.

The concept of cultural significance arises specifically in the post-war era, when the nature of architectural heritage in examination seems to demand a different perspective. It is acknowledged that the traditional concept of monument can hardly be applied in the Modern Era, as the reference to a pre-established set of criteria such as the one of monuments been replaced in favour of new gestures of identification.

In his introduction to the topic of Identification and Recognition (Theme 1) in the occasion of the Madrid Conference, Carlos Sambricio identifies how architecture has broken away from the forms that are traditionally associated with it. He outlines a new programme of needs, upon a different demand that did not previously exist, as well as putting forward an alternative proposition to the traditional repertoire of compositional elements. This marks

the acknowledgement of a new perspective, according to which ‘... the important thing is what we ask ourselves rather than the answers.’ (Sambricio, 2011, p. 57).

Sambricio’s attitude shifts the attention to understanding heritage in its context as opposed to applying a set of pre-given rules. The Madrid Charter recognizes that the identification and assessment of cultural significance should follow accepted criteria, but underlines the need to understand that the values it represents may rest both within tangible and intangible aspects, and always be checked against a comparative analysis that better assess and understand relative significance (Ministerio de Cultura, 2011, p. 29, art.1.5).

### Memory

The notion of cultural significance has witnessed a relevant change with the disappearance of the monument icon, which was instead used in the identification of traditional heritage assets. With memory being turned into a cultural and social problem of the twentieth century, the fugacity of time is being experienced, within which modernity finds in fact its own contradictions since the era of mechanical reproduction. Over the decades, this has strongly influenced the architectural production of the early twentieth century, and has induced considering the aspect of newness as a major value of significance.

As an example, we may think for instance of those early developments of Modern Movement architecture, where shiny and white materials accompanied by the transparency of glass would demonstrate the triumph of modernity and its newly discovered materials, suggesting - within a deeply rooted positivism - that such modernity is meant to last intact.

‘As recently stated by Marc Augé , the effort to remove the signs of aging characterizes the modern body worship and the effort to drive away the specter of decay and to prolong youth. But this worship of eternal youth has the paradoxical effect of making us forget the reality of the body: denied in its physicality, the body survives in the idea of himself, that in a second virtual life.’ (Irace, 2011, p. 67)

On account of the discrepancy between physical integrity and cultural significance of modernist assets, producing records for public archiving is considered highly essential by the Madrid Document (Ministerio de Cultura, 2011, p. 31, art.2.7). The archiving process proves particularly useful as the particularities of the site should be documented for every intervention, especially in the case of essential alterations to the physical object, whose physical integrity needs to be sacrificed for the upkeep of cultural significance.

Traditional principles of conservation recognise the importance of historical layers, and have relatively recently developed a programme of planned maintenance that ensures the integrity of materials, ensuring the tangible identification of memory patterns within an asset. Traditional principles also thrive on the uniqueness of the work of art and architecture, which, before the age of mechanical reproduction, was perceived as a monument, only later becoming the product of a production in series.

Although these are fundamental principles that, to some extent, we need to retain from traditional approaches to heritage, the question becomes more insistent as to how historical layers can be identified within a panorama of technological struggle that witnesses the difficulties in intervening on obsolete, yet still in use, modern techniques.

In addition to this, as much as we start to witness a growth in building types and construction techniques, there is certainly an underlying increase in the amount of information that we are given to process through memory.

‘Indeed, there is such an excess of “information” that what is at issue now is not the ability to accumulate but rather to select and evaluate, to separate the useless from that which can add to our knowledge. Caught between *hypermnnesia* and total *oblivion*, we are however without the shared criteria necessary to make socially significant choices.’ (Irace, 2011, p. 64)

In such an excess of information, what also seems to multiply - and therefore not follow the traditional, pre-given rules - are the values on which the consideration, interpretation and intervention on modernist heritage are based.

Memory therefore plays a fundamental part in integrating the concept of historical awareness that is not one of linearity, but of simultaneity, where past and present are part of the same process. This ensures that what we perceive as historical is not to be considered anymore as pure image to turn to (which would raise the question of how to reproduce it) but an object in becoming (which therefore suggest a more holistic approach, and one that takes into account the underlying cultural challenge).

As Fulvio Irace suggests, this is a first step towards the formation of a collective memory, which shares the principle of heritage being a cultural construct in constant formation and change.

## **Theme 2: Approaches to the conservation and protection of twentieth century architectural heritage**

### Authenticity

A major turn in conceiving authenticity can be found in the changed attitude towards conservation in the early decades of the twentieth century, which not only seem to have brought new forms of architecture, but also some new inspiration in the approach towards taking care of existing buildings. In fact, conservation can now be considered as no longer involved with the repair of monuments, and much more than a practice based on the mere notion of authenticity.

Currently, new approaches to conservation have seen the discipline gradually embrace the identification of authenticity in the integrity of fabric as well as of design, which can legitimately incorporate different additions and alterations. Therefore, the assessment of a place, building or landscape needs to be carried out on all aspects of authenticity, by means of careful gathering of all physical, oral and figurative sources of data.

As discussed in the context of the Madrid Conference, authenticity can be identified as the capacity of a heritage asset to express its values either by its physical presence, or by conveying intangible values in an appropriate manner. In addition to these observations, article 7 of the Madrid Document (Ministerio de Cultura, 2011, p. 33) is fully dedicated to



the concepts of integrity and authenticity, stressing the importance of authenticity in the expression of cultural significance. However, this keeps in mind that the condition of authenticity does not only depend on the respectful conservation of the original object. It is also expressed by the truthful retention of the *patina* and the passing of time (hence, the non-static notion of change), disregarding whether what is being conserved is a traditional or modernist asset.

### **Theme 3: Approaches to intervention in twentieth century architectural heritage**

#### Sustainability

Although the imperative of sustainability shares very similar principles to those of conservation, particularly the effort to preserve, where possible, existing resources, it is often at odds with retaining existing fabric, and, to a more general extent, with the conservation of cultural significance. In order to meet sustainability criteria, changes to materials and technologies, as well as to the building function, may have to be envisaged, potentially compromising the integrity of the place, if not also its authenticity.

It is alongside this acknowledgment that a major need for implementing new management systems is called upon (Ministerio de Cultura, 2011, p. 33, art.8); a management system that, as Ana Tostões, discusses, is able to face two of the fundamental dilemmas at play. These dilemmas are identified in the duality of materiality and permanence, and the issue of functional obsolescence (Tostões, 2011b, p. 205). This debate is often object-specific and, due to the variety of materials, technologies and building types involved, a more focussed reasoning needs to be made in order to discuss the viability of sustainable strategies for conserving modernist, and more specifically post-war heritage.

It is important to point out that a broader framework is needed, where strategies, more than tools, can be provided. These are envisaged on the basis of processes, independent from the architectural style or period. Once this framework is established, the context of each specific project needs to be investigated in all its aspects. In particular, the strong relationship that this thesis aims to investigate between modern architecture and sustainability, is the collective nature of Modernism itself, which characterizes the

‘... social, spatial and technological innovative project committed with the community, and the challenge of architectural world to fulfill a better world.’ (Tostões, 2011b, p. 206)

## 5 LEGISLATION

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Figure 17 | Colston Tower, designed by Moxley Jenner and Partners in 1961, Bristol. Whilst only completed in 1973, the building is an outstanding example of post-war commercial architecture within the premises of Bristol historic centre.

(Author: Gaia Zamburlini, 2012)

‘After 1945, country after country introduced ambitious heritage legislative and regulatory bureaucracies, generalising the system pioneered in France a century before. There was a sharp differentiation between conventional protection of individual monuments, common to virtually all countries, and the growing concern to safeguard historic areas.’ (Glendinning, 2013, p. 284)

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## 5.1 The history of heritage protection

### Legislative background

The legislation concerning the protection of the historic environment in England has been guided by regulatory milestones. Such milestones included the Protection of Wrecks Act (1973), the Ancient Monuments and Archaeological Act (1979), and the Planning (Listed Buildings and Conservation Areas) Act (1990). Revisions to the latter, whose first 1947 version was finalised by post-war Labour Government, have been made several times, (1991, 2004, 2008, 2011) culminating in the drafting of the Heritage Protection Bill by the Department of Culture, Media and Sports (DCMS, Draft Heritage Protection Bill, 2008), which was designed to uniform and unify the heritage protection system. However, because of financial pressure during the economic uncertainty, the document was never officially introduced.

When referring to the Town and Country Planning Act, it is worth noting that this Act only applies to England and Wales. Scotland is instead covered by the Town and Country Planning (Scotland) (1947) and Northern Ireland by the Planning (Northern Ireland) Order (1972).

The greatest number of entries in England is represented by Listed Buildings (375,880), Scheduled Ancient Monuments (19,833) and Conservation Areas designation lists (9,840) (English Heritage, 2014a, p. 35). The difference between listing and scheduling is roughly identified as listing being used for assets that are potentially suitable for re-use, and scheduling featuring only remains of archaeological interest.

Depending on heritage management procedures, these assets may however experience dual registration, as it is not always clear where to draw the line between buildings that are potentially re-usable and those that can only be regarded as ruins. Reviews of such assets have been flagged as priority, as the overlap is mainly due to past practice, which has tended to list buildings out of their architectural interest, and occasionally schedule them for their monumental importance. Today, upon a different approach to

monumentality, and on account of a more democratic and holistic perspective towards the surrounding environment, the tendency seems to be the opposite. It is quite common to list industrial buildings whereas scheduling seems to be made more appropriate when an archaeological interest is also shown.

### **Listing system**

The first listing system was introduced after the Second World War as a result of the damage caused by the German bombings. Originally drawn up to include two grades, (I) and (II), the former being the one of most importance, the listing system was thereafter given legislative status through the Town and Country Planning Act (1947).

Although there was pressure on listing before and during the War, the system of inventories at the basis of this process was no longer fit for purpose, as it had been set up as early as 1908 by the Royal Commissions of Ancient Monuments:

‘The glacier-like pace of their painstaking county surveys was incompatible with the new, planning-based British system, stressing flexibility, speed and sensitivity to threat.’  
(Glendinning, 2013, p. 286)

The first list that followed a new revised system was drawn by members from the RIBA and the SPAB in 1950-51, so to appeal for reconstruction, and included a batch of provisional assets put forward for designation. It involved mostly buildings from before 1800, whereas Victorian assets started to be considered later, in 1959, by which time a third grade (II\*) had already been introduced to indicate the assets carrying outstanding international significance. To this end, Andrew Saint argues that ‘The listing of individual buildings would never have taken hold in Britain, or assumed the impetus it did, ... had a wider political enthusiasm not gathered force from the 1920s to the 1940s about broader environmental issues’. It is however worth noting that the approach adopted for the earliest listings quickly changed and transformed into what Saint defines as ‘a little industry in itself, with its own cultural frame of reference, art-historical criteria and programme.’ (Saint, 1996).

The listing process, however, was beneficial for casting attention onto the acknowledgment of the past legacy, which risked otherwise falling into oblivion. Works from the twentieth century were only considered in 1967, at the meeting of the sub-committee that had appositely been created in the late 1950s. The panel included art and architecture historian Nikolaus Pevsner, who, encouraged by the Ministry of Housing and Local Government, drew up a list of the most relevant assets from the 1920s and 1930s (Cherry, 2002), the majority of which form the Modern Movement.

Conservation Areas were instead introduced by the Civic Amenities Act (1967), slightly later than individual buildings. The assumption underlying this initiative by the Civic Trust was that, although efforts had been made to safeguard historic assets, the post-war approach was attempting to shape a new Britain on a wide scale. This approach often underestimated the impact of major urban planning schemes, therefore putting areas with major historic relevance under threat. The criteria for designation were mixed in the first place. However, as a rule of thumb, they were all meant to define areas where the historic fabric had substantially survived, and were soon to be threatened by planning changes, whilst protecting their significance and potential re-usability.

Today, Conservation Areas are defined as ‘... the historic backcloth to national and local life, being a crucial component of community identity and cohesion.’ (English Heritage, 2014b, p. VIII). In the current practice, which has noticeably evolved since the first listing, the identification process of Conservation Areas may be roughly divided into three phases (English Heritage, 2011b). First, the expression of interest in designation (Planning (Listed Building and Conservation Areas) Act 1990 sections 69/70), which is normally made by Council officers and may be guided by different types of architectural and historic relevance. Secondly, it also concerns decisions about the degree of community involvement and the physical boundaries to the area. Lastly is the pre-designation phase of appraisal (section 70), which should ideally be carried out with the involvement of the local community, rather than combining historic records, maps and a visual analysis of the area (*Characterization and Area Assessment*). To conclude, the management practice (section 71), where a development team is appointed in order to make proposals for preservation (*Management Plan*) and enhancement (*Regeneration Strategy*).

### Post-war heritage listing in perspective

In 1987, the statutory protection for historic buildings was extended to assets that had been built after 1945. A mix of factors brought England to be one of the first countries to acknowledge such assets through listing, starting as early as 1987 with the Bracken House - the former *Financial Times* headquarters designed and built between 1955 and 1958 by Albert Richardson (Figure 18). In particular, the conservation movement was joined by several architects in support of modern architecture, many of which had personally contributed to shaping English architecture in the immediate aftermath of the War.



Figure 18 | The Bracken House, London, whose design is said to be ‘*a curious mixture of Italian Renaissance and Swedish twentieth-century neo-classical elements*’ (Cruickshank, 1988).

(Source: <http://www.bdonline.co.uk>)

Elain Harwood, who I interviewed for this research, describes the gradual process that, from the late 1970s onwards, brought about the statutory recognition of post-war listing:

‘It really began because buildings were being demolished and people were writing in and saying, “Please, could this be up for listing?”. Although after 1945 the Town and Country Planning Act doesn’t put a date on listing, by the 1970s, the idea that you could not list after 1939 was so becoming set ... There was always the presumption that listing stopped

with the Second World War. But in the 1980s you first had the great fuss over the demolition of the Firestone Factory in 1979, and following that particularly the Thirties Society (which is now the Twentieth Century Society) began to ask for post-1945 buildings to be listed. And the first ones were the Headquarters of the National Union of Miners, the Schreiber House by James Gowan, which were both under threat at that time, and Bracken House. There was so much agitation that prompted the Government issue. And a statutory instrument, which is where it defined the legislation, said: in April 1987 buildings could be listed if they were more than thirty years old.' (Harwood, E., interviewed by Zamburlini, G. on 14<sup>th</sup> February 2014)

From the end of the 1980s, the conservation planning system has often witnessed controversies and difficulties regarding post-war listing. This is partly related to the difficulties in acknowledging the recent past as heritage, due to the short time span implied by the Thirty Year Rule (going down to ten-year rule in exceptional cases of threatened and outstanding assets, as in the case of the Willis Faber Building in Ipswich, designed by Norman Foster in 1972).

Other complexities, however, also arise. As well as traditional structures, post-war buildings are listed on the base of four 'Conservation Principles' (English Heritage, 2008), which include evidential, historical, aesthetic and communal values. Despite this, uncertainties on the level of interest to be attributed to heritage assets have surfaced, due to the large variety of types involved in the range of modernist heritage, spanning from iconic to more common structures. Iconic recognition occurs typically where architect-designed work is more easily recognised as of outstanding interest, rather than system building, as can be seen in the prefabricated schools in Hertfordshire County. However, as Aidan While notes:

'What has certainly happened is that postwar architecture, and the notion of postwar heritage, have become more acceptable, and in some cases fashionable, as reflected in the iconic status of buildings such as Erno Goldfinger's Trellick Tower ... and this has allowed for greater latitude in the range and scope of postwar listing.' (While, 2007, p. 659)



It is important to note that the wide range of post-war assets considered for listing includes both private and public buildings. The distinction between the two types of ownership is a further source of difficulty, although in principle no difference should be made in the listing process. Heritage protection is a communal, hence public, duty within society, whose approach contributes to a more responsive, integrated action towards the built environment. As Elain Harwood notes:

‘Listing means ... that the public has some say in a building’s future through the planning system, and presumes that it will remain for future generations to appreciate.’ (Harwood, 2010)

In practical terms, it has proved to be extremely difficult to list public housing schemes, which perhaps represent the building type that has most been affected by public opinion. Once considered as one of the successes achieved by the Welfare State Programme, public houses were supposed to face the mid-1960s peak in population and the demand for improved living standards. However, the Welfare State Utopia disregarded the urgent need to reconsider new sociological perspectives within the post-war reconstruction, especially at a time of major change and uncertainty.

Alongside the more generalised rejection of modern design, public housing started to experience rejection in the early 1960s, both at local and political level. This seems to have been sparked, as Miles Glendinning and Stefan Muthesius suggest in *Tower Block*, by a negative reaction to the Utopian ideas that had first allowed such housing schemes to spread quickly all over the country. This negative reaction was quickly picked up by the public opinion (Glendinning & Muthesius, 1993, p. 310). The reconsideration of such legacy has been taken into account recently through numerous proposals of public housing listing, particularly upon the development of earlier discussions that had advocated novel ideas for conservation.

Post-war heritage conservation has evolved into a gradual appreciation of a wide range of heritage types. As John Pendlebury *et al.* suggest, this occurred in the form of a ‘pluralist turn’ towards more modest heritage (Pendlebury *et al.*, 2004). Also, looking at heritage from the recent past has opened up new management programmes that English Heritage

has been largely in support of, and which are now paving the way towards a planned and integrated Conservation. Consequently, this brought attention to an inclusive practice that takes into account cultural and social issues together, which in the long-term contribute to a more sustainable approach to the built environment.

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## 5.2 A changing framework

### The Heritage Protection Reform

Over the last decade, a strong need to understand the cultural connections that have shaped the built and natural Heritage has arisen, highlighting the relationship between ‘people and places, ideas and things’ (Grenville & Fairclough, 2005, p. 3). In order to pursue legislative implementation, new approaches to local policies have needed improvement in the context of our national framework, and on account of its historical background.

Steps in this direction have been made with the recent introduction of Local Landscape Appraisals, which are part of a framework that considers ‘Strategic Environmental and Sustainability Assessments’ as a key tool of heritage valuation (The Countryside Agency & Scottish Natural Heritage, 2002). However, there is still lack of integration with the legal framework, as such changes have only developed locally but not been acknowledged and coordinated yet in the broader legislation framework. Additionally, the Appraisals leave the question open in terms of heritage management, specifically when dealing with modern legacy, which seems to cause methodological, rather than practical uncertainties.

The current legislative system for heritage protection has undergone numerous reviews, consultation and testing to become what it is today, and is still constantly assessing methods and tools in order to deliver good management and maintenance. As Peter Beacham recalls, The Heritage Protection Reform, a long-term aim set by English Heritage and the Government in 2000, has played a fundamental role in the process (Beacham, 2006, p. 2), with its initiatives being gradually implemented and bringing benefits within the conservation of our historic environment.

The most interesting turning point of this long-term reform is perhaps the publication of the *White Paper* (DCMS, 2007), which was aimed at identifying a clearer base for designation, whilst clarifying the significance of historic assets. The *White Paper* has particularly focussed on:

- Developing a unified approach to the historic environment, as opposed to undertaking separate systems for dealing with different aspects of conservation;
- Maximising inclusion opportunities, both for public participation and for the enhancement of knowledge and of community cohesion; and
- Guaranteeing sustainability as an integral part of the planning system, with the focus on regeneration and the awareness of resource use.

One of the main reasons for the transformation of Heritage Protection in the UK was the need to consider 'historic environment' and 'heritage' to a wider extent, as opposed to the given criteria of listing dating back to 1990. The system, as first designed, would often imply likely tensions between listed assets (considered to be of interest) and non-listed assets:

‘One effect of this system of heritage protection is that it makes a clear distinction between structures and areas that are afforded special protection and those that are not. Although the process of selection is not intended to imply that structures or areas that are not selected are of no interest it can unintentionally have that result; isolated protected monuments become islands in a sea of little historic interest.’ (Hudson & James, 2007, p. 254)

In 2004, a few years into the Heritage Protection Reform, measures were taken to pay more attention to local lists, which at the time were not yet fully adopted in the legislative framework. Such provisions are constantly supported by practical guidance delivered by English Heritage, with the aim of helping local authorities to develop an effective plan of action. Examples of this guidance can be seen in the publication of documents such as the *Good Practice Guide for Local Heritage Listing* (English Heritage, 2011c).

### **Cultural Values**

The document has cast light on the designation criteria, which have primarily focussed on material culture. An attentive analysis of such system brings to the recognition of material culture as of valuable importance, although to be associated with values that are intrinsically attached to it:

‘ ... Our sense of cultural heritage is rooted in material culture, territorial feelings and topography, as these are associated with wider social, traditional and spiritual values. Therefore, material culture should be protected, but it has to be accepted that its value may lie external to the fabric ... as without the presence of associated values the material culture may cease to be valued.’ (Turnpenny, 2004, pp. 298-299)

As discussed in the milestone document by English Heritage, *Power of Place* (English Heritage, 2000), the role of cultural values is of utmost importance in the protection of our historic environment. As Hudson and James note, there is a primary need to also understand why people value places rather than why places need to be valued according to the statutory criteria (Hudson & James, 2007, p. 258), hence building up bottom-up knowledge and discovering the asset from within its context. Whilst following such an approach, not only does the community play a critical role in identifying its own set of values and identity patterns, but in doing so communal cohesion is also encouraged, which certainly brings social and economic benefits in the long term.

### **Towards a new planning policy**

Considerations over localism and identity play an important, yet contradictory role when tackling clarity and transparency in the set of listing criteria. To this end, Hudson and James argue there is tension between centralism and local participation:

‘If designation can only be against predetermined criteria set by central authority then local values must either be ignored or dealt with by supplementary (and, in consequence, probably less effective) systems.’ (Hudson & James, 2007, p. 259)

This issue has been acknowledged and tackled over the last few years first with the introduction of Policy Statements, then with the latest *National Planning Policy Framework*. With the intention of updating and unifying the current legislation on spatial planning in England, the Government set up, in 2010, *Planning Policy Statement PPS5* (replacing *PPG15* and *16*), appointed by Communities and Local Government ‘ ... with the

objectives to deliver sustainable environment, conserve the significance of England's Heritage and contribute to the knowledge and understanding of our past' (CLG, 2010, art. 7).

In this document, the status of Heritage assets is defined as including both designated and not designated elements, identified by the local planning authority during the process of decision-making. This approach implies that planning authorities are allowed to set out their Regional Spatial Strategies or Local Development Frameworks, enabling what has been defined as a 'positive and proactive strategy for the conservation and enjoyment of the historic environment in their area, taking into account the variations in type and the distribution of heritage asset' (CLG, PPS5 Planning for the Historic Environment: Planning Practice Guide, 2010). One of the main parameters used in this perspective is local distinctiveness, which is to be conserved against the risk of loss through neglect, decay and misuse, without necessarily hindering the centrally controlled system of national designation.

It is worth noting that, in 2012, the PPS5 was replaced by the *National Policy Planning Framework* (CLG, 2012, Annex 3), ('NPPF'), which declared the intention of pursuing a sustainable development oriented approach. This represented a 'change for the better' that is not only strictly related to the built surroundings, but that contemplates a wide-embracing array of disciplines in a collective effort towards a more sustainable future.

The document recognises the three dimensions of sustainability as pillars of the planning system, whose tasks are related to planning and decision-making. More specifically, the topic that concerns '*Conserving and Enhancing the Historic Environment*' is covered between article 125 and 141. Some of the key principles that show a new direction of perspective in conservation are as follows:

- The consideration of the wider social, cultural, economic and environmental benefits that conservation can bring (art.126);
- The contribution of new developments to local character and distinctiveness (art.126);
- and

- The search for new opportunities of development within Conservation Areas and World Heritage Sites, which may enhance or better reveal their significance (art.137)

As demonstrated by the above, the NPPF is clearly a sign that the Heritage Protection Reform has echoed numerous changes in outlining a new perspective of heritage sites, which has been particularly encouraged by the post-war heritage being considered.

Similarly, although it has never been officially included in the Government's legislative programme, an achievement of the last decade is represented by the Draft Heritage Protection Bill (DCMS, 2008). This bill consists of a fairly transparent framework based on the proposals of the *White Paper* (DCMS, 2007) which has wisely been recognised as 'a milestone not a destination, and we can afford neither inertia nor complacency' (Buckingham, 2007, p. 40). If not for its actual influence as an official set of legislation, the 2008 Draft Bill represents a bridging document between the *White Paper* and the PPS5 (CLG, 2010), as a platform for the identification of challenges and potential solutions. Although quite radical, some of the proposals reflect a fresh perspective on heritage conservation. These proposals include:

- A single system for designating historic places, including listing, scheduling and registration (the Heritage Register);
- Decision power for designation in England to go from the DCMS to English Heritage (although the Government would still be involved in post-war cases);
- Introduction of a new system for the 'interim protection' of historic assets while they are considered for designation; and
- A formal appeal system to review listing cases and management plans for historic area, particularly beneficial to post-war buildings.

'Clearly the draft bill attempts to do much with varying degrees of success ... However, the proposed widening of the tests of special interest for registration and designation, the widening of the criteria for requiring the new consent, together with the implied re-casting of the statutory duty in conservation areas, could have far reaching effects on the system.' (Mascall, 2008)

In the same spirit of transformation and change, the Heritage Protection Reform has brought interesting changes in the role, tools and management of our historic environment. With post-war heritage playing a key role as the legacy that best demonstrates how cultural significance does not simply sit in the physical integrity of a place, it is clear that what needs to change is the scope of conservation.

Shortly after the drafting of the Bill, the transfer of responsibility from the DCMS to English Heritage for designation and scheduled monuments consent has been agreed by the Heritage Protection Department (HPD, 2009). Although the power of decision making is still in the hands of the Secretary of State, the reform gives way to a new consultation system. This new system is not only meant to avoid a lengthy bureaucratic process in the application itself, but also contemplates a broader involvement of the public, since it is now possible to apply directly to English Heritage for listing and scheduling monuments.

### **Towards an integrated management practice**

With the introduction of *the White Paper*, English Heritage and the Government have shown their strong commitment to modernising the management of our historic environment, bringing new roles and planning systems for a more inclusive and integrated practice of heritage protection. As Peter Beacham suggests,

‘One of the reasons why the present system is criticised is the perception that it does not measure up to the demands of modern governance and human rights legislation in several important aspects, especially the listing and scheduling processes.’ (Beacham, 2006, p. 3)

Although the Agenda suggested by the *White Paper* may lack some degree of specification and a comprehensive organisation of all parties involved, there is evidence that full acknowledgement of current needs in heritage protection has been achieved. These specifications and parties can gradually be investigated and responded to in the reformed system.

A primary need is identified in the definition of our approach to cultural heritage. Historical assets should be maintained not only for their underlying value (whether tangible or



intangible) but also for generations to come as an enriching activity, enhancing the sense of identity and the future of communities.

This thought is in line with English Heritage carrying out an 'invest-to-save approach', as Beacham suggests (Beacham, 2006, p. 4), which features strong commitment to enabling protection from major risks of neglect, decay and misuse.

On this basis, highlighting potential risks is supposed to address the identification, analysis and solution of such risks beforehand, while having the opportunity and time to proceed with plans for diminishing their effects, and ideally the very same causes of such threats. A planned rather than responsive approach is expected to create the conditions for minimal interventions within the conservation works, hence likely to lead to the holistic benefits of a sustainable practice.

It is also fundamental to account for the dichotomy in the focus of heritage disciplines, which needs to be acknowledged and tackled in order to achieve a comprehensive strategy towards the environment. There is an evident attempt to bring attention to the individual monument, which is, by statutory principles, believed to have special interest. In doing so, its legislative isolation is unable to bring any benefit to the community. Provisions regarding historic landscape appraisals being implemented as supplementary planning guidance have therefore been taken, however this effort still needs to be developed into their inclusion in conservation legislation in order to overcome the duality between the historic element and its whole environment.

In a similar way, localism, operating at a relatively small scale level, has proved to be an effective approach within the heritage sector, since it helps community values to emerge. Despite this, localism also needs to provide an inclusive strategy that works at national scale, at least in terms of main statutory principles. The overlap in the two systems is to be investigated in devising the extent to which both parties need to operate, so as to allow cohesion and flexibility, other than a bottom-up approach starting from the needs of the local community.

Also, playing a key role in the improvement of the legislative system are the criteria involved in the identification of values, upon which both the local and national legislation

are meant to build statutory provisions. Michael Turnpenny has recognised that heritage values can roughly be split into two main groups (Turnpenny, 2004). There are those belonging to architectural, historical, archaeological and therefore sometimes aesthetical criteria, on one side, and those bound to the cultural and social dimension of an heritage asset, on the other.

This differentiation can be a practical tool when identifying and measuring the level of tangibility in heritage significance. Also, it operates on the methodological level between material culture, driven by objectivity and acknowledged criteria (i.e., the architectural style of a listed building), and the socio-cultural dimension, which is instead in constant change, and object of iterative assessment (the sense of place within a community).

The lack of focus on the socio-cultural dimension has been dealt with only in recent years, mainly through the acknowledgement of its importance by English Heritage's milestone document *Power of Place* (English Heritage, 2000), and the introduction of the Heritage Protection Reform. Such initiatives have paved the way for an appeal to greater inclusivity with the help of community engagement, although there is still evidence of imbalance in the co-existence of dual values and in the identification of their mutual ground of action. A close-up perspective highlights the dichotomy that may arise in the duality of the object in exam (architectural heritage *versus* landscape and urban environment), in the approach undertaken (local *versus* central) and in selecting criteria of value (material *versus* perceptive). This demonstrates that, in order for heritage conservation to be effective, imbalances need to be solved while understanding that there is no such separation, but cohesion, when a cross-disciplinary and dynamic management plan is carried out.

## 6 THE CIS TOWER, MANCHESTER

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Figure 19 | The Co-operative Insurance Society Tower and its Podium Block on Miller St. in Manchester (1962).

(Author: Gaia Zamburlini, 2012)

‘Historically, the Co-op has always wanted its buildings to be the best possible examples of the architectural style of the day and for them to make a positive civic contribution to an area that has known difficult times in the past.’ (Mike Hitchmough, as cited in Ijhe 2012)

## 6.1 Case Study Introduction

The CIS Tower (Figure 19 - 21), completed in Manchester in 1962 and listed grade II in 1995, suffered badly from the failure of the decorative mosaic cladding applied to its service tower. An overcladding system composed of photovoltaic panels was suggested in 2003, but this proposal threatened to compromise the listed status of the building. Eventually, the intervention was completed in 2006. This section considers the history of the CIS Tower, the subsequent attempts to address the fabric failure, and the impact on its listed status and significance.

Name: Co-operative Insurance Society (CIS) Building

List number: 1270494

Location: Miller Street, Manchester

Built: 1959-1962

Architects: G.S. Hay, Gordon Tait

Grade: II

Date First Listed: 24<sup>th</sup> November 1995



Figure 20 | Ordnance Survey Map for the CIS Tower  
(Source: <http://mapservices.historicengland.org.uk>)



## 6.2 Historical background

### The urban context



Figure 21 | The CIS Tower seen from New Century House on Miller St.

(Author: Gaia Zamburlini, 2012)

The CIS Tower in Manchester is located by the inner edge of the Ring Road on Miller Street (Figure 20), on a site that had been heavily bombed during the Second World War. This is a very active and economically dense area, situated between the former industrial mills on one hand, and the various city centre office complexes on the other one. The location of the CIS Tower is also a symbol of the economic upsurge and Civic pride of the post-war era. Built between 1959 and 1962, with its 118m height, it was the UK's tallest office building outside London for forty-three years, until it lost the accolade in 2006 to Birmingham's Holloway Circus Tower.

The context in which the CIS Tower was designed deserves particular attention in the context of post-war Manchester's population and economic trends. The financial changes that occurred and the physical expansion of the city, which started during the Industrial Revolution of the nineteenth century, were also equally accompanied by great population changes, resulting in a growing conurbation.

In the following century, particularly after the Second World War, this led to a movement of the population outwards. With population changes being reflected in housing needs in the suburbs, a parallel tendency of improved accessibility to the city centre facilitated the rise in the tertiary sector, as well as in employment rates, and a consequent fall in the number of people living in central areas.

Hence, while the dispersal of population is largely in response to social and technological changes, the urban improvement that took place in the immediate aftermath to the war is also a consequence of the investment in specialist services, sparked by a rise in creativity, technology and business services. In this context, for instance, the CIS Tower Site 3-acre area had to be cleared of streets and property to form the complex.

The change in priorities of the post-war period encouraged the local government to establish effective planning units and, as well as formulate new economic policies for the region, establish a balance between the concentration of services in the city centre and the dispersal of residential areas to the suburbs. As a Council report of 1967 foresaw:

‘The future of the centre will rest to some extent on the acceptance throughout the region of a hierarchy of centres of attraction.’ (Manchester City Council, 1967, p. 11)

Accordingly, new uses were found for central areas, and related activities grouped into retail and shopping, banking and insurance, civic functions, warehousing, and entertainment. The objective of the new uses was to:

‘Harness the forces of change so as to reconcile improved accessibility with higher environmental standards, and to obtain maximum advantage from limited resources.’ (Manchester City Council, 1967, p. 14)

The above document, published by Manchester City Council in 1967, is a great source of historical data on the area, and demonstrates how, in the mid-1960s, offices and banks would account for about a quarter of the total gross floor space in Manchester city centre. At a time of growing expansion of the tertiary sector, the tradition of former office spaces such as the Stock Exchange, the Midland Bank and the Ship Canal House, was to continue

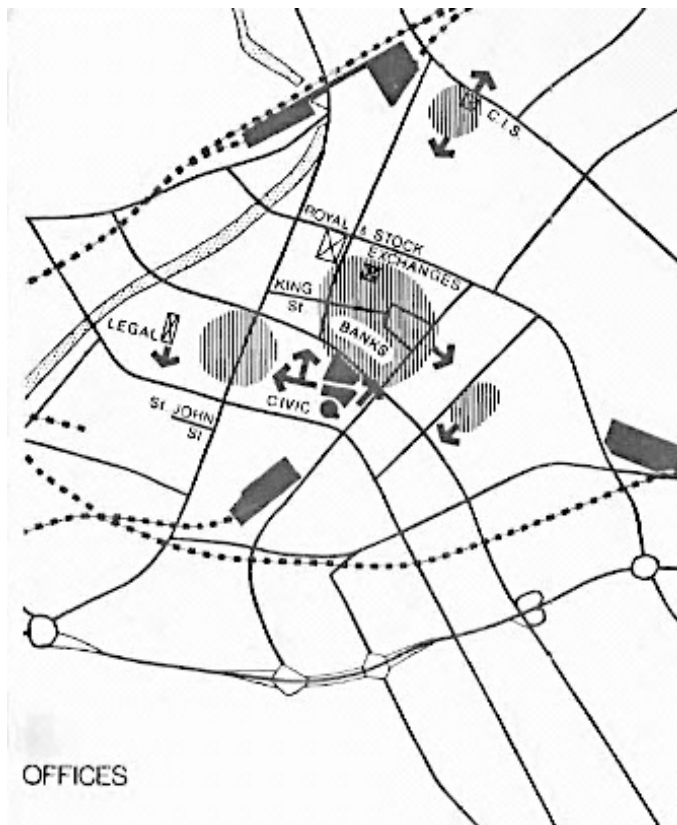


Figure 22 | Manchester city centre in 1967, original conceptual map.

(Source: Manchester City Council 1967)

with new headquarters, on account of an increased and steady demand for space from the commercial sector.

A conceptual map from 1967 (Figure 22) shows the concentration of office developments in the central areas of Manchester, and a draft-zoning plan of functions. In this context, the CIS Tower, hosting the Co-Operative Insurance Society and standing on the edge of the inner ring road (Miller Street), is relatively detached from the densest areas of the city core, and, at the time, was a strong indicator of continuing developments

in the area. Both the CIS Tower and

the associated New Century House were built as part of the same project on previously owned land by the company. At the time of being granted planning permission, the site was surrounded by several small blocks and streets, which were cleared to create the required footprint for the new developments.

The CIS Tower was a unique landmark in the cityscape of post-war Manchester today, and it is still an outstanding building that adds to the skyline of the city. Against the historical background of the site, the city is still growing and changing and the NOMA Site, a CIS redevelopment project in the surrounding area of the CIS tower, is being planned as a major regeneration scheme. This trend is considered in the light of the latest post-recession trend. The recent increase in construction activities, as well as the current tendency to re-establish the housing function towards central areas, has in fact prompted new uses, cultural trends, and values to be attributed to the historical fabric of the city,

where major developments are slowly but gradually modifying the setting of its urban grain.

### Architectural influences



Figure 23 | Lever House in New York, by SOM, 1952.  
(Author: Gaia Zamburlini, 2012)

The planning framework of the Local Government in Manchester in the early 1960s, set to achieve urban quality within an improved network of communication, services and transport, was also targeted on the architectural scale. Excellent design standards were sought through the choice of appropriate materials and construction processes, whose treatment has been targeted at a continuity of architectural character. Careful attention was given to the historical context, although within the program of a flexible planning framework, which:

‘... removes inhibition in the design of new work and at the same time emphasizes the need for a more unified character when renewal takes place.’ (Manchester City Council, 1967, p. 52)

This unified architectural character was partly enabled by the development of heavily glazed curtain wall architecture. Increasingly used for offices, this was also encouraged by the international attention received by the curtain walled Lever House (Figure 23). This





Figure 24 | Seagram Building in New York City, designed by Mies Van der Rohe and completed in 1958.  
(Source: <http://www.375parkavenue.com>)

building was regarded as a major innovation in the extensive use of mullions, and a precursor of the widespread use of curtain walling systems using aluminium extrusions for load bearing mullions by Gordon Bunshaft of SOM.

A few years later, the elegant look of the Seagram Building's bronze and tinted glass curtain wall in New York (Figure 24), which was the realisation of a long held ambition of Mies Van der Rohe going back to the 1920s, inspired the CIS Tower architects Gordon Tait and G. S. Hay. They finally attempted and successfully achieved a design of clean lines and simple geometries, inspired by the by Seagram architect Mies Van der Rohe.

This approach to technology and design was also embraced by the philosophy carried forward by the Co-operative Society, whose civic role was to be communicated through the visual and physical presence of their new state-of-the-art building. After the Second World War, the Co-operative was operating from a variety of different sites in Manchester, and the idea of unifying the company under an individual, visually striking building was appealing and promising. The tower itself quickly assumed landmark status over a wide area, to which the grouping of the other additional two buildings of the complex contributed in terms of mass and volume.

### **The Co-operative Insurance Society and its business framework**

In order to understand the design principles that have conditioned the CIS Tower projects, and to put the building in the context of a sustainability-oriented practice, it is best to outline the main features that characterise the Co-operative Insurance Society's business framework.

Now simply known as Co-operative Insurance, it is part of the Co-operative Group family of businesses, which included a variety of different products, from food to legal services. It was formed in 1867 in Rochdale, on the rented premises of a building that has now become the Rochdale Pioneers Museum and that is now considered important for the laying out of rules that impacted on the whole world:

‘The Rochdale Principles were born out of the meetings of the Rochdale Society of Equitable Pioneers, a consumer organisation that was one of the world's first co-operatives. The idea of a co-operative is that the business is owned by its customers and everyone works together for a common goal, that of good service over the pursuit of profit.’ (BBC, 2010)

The Co-operative was soon to become, by the turn of the last century, an industrial and provident society where other classes of business were provided for the general public as well as for organisations. By the turn of the century, a total of 1439 co-operative societies were already registered. It was only in the aftermath of the Second World War, however, that the Co-Operative had its principles revised by the International Co-operative Alliance (ICA), with a view to making them more relevant to a wider variety of fast-growing companies. In the following decades, the dedication of the Co-operative to fulfilling principles such as the promotion of Fair-Trade Products and environmental campaigns, demonstrated the dedication of the company towards an ethically oriented business line.

After more than a century of providing life assurance products, in 2011 the Co-operative announced it would cease this business profile, taking the role of a provident society instead dealing with financial services in the industrial sector.

The commitment of the Co-operative Group of businesses has always been focussed on sustainability - even when not referred to by this term. This has been supported by a

socially responsible business policy aimed at including rather than excluding customers, in order to keep high levels of customer satisfaction and confidence.

Within this framework, it is fundamental to point out that, since its founding, Co-operative Insurance has aimed at implementing initiatives that encourage new technology and



Figure 25 | The lobby of the CIS Tower. It displays a relief by William Mitchell, a specialist in post-war architectural sculpture whose cutting-edge work has allowed the image of the Co-operative Society to stand out.

(Credits: Courtesy of The Co-operative Society. Source: <http://hayleyflynn.tumblr.com>)

environmental awareness, other than focussing on socially responsible practices towards customers and workers. This attitude is reflected in the original design principles of state-of-the-art technology (namely, the curtain walling system) that would symbolise the commitment to rationality and transparency, on top of allowing an open plan layout for a more flexible, modern and pleasant work environment.

The more contemporary pledge to sustainability is also evident in the intervention that has been made to the service tower, which has seen the re-cladding of the mosaic tiles with PV panels throughout. However, the question is now as to whether this concept of sustainability is compatible with long-term strategies, which raises a further question concerning the extents of sustainability as a cross-disciplinary practice.

Therefore, notwithstanding the business responsibility for social and environmental impacts, the enquiry needs to go beyond mere energy-saving strategies, posing instead the question as to how a large company may now be able to implement practice ideals that are compatible with current needs, but also aim at safeguarding the future.

### 6.3 The Design

#### Design concept and technical failures

The brief for the CIS project envisaged a complex of three different units, comprising a 25-storey tower (the specific object of this case study) and, additionally, a 14-storey building alongside and a 5-storey podium block. The effect is that of one of the podium block clasping the base of the tower, which, as Stephen Levrant puts it in his company's *Planning & PPG15 Statement*, '... provides a visual rationality for its stability' (Stephen Levrant Heritage Architecture Ltd., 2002, p. 12). Also, it conveys a sense of solidness that contrasts with the light technology employed in the façade.



Figure 26 | Open floor office space at Inland Steel Building in Chicago by Skidmore, Owings & Merrill (1952).  
(Source: <http://www.columbia.edu>)

The Tower is a steel frame construction and supported by a structural spine of reinforced concrete, where vertical service shafts, lifts, lavatories and emergency stairs are housed. This allows for an open plan organization of each floor space, which again may have been inspired by another noteworthy U.S. architectural building of its

day, the Inland Steel Building in Chicago, completed in 1957 by SOM (Figure 26).

The façade of the CIS Tower consists of a lightweight curtain wall system of anodized aluminium mullions and vitreous enameled sheet steel panels. These are backed with thermal insulation, and completed by single glazing and internal blinds for shading.



Figure 27 | The CIS Tower in the late 1960s, by Gordon Tait and G.S. Hay (completed in 1962).

(Credits: MMU Online Visual Resources. Source: <https://www.flickr.com>)

The projecting service tower, which can be considered the third volume of the building after the office and the podium blocks, would instead originally feature a vitrified ceramic cladding as shown on Figure 27. It contains lifts, toilets and plant room, and therefore contributes to the office space featuring clear floor-plates.

Other than this functional division, the design intent was to create a strong contrast between the two vertical blocks, a contrast in terms of mass, material and colour. To this respect, not only does the service block volume overtake the height of the main tower, while featuring an additional shaft that elegantly adds to the visual composition of the building. It would also present itself as a monolithic,

plain volume, covered with non-standard tiles. These tiles are different from those typically used in post-war architecture, due to the random parti-colouring tones of the tesserae, and to their uneven surface that contributes to the building's unique aesthetics.

The choice of the tesserae type was unusual in respect of its use on concrete structures. It was expected that the tiles would provide a durable and maintenance-free skin to the underneath concrete block. This proved to be wrong, as the material was designed for small scale, and generally internal finishing, therefore not suitable if applied instead externally to a 25-storey building. The one centimetre square tesserae of a mottled grey colour began to fail only six months after the building was completed, resulting in a major problem for the Co-operative Insurance Society.



The first reaction to this failure, which became increasingly serious in terms of Health and Safety Regulations, was the proposal to re-fix the mosaics with different adhesives. After this, the tesserae that became detached were recovered and stored, and, after listing in 1995, a major survey was carried out by ARUP in 2002. During this survey, the failure was found to be the mosaic adhesive de-bonding from the concrete surface as opposed to the mosaics separating from the adhesive.

The report, while suggesting that potential reasons for failure were the result of the adhesive failing to respond to thermal expansion or decaying upon water penetration, implied that the simple re-fixing of the mosaic tiles would result in further failure (Manchester City Council, 2003).

Andrew Martindale, the Historic Area Advisor for English Heritage at the time, recalls that:

‘... at the time there was a lot of animated discussion, as there isn’t anything similar within Manchester that is listed. English Heritage has done lots of work on office buildings, but twelve years ago there were not that many comparative building studies ... There was no real precedent, so at the time they were really pushing the boundaries of technical possibilities.’ (Martindale, A., interviewed by Zamburlini, G. on 24<sup>th</sup> June 2015)

This issue presented by the CIS Tower case has brought about the inherent design and technical flaws that are common to modernist buildings, and that raise difficulties in applying conventional conservation theories to this type of heritage. The principle of minimum intervention, and the concept of ‘preserve as found’ that is widely used for interventions on Medieval or Georgian assets, are not applicable in the same way. This occurs especially where the decay is spread on a large scale, and where the innovative architectural and historical character of the building, a post-war symbol of economic and civic proudness, is expressed through those very same aesthetical and functional features that are questioned by conservation. In the case of the CIS Tower, for instance, these are identifiable in the contrast between the transparent curtain wall on the main block and the flawed solid surface of the service tower in contrast to it.

‘One of the issues with recent buildings is that you often list assets with inherent structural or material defects, which are still active. And all historic buildings for some reason have failed: but one of the problems with post-war particularly is that technical innovation is a crucially important element. So, you wouldn’t get an eighteenth century building where structural defects, which have been there from day one, would still have to be re-address in such a way. In that sense post-war listed buildings do offer big issues.’ (Martindale, A., interviewed by Zamburlini, G. on 24<sup>th</sup> June 2015)

Growing awareness of sustainability, particularly relevant to the maintenance of post-war offices, has also cast light on the increasing technical difficulties in dealing with the energy performance of those assets. This occurs from the start, since the original design process takes place through to the unavoidable changes in uses and standards, and presents a major challenge for new built and conservation interventions alike:

‘As architectural appeal and applications have increased, the complexities of dealing with energy usage dynamics, rain and wind, and durability have become ever more difficult for the designer.’ (Manchester City Planning Office, 1967, p. 99)

The issue of energy performance in the CIS Tower case study has been tackled with a presumed idea of flexibility and reconfiguration, theoretically consistent with the philosophy of transitory spaces that is proper for modernist buildings. The following section further highlights what challenges and contradictions have occurred in the decision making process for intervention on the building, and opens up the discourse for management strategies that should ideally drive changes to the building and its site.

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## 6.4 Listing and intervention

### The CIS complex Listing (1995)

In order to understand and investigate the reasons behind the choices of intervention on the service tower which took place in 2006, it is necessary to look back into the documentation that English Heritage has provided in regard to the listing.

Before listing, which occurred in 1995, minor interventions on the building were proposed, and approved by Manchester City Council. The Archival research reveals that the most relevant interventions before the listing occurred include an illuminated individual letter name sign (1989), alterations to the entrance steps (1994) and the construction of two new fire escape staircases and lobbies (1995). Two separate files provide information on the CIS Tower: the Planning Application History (Manchester City Council, 2003), and a recent file compiled a decade later by Nathaniel Lichfields and Partners, who were instructed by the Co-operative Group to carry out research on the planning applications submitted for the site since the building was erected (Nathaniel Lichfields and Partners, 2012).

The most relevant planning applications for the proposal after listing involved Listed Building Consent for an extension to internal stairwell (2002, not proceeded with). Alterations and improvements to existing concourse paving (2003), and the re-cladding of the service tower with photo-voltaic panels (2003). This part of the dissertation investigates how this major intervention, proposed and accepted on 20<sup>th</sup> March 2003, has been dealt with in the light of the listing status of the building.

The listing process itself occurred in 1995, when the whole complex was given heritage status with a Grade II designation (English Heritage, 1995). This included the CIS Tower, New Century House, the attached Conference Hall and the abstract concrete relief wall in the central '*piazza*'.

Following English Heritage's Conservation Principles (English Heritage, 2008), the following heritage values have been assigned to the CIS Tower:



1. **Architectural interest.** The tower was inspired by works of Skidmore Owings and Merrills in Chicago, and other major U.S. curtain walling systems, which conveys financial prestige. The architectural interest has particular strength in the identification of design characters that are proper of a particular movement (international post-war architecture), technology (curtain walled) and building type (commercial), hinting at the commitment to preserve the original intention that formally and aesthetically describes the building functions through materials and plasticity.
2. **Design interest.** This is found in the innovative construction techniques for the time as well as the state-of-the-art building services. Not only was the external skin of the main block detailed with anti-pollution anodized aluminium mullions, but the block was also one of the first large commercial buildings in England to be air-conditioned, adopting the same system as the one found in the Empire State Building in New York (a Weathermaster high-velocity induction unit).

These features show the Co-operative's commitment to create an aesthetically and physically pleasant space both in terms of public image and work environment.

3. **Interior interest:** This is on account of interiors being designed by Misha Black and Alexander Gibson, from the Design Research Unit. This is recognized as one of the most famous design practices in post-war Europe, and the reputation of its work has played an important part in contributing to an additional value for listing, since a good amount of the original features, furniture and fixtures, still survive in the building (**Figure 28**). Another element of particular interior interest is the relief in the ground floor lobby of the tower (as shown on Figure 25, p.158), which displays a relief by post-war artist William Mitchell.

Other elements have instead been replaced, such as the original suspended ceilings and the main entrance hall furnishing. These elements were considered to carry minor design interest in compare to the features of the executive floors, which have in fact been retained.



Figure 28 | The CIS Tower interiors: the executive floors (23<sup>rd</sup> and 24<sup>th</sup>) display the use of high quality original materials: in the picture, teak and cherry veneer door frames with blue and green coloured roughcast glass. (Author: Gaia Zamburlini 2013)



Figure 29 | New Century House and Conference Hall on Corporation Street, also part of the CIS complex developed in the early 1960s.

(Source: <https://en.wikipedia.org>)

4. **Artistic interest.** Represented by fine examples of brightly coloured plastic laminate murals located in the former recreation room, and a sculptured fiberglass mural decorating the entrance hall.

5. **Group value.** This is because the CIS Tower was built within the scheme that also included New Century House and a Conference Hall on Corporation Street (Figure 29). The three buildings withhold a strong visual, contextual and stylistic relationship with one another, which means that they also contribute to Manchester's urban identity, whilst having a strong visual and social impact.

Given these values, it is interesting to consider how the cladding failure problem arose in light of the building's heritage status. By 1995, when the building was given listed status, the decay had been becoming more and more visible for over thirty years. The decision to include the building on the list, on one side is well justified by reasonable criteria, but on the other now conceals a controversial position given the eventual solution used to preserve the façade.

The contradiction, however, seems to be in the fact that, while the use of materials in a listed twentieth century building constitutes a large part of the design, the perspective of a heritage building with a well enhanced energy

performance would still appeal to gaining prestige in the attribution of green credentials. In a time where sustainability has become one of the major targets in the construction sector, such a decision would probably - and sadly - become the only driving criteria for future interventions.

These observations point in the direction of sustainability, representing a valid criterion of intervention when being implemented not only in a long-term perspective, but also within a cross-disciplinary outlook. By these means, where energy performance represents only a part of the sustainable agenda, it also needs to include cultural and social values.

The following section highlights the consequences that the intervention on the building façade in 2005 has had on the individual values listed by English Heritage in 1995.

#### **Photovoltaic overcladding of the service core façade (2005)**



Figure 30 | The service tower before intervention.  
(Credits: CIS. Source: <http://www.solaripedia.com>)

In order to keep together the surface of the service core, the decision was made to adopt the principle of reversibility, and apply an overcladding to the underlying mosaics as on Frederick Gibberd's Liverpool Cathedral. The idea of a reversible intervention is widespread in most recent conservation approaches, and is often inherent in the original design idea of modernist buildings, whose (changing) uses are strictly connected with their architectural form.

Norman Foster's Willis Faber, for instance, was listed in part due to the 'threat' that moveable partitions (i.e. partitions composed of office furniture) might be moved. Such intent was subsequently

included in the development of the earliest management plans for listed buildings, which identified which potential future interventions would be allowed based on the asset's significance.



Figure 31 | The CIS service tower during intervention in 2005, when three of its four side were completely clad in PV panels; with the design team of Solarcentury working on this £5.5 million project, the CIS mega-scale refurbishment has resulted in the largest commercial solar façade in Europe.

(Source: <http://www.skyscrapercity.com>)

Furthermore, applying the principle of reversibility allows better energy performance, pursuing the sustainability objective that is a fundamental value in the approach adopted by the Co-operative. This choice, however, shows a controversial approach to the legacy of the building, although namely promoted as the one that would be bringing substantial benefits to the community on the basis of the Government advice contained in PPG15. Concealing the decaying material does not allow the monitoring of the decay itself. This may cause further problems in terms of future maintenance or interventions. Also, reversibility doesn't look like a potentially feasible option for the future, when photovoltaic cladding may be regarded as a historical layer, and when the mosaic underneath will have inevitably further deteriorated.

The reasons behind the choice of overcladding the CIS service Tower (Figure 30 - 31) were principally to resolve a Health and Safety issue in a sustainable and cost effective manner. Design-wise, the aim was to maintain the towers monolithic appearance with a texture that would be reminiscent of the original design intention of a sparkling surface, such as the one provided by the bright uneven colour surface of the small mosaic tiles.



‘My memory is that there was sort of a two-pronged approach by the building owners.... They were aware of the ongoing issue that they hadn’t carried out quite expensive repair to the glass mosaic at the time and they were very conscious of the Health and Safety issues ... So there was a desire to look for long terms solution and not patch repair.’  
(Martindale, A., interviewed by Zamburlini, G. on 24<sup>th</sup> June 2015)

In the *Planning Statement* produced by Stephen Levrant Architecture, options for different photovoltaic technologies are made available for consideration in the option appraisal (Stephen Levrant Heritage Architecture Ltd., 2002, p. 60), and described in terms of colour and sheet dimension (Figure 32).



Figure 32 | The PV module chosen for the overcladding of the service tower. A total of 7244 80W photovoltaic cells cover the entire surface, and were manufactured by Sharp to Solarcentury’s design.  
(Credits: CIS. Source: <http://www.solaripedia.com>)

Also, the environmental impact of manufacturing photovoltaic cells is analysed and recognized to be one of the embodied energy expended in the process, as well as the use of toxic materials. This analysis stands at the basis of the Co-operative Group compliance with the objective of sustainability, and the willingness to make an informed choice for the overcladding system in terms of economic and environmental feasibility.

In this context, it is worth mentioning that the early design decision was aimed at production line modules rather than bespoke systems, whose more detailed and technical description can be found in the details provided by Solarcentury in the Listed Building Consent files. As to the reasons that have formed the rationale behind the use of photovoltaic systems, the planning files provide a suggestion of the approach to the

problem, and raise questions on the extent to which the concept of sustainability is being considered:

- Value for money
- Availability
- Industry development
- Product testing and approvals

As Andrew Martindale recalls, there were many issues at play. Although the owners, who had occupied the building since it was built, were conscious of the technical failure and willing to find long-term solutions,

‘We were in the very early days of a sort of attitude of what we call now a green agenda type of approach, and (with the Co-operative) there are also issues of ethical investment etc. So, they were keen to look at ways of micro-renewable schemes solutions ....As well as the repair issue which was only getting worse, on one hand, there was also the idea that, if we went for an alternative, we could start using the cladding to generate electricity.’ (Martindale, A., interviewed by Zamburlini, G. on 24<sup>th</sup> June 2015)

Although major attention has been put on making the case in support of the green argument, all parties involved were aware that the amount of energy being produced, in comparison to high-rise offices uses, would be very small (up to 8%, as recalled by Andrew Martindale). However, an imminent solution had to be found to a problem that had no precedent, and which offered the opportunity to push the boundaries with technologies as well as show the commitment of Manchester City Council, and the Co-operative, to pursue sustainable objectives.

As illustrated in Chapter 2 of this thesis, the condition for sustainability is generally measured in terms of environmental and economic impact. Therefore, considering bespoke technology is key in fulfilling the need to attain value for money (in the case of the CIS Tower, the use of modular systems for the re-cladding), while also keeping an eye on the environmental aspect (the energy benefit in the long-term). However, the third objective of sustainability, that one concerning the social dimension of the project, hardly finds its role

in the decision of overcladding the service tower. Instead, it hints at an approach that is more technical rather than technologically and formally compatible with the original design concept.

### Heritage significance

It is important to point out that, although English Heritage was involved in the case, it had no power in the decision-making. During the interview, I asked Andrew Martindale to illustrate its role:

‘There was even a question to what extent we were going to be involved, as English Heritage’s involvement with alterations to grade II is fairly minimal. So the initial discussion was between ourselves and the City Council team as to whether or not English Heritage would be involved and how we could add value to the discussion. We were there very much at the invitation of the City Council, ... (who) was engaged at different levels as well, because the CIS is a very important employer. ... So the fact we were involved was because the City Council wanted us to be involved.’  
(Martindale, A., interviewed by Zamburlini, G. on 24<sup>th</sup> June 2015)

As recalled by Martindale, English Heritage’s role was therefore to only offer planning and conservation advice to the City Council, and other parties involved, as to whether or not the mosaic was reparable, and how the discussion should go forward.

The values appointed by English Heritage back in 1995, when the building was listed, will be here re-analysed in the light of the post-listing re-cladding intervention. This can help us consider what the impact of the intervention has been on this landmark building, and understand whether the claim for sustainability has met its expectations:

1. **Architectural interest:** With the solar façade added to the service tower after listing, what occurs is the loss of contrast between the two blocks, which was identified as one of the most remarkable and innovative architectural characters of the original design. The new surface provides an image of transparency that adds to that of the main block, but does not convey the material plasticity that was provided by the unique contrast

between concrete and curtain wall. CABE and English Heritage have been quite supportive of the new proposed scheme, with only a few observations concerning the colour and the rhythm of the new service façade, ideally more welcomed if it was to relate to the rhythm of the building's storeys.

The criticism of to the scheme came not from English Heritage but instead from the Twentieth Century Society, which indeed supported the idea of looking further into consolidation options, observing that:

'There have been successful examples of mosaic tiling being consolidated and repaired, for example at Paddington Goods Yard, a recent Society case. Denys Lasdun's Grade I listed Royal College of Physicians would also make an excellent case study given that the works carried out here – intensive surface preparation and the introduction of stress relief joints – are similar to that needed at CIS Chief Office; yet, this has not been done.' (Barrett, 2003)

- 2. Design interest:** The controversial choice to apply an overcladding to the tower is consistent with the objective of sustainable design that the Co-operative has shown since its completion. The investigation into the building's energy performance improvement is in itself noble, however it has been suggested that this may not have been the driving principle underlying this proposal:

'The council will be under great pressure to grant permission to the proposals because of the green issues that are intertwined. No one wants to look as though they are unreceptive to ideas of sustainability, and this is a test case that shows that even the world of conservation is not allowed, and should not be, to bury its head in the sand. Yet it is a thorny issue when the character of Manchester's landmark tower may be altered permanently.' (Barrett, 2003)

Notwithstanding the overcladding system being the largest commercial solar façade in Europe (whose generated renewable energy is claimed to be saving the equivalent of 100t of CO<sub>2</sub> emissions), the achievement of a sustainability-orientated scheme of intervention seems more concerned with interest in prestige than in technically working solutions. Apart from the energy saving aspect, and the projected lower cost in



comparison to a mosaic replacement, this solution has to be looked at from a different perspective. Indeed, it exposes the risk of opting for solutions that put an emphasis on technology rather than on the actual intrinsic value of a project. Technical solutions should not only be taken out of their symbolic meaning, but also in consideration of architectural elements that are instead rooted inside the actual culture of place, thus adding to, but without interfering with the original fabric of the artefact.

The other concern that arises from the overcladding system is that the tendency to emphasise green issues has concealed the more likely future reality of a non-reversible solution, as claimed when the photovoltaic panels were first put in place.

The underlying mosaic is expected to be further deteriorating in the course of time, and the impossibility of inspecting and monitoring this process makes the high-tech solution of a photovoltaic overcladding much weaker. In fact, It looks like a system that has only been able to (temporarily) respond to the actual problem, yet it is not by any means reflecting a preventive and long-term reaction to the decay of the original service core surface.

3. **Interior value:** not particularly affected by the intervention.
4. **Artistic value:** not particularly affected by the intervention.
5. **Group value:** This characteristic is currently taking up new meaning in the broader perspective of the NOMA 53 Regeneration Scheme, which includes land owned by the Co-operative Group and Hermes Real Estate. With the cluster of listed buildings forming the conceptual starting point for the new Headquarter's design, and namely following similar principles to the ones that once inspired the Co-operative to create a vibrant area with social and cultural impact on post-war Manchester, NOMA 53 acts as the contemporary response to Manchester's vibrant and growing urban reality. The project is expecting to create a twenty acre area that would predominantly be for mixed-use, and also host a number of creative businesses that will add to new Co-operative headquarter located at 1, Angel Sq.

## 6.5 Considerations

### Precedents of mosaic failure in post-war heritage



Figure 33 | The Royal College of Physicians, London (1964) by Denys Lasdun.  
(Author: Gaia Zamburlini, 2013)

In the previous section, I examined how the greatest concerns on the intervention came from the Twentieth Society, who have also attempted to support their opinion by bringing reference to case studies such as the London Royal College of Physicians (Figure 33), by Lasdun.

This is a grade I listed building from 1964, as well as an award winning example of architectural consolidation that took place by re-bonding tiles to the concrete and introducing horizontal movement joints. The porcelain tile cladding is a fundamental element of the original project, artistically speaking, as the Royal College of Physicians deviates from Lasdun's exposed-concrete standard, that is found in the majority of his works. The use of white tiles is paired with crafted engineering dark bricks, which instead clad the adjacent lecture theatre. The contrast of the two materials therefore plays an important part in the project, which represents one of the major reasons why consolidation is preferred. This consolidation has allowed the preservation of the authenticity of materials as well as the architectural expression communicated by the original design.

'The Royal College of Physicians is clad, but in a manner communicative of structure and function. It is artistically

expressive without being whimsical or kitsch, and it refers to its architectural context without deferring inappropriately to less important buildings just because they are old.’ (Calder, 2014)



Figure 34 | Metropolitan Cathedral of Christ the King, Liverpool, designed by Frederick Gibberd in 1960 and completed in 1967.

(Credits: Brendan Oxlade LRPS. Source: <http://www.pastscape.org.uk>)

Unlike the successful intervention on this building, a precedent to overcladding failing mosaics can be found in the case of Liverpool Metropolitan Cathedral (Figure 34) by Frederick Gibberd. Built between 1962 and 1967, the same time as the CIS Tower, the Cathedral soon began suffering from mosaic failure.

A full assessment of the building was made under a 5-year Cathedral Repair Grants Initiative, aimed at putting selected cathedrals, their contents, and their records into good order. This contributed to a large-scale intervention on the building undertaken on the mosaic covering the exposed ribs, whose tiles have expanded microscopically whilst absorbing extra water, thus becoming dislodged and allowing infiltrations to leak underneath them. An English Heritage report observes that:

‘Stripping the mosaic entirely would be an enormous task and we are not confident that a permanent solution has yet been found for reattaching it; alternative treatment of the bare concrete would be very difficult because its surface was originally roughened to receive the mosaics. It has therefore been decided to overclad the ribs in the hope that an answer will be forthcoming from research now beginning.’ (Halsey, 1994, p. 3)

The specific choice for a cheaper over-clad system, made in glass reinforced plastic, was made on the observation that there was no accessible way to treat or, even more drastically, remove the underneath damaged concrete. It was hence stated that the temporary solution of an overcladding system would only serve impellent safety needs. (Martin & Wood, 2012, p. 265). The instalment was rather straightforward and responded to the need to find a pragmatic solution to the cladding problem. It was hoped that a reversible solution could then be found in the future. As for the case of the CIS service tower re-cladding (Figure 35), the question therefore becomes how sustainable a short-term intervention can be in the long-term perspective.



Figure 35 | The service tower clad in PV panels and viewed from one of the top executive floors. The photo was taken in the occasion of a visit event organised by the Modernist Society in April 2013. (Author: Gaia Zamburlini, 2013)

As the above cases demonstrate, taking overcladding as an example of technological solution within conservation raises an interesting debate regarding the architectural role of elements that belong to different building functions. More specifically, it casts light onto the meaning that cladding and structure withhold during the course of a building life-cycle, and encourages us to consider the cultural and intrinsic role of technology that often risks being confined to technical experimentation rather than cultural meaning.

### **A thematic study**

From this perspective, it is useful to explore the building type before moving onto the specific technology being used, and the solution associated with its conservation. The

solution, as shown in the above case studies, is shared amongst commercial, educational and religious buildings.

With regards to the CIS Tower in Manchester, it is worth noting that commercial buildings have played a major role in the shaping of post-war cities. Commercial high-rise office blocks have thoroughly changed skylines, and the introduction of business parks has modified the urban environment and the way we conceive industry.

As Frank Duffy acknowledged in an interview I conducted for this dissertation, the way we live, work and enjoy leisure activities is shaped by the cultural changes that affect our environment, very often through the exploration and use of the latest technology. This is evident when taking into consideration the urban and architectural changes that have occurred in the aftermath of the Second World War. Similar to the way we experience a major shift when the latest digital technology is being used in our working life, the post-war positivism sparked by new social resolutions has also revolutionised business perspectives, hence making architecture adapt to such changes.

Post-war commercial buildings have shown how architecture has gradually been refined to meet radical changes. For instance, changes in computer-led work, which requires open-plan working spaces and more flexibility towards the mutating panorama of today's businesses.

While technological changes have come closer to allowing the structure to dictate a flexible grid layout, and the façade to be freed from the structure itself, the envelope has been ready to accommodate the lightness of a technology that had to respond to its aesthetical and iconic effect, as well as to the environmental needs depending on the usage of the building.

Also, the flexibility of the space was given major importance as a feature that would ensure adaptability through future changes, which also reflect the needs of new business partnerships. This character would expect conservation to act accordingly, foreseeing future changes while planning interventions on a building's envelope or structure.

This attitude should be valid for all heritage types, since the cultural environment gradually evolves our working and living habits: however, with offices being the highlight of

technological change, it is important that their conservation allow flexibility for future uses as well as foreseeable interventions.

The aesthetics of post-war commercial structures is strongly related to their iconic status, which, notwithstanding functional modification in the buildings' uses, should be kept preserved as an expression of new social forces and globalisation which are deeply rooted in the culture of that specific past:

'The focus of outrage in this new phase of heritage in Britain was not elite buildings such as palaces or churches, or medieval old towns, but monuments of Victorian industrial and commercial power. Partly, this also reflected a new phase of democratisation of the built heritage.' (Glendinning, 2013, p. 317)

Between 2013 and 2014, English Heritage completed a review of later twentieth century commercial office buildings, recognising the characteristics of conservation discussed above through a few good examples.

English Heritage's thematic study, amongst others, has specifically been made upon the recognition of a building type that is more than others challenged by the need for change, which therefore requires particular attention in the discussion as to where significance lies, and to what extent conservation needs to adhere to its traditional principles.

'We looked at commercial office buildings built between 1964 and 1984 for listing. After extensive research, a total of twenty-four were taken to full assessment, resulting in the addition of fourteen buildings to the National Heritage List for England. We were very selective in which buildings were recommended to the Department for Culture, Media and Sport, as the threshold for special architectural or historic interest in recent buildings is particularly high for such recent buildings.' (Historic England, 2015a)





Figure 36 | The New Century hall: Relief detail.  
(Source: <https://picturesforschools.wordpress.com>)

Some key post-war buildings, such as the illustrious Tower 42 in London (previously called the National Westminster Tower, designed by Siefert and Partners in between 1971 and 1980), were taken into consideration and fully assessed, but not listed. This wide-embracing attitude has been key in showing the commitment of English Heritage to acknowledging remarkable designs beyond listing, initiating a constructive dialogue between stakeholders and practitioners.

The project has enabled English Heritage to describe in detail where special interest can be found in as many as twenty-eight amended list entries, as

well as where, by exclusion, it was absent. Amongst these, it is worth noting the amendment for the listing of the New Century House, which forms part of the CIS complex and was originally listed Grade II in 1995 together with the 'twin' CIS Tower. The amendment considers its characteristics more closely, putting emphasis on the attached Conference Hall (Figure 36) and the concrete relief wall in the entrance piazza.

### **A controversial intervention**

In the above sections, the attention has been focussed on cladding solutions - the tiling of concrete structures - and on the cultural character represented by commercial buildings. I have demonstrated how the use of certain technologies may not have the same significance when considering different building functions. For instance, the use of tiles on the service tower of the CIS building has been primarily aimed at creating an iconic image

that would make stark contrast with the transparent volume of the Tower itself. In an attempt to imitate the coeval office developments in the US,

‘The use of structural frames permitted highly-glazed curtain walls and office floors could be raised over ground-floor shops on columns termed ‘*pilotis*’, expressing the different functions of a building.’ (Historic England, 2015b, p. 6)

The functional differentiation, as per modernist tradition by the means of volumes and materials, was a key aspect in expressing the efficient and operative reality of a company business. This distinguishes post-war office developments from other building types, disregarding the use of similar technologies.

‘Office buildings are amongst the most vulnerable building types, and rates of survival for some of the categories discussed above can be very low. What has endured is all the more significant as a result.’ (Historic England, 2015b, p. 10)

While a good amount of building types incorporates administrative functions, it is within commerce, banking, insurance and financial services that the office building type is undergoing major change, due to the widespread use of Information and Communications Technology. However, since commercial developments are designed to be let to tenants, relatively standardised configurations have prevailed, and it is extremely important to examine the histories that relate the architectural character of a specific development to its economic and regulatory context. This perspective has been thoroughly supported by thematic studies carried out by English Heritage, now Historic England, whose recently published *Commerce and Exchange Buildings: Designation Listing Selection Guide* (Historic England, 2015c) has highlighted their prestigious image, often put at risk because of the pressures of constant change on this particular building type.



## 7 CONCLUSIONS

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Figure 37 | The Barbican Estate is a Grade II Listed mixed use development built between 1963 and 1982 by the City of London Corporation, and designed by architects Chamberlin, Powell and Bon. In 2005, Listed Building Management Guidelines were approved as Supplementary Planning Guidance, so as to help residents, estate managers and planning officers to assess what kind of work would need listed building. These were reviewed to reflect changes in legislation and regulations, and amended in 2012. (Author: Gaia Zamburlini, 2014)

‘While Modernism does not, in itself, offer new design tools for buildings reuse and historic preservation, it does provide a very clear framework for the appropriate application of these tools.’ (Stein, 2010, p. 81)

## 7.1 Heritage in transition

### Introduction

This dissertation has departed from the need to develop a series of thematic issues that attempt to describe best practice for the acknowledgement, coordination and planning of modernist heritage conservation. Those have been developed from the literature and enriched by the contribution of key stakeholders involved with conserving modernist buildings in England.

These contributions have come from stakeholders representing a wide range of roles, both involved in academia and in practice. Although inclusivity and integration are gradually becoming part of the contemporary approach to conservation, the responses of the interviewees demonstrate how a critical approach is not yet fully implemented as part of a constructive theoretical discourse. This may be a cause of the gap existing between the statutory recognition of an integrated form of practice and the more general acknowledgment of heritage values, particularly of the recent past.

The observations developed in the first five chapters highlight an array of issues that arise with conserving this legacy of heritage conservation. Whilst the inter-war case studies have identified the nature of such issues and established a clear connection between the roots of industrial heritage and the concepts developed in the section 'Dimensions of Modernity', the analysis of a post-war context in England has served as a complimentary critique to the early modern legacy. The study and analysis of the CIS Tower in Manchester has instead highlighted the specific context of the post-war era in England as key to understanding the development of our current approach to the built heritage. This approach is one that is sustainability-oriented, hence particularly focussed on safeguarding resources.

Further dilemmas therefore arise from difficulties in conserving recent heritage, especially buildings that hold a strong iconic image within a city. These difficulties can lead to the identification of a viable approach to the architectural legacy of a building: an approach that takes into account the aspect of continuity through change. As the post-war

architectural experience has demonstrated, this helps to establish a conservation practice that is case-specific and needs to be considered within the specific socio-cultural context.

In this regard, the CIS Tower case study in Manchester has particularly served to identify the issues arising from the fast changing nature of post-war commercial architecture. Also, it demonstrates the difficult balance of meeting both sustainability and conservation criteria. This was a particularly pressing issue in the immediate post-war era.

To further explore the premise of this dissertation, a wider array of case studies would have been beneficial in identifying the difficulties arising with different heritage types across a more extended geographical scope. This could have helped to corroborate the observations of the first five chapters, made on the basis of the literature and on the data I gathered from the interviews. As I explained in the introductory chapter, however, the late change in methodology and time constraints have prevented this.

Despite this, it has been possible to identify the development of the approach to conservation in the light of socio-cultural changes. By providing a more informed consideration of the roots of the industrial past, I have examined how this has given way to building type specific analysis.

I have also demonstrated that the sustainable imperative is not any different from the one dictated by the need to conserve the built heritage, as they are both concerned with the long-term maintenance of resources. Therefore, with regard to the initial research question, it has been possible to ascertain that there is in principle no difference between conserving traditional and modernist heritage. In order to meet sustainability criteria, in fact, the approach needs to be the same in both cases. For example, inter-war and post-war buildings need to have changes managed in a compatible manner, by the careful upkeep of the fabric.

It is clearly the case that specific issues arise with recent modernist architecture, particularly the problems related to the authenticity of its architecture. These issues do not constitute, however, a disciplinary boundary (since the theoretical ground they share is the same) but an inner peculiarity of a particular heritage type.

Understanding *why* it is important to conserve as opposed to *how* conservation should be done is key to ascertain the difference between conserving traditional and modernist heritage. The difference lies only in the actual means of intervention, and not in the reason behind the discipline of conservation itself, as the aim remains to achieve sustainability in order to find a common rationale of practice.

With this body of theoretical observations, this dissertation has achieved the initial aim of creating a critical perspective on the subject. Notwithstanding the limitations of the single case study, which would have benefitted from a comparative analysis with other building types, the thesis serves as a basis for further research, while offering a theoretical perspective that can further be implemented in the exploration of modernist heritage critique and conservation.

### **Values and change**

The dissertation has cast light on heritage values in conservation. With particular regard to modernist heritage, and also on account of the difficulties that arise in the identification of authenticity (described in Chapter 3), I have observed that these difficulties are primarily identifiable in:

‘ ... the materials, I think, and mostly their use throughout: some of which have not proved to be durable, and some of which have proved only to have a short manufacturing life, so that in fact replacements in some cases are really quite difficult to source, and some materials can no longer be available. And, if authenticity is going to be maintained, that’s the difficulty.’ (Kindred, B., Interviewed by Zamburlini, G. on 4<sup>th</sup> February, 2014)

Chapter 3 also highlighted the parallel that can be drawn between the expressions of modernist architecture and the rise of twentieth century philosophy. This demonstrates the fast-changing process of new technologies, and the rise of philosophical theories alongside post-war uncertainties. Similarly, the concept of conservation is described by Miles Glendinning as follows:

‘I think one of the main factors that has prompted post-war heritage conservation is a continuation of one of the main dynamics of the conservation movement, which is the simple idea that there is always an advance towards more and more recent buildings. It is nothing more complicated than that: conservation is a discourse, like an ideological empire. It is a sort of Enlightenment, even if it pretends to be anti-progress.’ (Glendinning, M., interviewed by Zamburlini, G., on 4<sup>th</sup> February, 2014)

The notion of continuation expressed by Glendinning has clearly influenced twentieth century conservation theories and the post-war perspectives on sustainability, casting light onto a range of dilemmas concerning environmental impacts that had not been encountered before.

Other changes, such as the use of new technologies, are likely to lead to a re-thinking of our environment: how we see it, and how we make use of it. This thought process occurs, for instance, with the development of modern working spaces, as suggested by Frank Duffy, founder of DEGW:

‘It is changing the geography of the way in which buildings are used over time: there are hundreds of people in the Royal Festival Hall not going to concerts, but actually meeting each other and doing business, running little enterprises. It is a kind of a social centre as well as a business centre ... to me it is extremely interesting that places that would have been empty twenty years ago are being now habitable because of the portable IT.’ (Duffy, F., interviewed by Zamburlini, G. on 17<sup>th</sup> December 2013)

The Royal Festival Hall case seems to suggest that a more dynamic interaction between the pillars of sustainability is advisable - so that they are not considered individually but as part of an individual process. In addition to this, the case suggested by Duffy exemplifies the simultaneous interaction between social and technological changes, both of which are responsible for an economical, hence environmental transformation. It is then our response to such changes, which occurs in the form of technological and social adaptation, that determines future social impact.

As the above demonstrates, working spaces are among the assets with a more frequent need for change. Consequently, their conservation needs to respond adequately, perhaps by casting light on the process of preserving places through change. The example of the Royal Festival Hall at Southbank in London (Figure 38) is key for exemplifying the idea of a holistic approach to conservation.

‘It is a challenge that is actually cultural rather than technological. Starting from this standpoint we can assert that Planned Conservation strategy is profoundly different from maintenance practices because the accent is put on the future, not on the past.’ (Canziani & Borgarino, 2011)

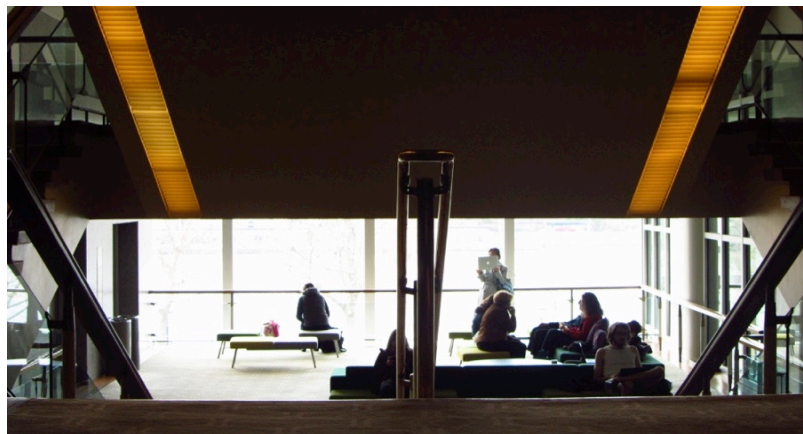


Figure 38 | The Royal Festival Hall at Southbank, London.  
(Author: Gaia Zamburlini, 2013)

‘... Happy the Royal Festival Hall to have been given a party on its fortieth birthday. Perhaps we should do this for more buildings to show we care.’ (Holder, 1993)

### **The case for modernist heritage**

The international inter-war heritage studies in the first three chapters of this thesis (the Van Nelle Factory, the Bauhaus in Dessau, the Zonnestraal Sanatorium) have demonstrated, at various degrees, that a building’s original design concept is key to understanding how the intention of the architect can influence conservation choices.

The analysis of these three masterpieces has shown that the early Modern Movement defined a design strategy that was able to cope with a rapidly developing society. Hence, this resulted in a renewed vision of architecture and planning, and in processes that were focussed on optimisation and production in series. Their position is comparable, to some extent, to today's dilemmas on sustainable design, which envisage a philosophy of efficiency throughout. The factor that today shifts the discourse towards this attitude is however slightly different from the one that originally sparked the philosophy of the early modern: if architects had to design spaces that would allow for flexibility, it was primarily due to limited finances, but sometimes also due to a new vision of architecture and the arts that was meant to break away with the tradition. Now, instead, we seem to be more concerned with the urgent threat that is being posed to our changing Environment, reacting to the need to reduce energy usage, control consumption and manage waste. As Wessel de Jonge notes:

‘Both then and now transitoriness and changeability are key terms in these innovative developments or, more conceptually phrased, the relationship between continuity and change.’ (De Jonge, 2004b, p. 2)

These observations bring me to the conclusion that there is a lesson to be learnt in the design concept of the early Modern Movement, and in Duiker's previously discussed ideas of 'spiritual economy'. This seems to have envisaged, decades earlier, a holistic approach to construction that would both foresee and manage change. Within this perspective, the Sustainable Development Triangle also shifts from being pillar-based to being part of an integrated process that ensures continuity through change.

When considering sustainable design in conservation, it is important to ensure that the original concept is fully understood, which requires a thorough analysis of the asset and understanding of how and why it has changed through time. As highlighted in the case of the Van Nelle Factory and the Zonnestraal Sanatorium, these two buildings were born for very different purposes and therefore the approach to their conservation needed to be different in order to ensure maximum compatibility and, subsequently, longer life-spans.

The former was built with the idea of changeability and manageability in mind. Also as a natural development of the traditional factory building type, it was relatively 'easier' to conserve. The latter posed more difficulties; the design brief and the availability of a limited budget strongly influenced the cultural imperative of the original concept. This design was not focussed on the form and aesthetics, but on the optimisation of technology itself, as illustrated by De Jonge:

'Duiker and his compatriots were dedicated to construct as light as possible, with a minimum of material used. The dimensions of the concrete frame for "Zonnestraal" follow the moment diagram, and beams are haunched at their supports to take up the shear forces.' (De Jonge, 2004a)

This has placed more pressure on the optimisation of the Sanatorium's building performance, in comparison to the Van Nelle Factory. Their successful conservation has however highlighted the challenges of a design approach that is strongly influenced by the industrial tradition, whose character is still very much present today and whose principles of flexibility and adaptability need to be implemented in today's conservation strategies.



## 7.2 Heritage as living memory

### Conservation through memory

The discourse on heritage acknowledgment developed in this thesis has demonstrated that social memory plays a key factor, as the value of cultural significance is contextual, complex and seems to primarily depend on the social recollection of the past. Despite memory being linked with visual imagery, cultural significance goes beyond the iconic image of modern architecture, which tends to be instead mistakenly interpreted as the character of newness to be preserved, disregarding the passing of time and the inevitable process of change.

Not only is memory a strong determiner in the collective attitude towards the surrounding built environment, but it is also the means through which built heritage is kept alive. The acceptance of cultural significance as a whole therefore ensures the effectiveness of an Integrated and Planned Conservation, as it enables both the coordination of disciplines and future management.

### The case for post-war architecture

The analysis of the three international case studies, all with a strong influence from the industrial legacy, has highlighted how the new perspective towards a more integrated set of values poses new challenges in compare to the consideration of traditional assets. Both the literature and the practice has acknowledged this as a major dilemma for modernist heritage conservation, whose concept of authenticity seems to differ considerably:

‘What the philosophy of conservation in this country doesn’t usually accommodate is the question of authenticity on modern buildings; ... So there isn’t, within most practitioners, a familiarity with it to understand where you would base the principles, or a way in which you would evaluate the work you are doing.’ (Kindred, B., Interviewed by Zamburlini, G. on 4<sup>th</sup> February, 2014)

If we agree on the case for conserving modernist heritage, the question also arises as to whether there is any relevant difference between the issues involved in considering inter-war and post-war assets. This research has departed from the hypothesis that post-war heritage presents us with context-specific issues of a socially difficult time that soon lost its faith in the positive philosophy of early Modernism, whilst still inheriting its legacy.

This distinction is however purely historical, and we could argue that in principle there should be no difference, as all heritage is part of a continuous process. However, this research demonstrates that, beyond historical context, what contributes to adopting different approaches towards post-war heritage is first and foremost the fact that it constitutes a living memory, which results in shorter spans of time for the acknowledgement of certain values. This hasn't quite happened with traditional heritage, where the need to consider intervention - and therefore investigate the values of an existing building, on an existing building - has always occurred within reasonable time, and not only a few decades after completion of the building, as is the case of post-war heritage.

The cultural shift that occurred in the post-war decades, and the urgency with which reconstruction has taken place, are strongly reflected in the use of building technology. This makes the date of the War a meaningful turning point that breaks the continuity of the Modern Era.

'That interval ... denotes more of a major shift (the building technology, the financing of buildings, the opportunities of post-war reconstruction) than perhaps any other point in British history ... There's a kind of distinctive quality to the period, and in some ways the approach to conserving may be different because of the inheritance in the material.'  
(Powers, A., interviewed by Zamburlini, G. on 14<sup>th</sup> January 2014)

With post-war architecture being so recent, another significant factor is that we can talk to those who have been part of that reality, both as designers and users. If we were to attempt to put into practice what Wessel De Jonge described when following the original design concept, we would realise that it is still possible to find out more data about post-war existing buildings just by talking to the people who designed them, or those who work

and live there. If, on one hand, the factor of recentness plays against the idea of living memory (which often happens in the case of post-war housing schemes), on the other it is likely to allow for an insightful and 'closer' understanding of the building, often still in its original use.

When asked about the factors that historically prompted post-war heritage conservation, James Dunnett observed that there is no real difference in the reason for conserving traditional and modernist assets in general. Whilst acknowledging the aspect of recentness for late twentieth century assets, Dunnett recognises that this should not prevent any recognition of significance:

'From my point of view, the best post-war architecture embodies cultural values that are as important as the architecture from previous periods. So, if the objective of conserving heritage from an earlier period is to conserve objects with cultural values, you should obviously be doing the same for post-war heritage.' (Dunnett, J., interviewed by Zamburlini, G. on 11<sup>th</sup> December 2013)

This notwithstanding, there is an important factor that distinguishes the character of post-war heritage from earlier Modernism, and this factor is strongly related to the development of conservation theories. Due to the fact that they developed simultaneously in the aftermath of the World conflict, it seems legitimate to make a case for interventions on post-war assets in particular. Worthing and Bond note that:

'In recent years, the focus has moved away from what to protect (although the listing of post-war structures has reignited that debate) to a development in the ideas about what qualities are to be valued. Perhaps the most important shift in attitude is towards the acceptance of a wider-ranging and more inclusive idea of what is of value.' (Worthing & Bond, 2008, p. 55)

It is recognized that from the Venice Charter onwards, the philosophy of conservation shifted from the focus on heritage settings towards a more embracing perspective. This philosophy now encompasses localism, cultural diversity, and the consideration of intangible values, as also detailed in the UNESCO Operational Guidelines:

‘Depending on the type of cultural heritage, and its cultural context, properties may be understood to meet the conditions of authenticity if their cultural values ... are truthfully expressed through a variety of attributes, including:

- Form and Design
- Materials and substance
- Use and function
- Traditions, techniques and management systems
- Location and setting
- Language and other forms of intangible Heritage
- Spirit and feeling
- Other internal / external factors (Kalman, 2014, p. 206)

As well as developing within a cultural background that was starting to stress attention on intangible values and authenticity, post-war heritage was also born in concomitance with an increased environmental awareness. This culminated first in taking environmental measures at an international level, that could encounter the frightening scenario depicted by resources in constant decrease, and newly formed urban developments affecting the surrounding landscape and historical settings. Then, in the late 1980s, and specifically in England, this shift also triggered the need to protect the national heritage by conducting thorough thematic surveys and including for listing those assets that had been designed and built in the earliest years of the post-war period.

The acknowledgement of the urban legacy left by the reconstruction was key in identifying an historical turning point that served to lead, years later, to a reconsideration of our use of resources. With reference to the post-war redevelopment programme, Harold Kalman asserts that:

‘Nowhere is the convergence of shaping the built environment and achieving social objectives more evident than in the planning, rebuilding and conservation of historic centres.’ (Kalman, 2014, p. 81)

It is therefore possible to conclude that the protection of post-war assets has occurred out of the need to develop a sustainable approach towards the built and natural environment.

This current architectural practice must adopt a theoretical approach that takes into account broader heritage values, as demonstrated by the Venice Charter through to the Granada Convention, and considers the landscape in its entirety, abandoning the focus on the individual monument. Whilst these concepts have been developed as a theoretical framework, at the same time they have also encouraged the development of a planned and integrated conservation. This has been aimed at devising a viable approach to the protection of historic buildings, by envisaging long-term planning and cross-disciplinary investigation.

### **Planned and Integrated Conservation: Concept, Process, Policy**

A 'Planned and Integrated Conservation' is first and foremost a sustainable concept, reflecting the inclusivity of practice that is depicted in the Sustainable Development Triangle. It then develops as a process, ensuring that the confrontation of different aspects enable long-term prosperity, whilst including prevention and planning. Thirdly, conservation is to be implemented as a Policy. This means that its principles, advocated in the academic research and in the efforts of do.co.mo.mo International and ICOMOS to highlight awareness on the subject, are to be acknowledged by the legislative system of each country and accepted by the architectural practice.

The idea of implementing the sustainable principles advocated by this type of conservation is becoming more relevant in the present day, as there is an increasing trend experimenting with state-of-the-art technologies. Post-modern and Hi-Tech architecture, which will become recognised as part of our architectural legacy in a few decades, are now posing a greater environmental risk. They will therefore need not only to be accepted as 'historical' heritage - notwithstanding their relative recentness - but will also have to meet current standards of sustainability in order to still be part of our environment.

With the process of architecture quickly becoming part of our historical heritage, which is the result of 'new' technologies becoming outdated sooner than they would traditionally, and therefore presenting decays and faults that require immediate protection, the need of a responsive strategy is urgently called upon.

The concept of a planned and integrated conservation, and the need for flexibility in the approach advocated by specific case studies, is today being implemented in the use of Conservation Plans. These are based on the idea that an understanding of the historic asset is fundamental to ensure a suitable approach to the environment. This stage needs to be followed by the assessment of its significance and the consideration of vulnerability factors, before finally identifying relevant conservation policies. As Kate Clark notes,

‘Conservation Plans are not new. There are already several publications on recording and analysing historic buildings and English Heritage have two useful leaflets - Development in the Historic Environment and Management Guidelines for Listed Buildings.’ (Clark, 2000).

Their formal introduction of Conservation Plans in England was made by the Heritage Lottery Fund, with the publication of *Conservation Plans for Historic Places* (Heritage Lottery Fund, 1998). This document has been based on the work of James Semple Kerr (Kerr, 1996) who had previously developed this approach in Australia, and whose work reflected the variety of heritage types and values that are at the basis of conservation in England. A more recent publication by the Heritage Lottery Fund suggests that a Conservation (Management) Plan:

‘... explains why a place is significant and how you will sustain that significance in any new use, alteration, repair or management. ... It is based on a very simple thinking process which starts with describing what is there, why it matters, what is happening to it and the principles by which you will manage it, and *then* sets more detailed work programmes for maintenance, management, access, use or other issues.’ (Heritage Lottery Fund, 2004)

By this definition, Conservation Plans prove to be particularly useful where heritage significance is less obvious, which - as demonstrated by this research - has been the case of modernist assets. In England, as Clarke suggests,

‘... the parallel lies with Listed Buildings Management Agreement, developed to counteract the uneasiness of owners of listed modern buildings’ (Clark, 1998, p. 10)

This approach to heritage assets has cast light on a methodology that is driven by significance, and plans how this can be managed through time. Also, it serves as a clear ‘... complement [to] statutory protection, in a way which is comprehensible, efficient and effective for all the parties concerned’ (Kindred, 1995, p. 15). Understanding significance is extremely important in the development of twentieth century conservation theories, where it is recognised that values are not absolute. These values can be expressed, as suggested by UNESCO’s Operational Guidelines (Kalman, 2014, p. 206), by a variety of



Figure 39 | The Willis Faber and Dumas Headquarter, completed in 1975, from Foster and Partners Online Project Archive

(Source: <http://www.fosterandpartners.com>)

different tangible and intangible attributes, on the basis of which it is possible to ascertain the status of authenticity of an asset. This process of analysis acknowledges that an architectural object, together with its fabric and cultural significance, is subject to the passing of time, which stands at the basis of the philosophy put forward by Conservation Plans.

As discussed earlier, the parallel with modernist heritage is extremely relevant. The philosophy carried forward by these Conservation Plans was first used under the name of Listed Building Management Agreement, on the post-war listed Willis Faber and Dumas Headquarter in Ipswich, designed by Norman Foster and built between 1974 and 1975 (Figure 39). The building was first listed in 1991 out of special architectural and historical interest, being one of only two buildings at the time to fall outside the criteria of the Thirty Year Rule established by English Heritage. This occurred after rumors that the Insurance Company occupying the building wanted to proceed with major internal alteration works.

Such changes envisaged the pool to be filled in to make room for more office space, which was claimed by the firm as the most desirable and cost-effective option.

This proposal would have an irremediable impact on the social value conferred to the building. It would also negatively impact its avant-garde architecture, which is extremely unusual for a commercial development. The decision was predictably followed by an immediate uproar against such plans of alteration: Subsequently, and shortly after, the decision to list the building was taken, which at first was not welcomed by the company, Willis Faber and Dumas. Bob Kindred, at the time Conservation Officer for Ipswich Borough Council, recalls:

‘I suggested that it would be helpful if guidelines were prepared to enable all the parties involved to be clear about what matters would be likely to require Listed Building Consent or planning permission ... Overall the guidelines worked well ... It was appreciated that a thorough and genuine attempt had been made by the Council and English heritage to devise a sensible and practical working arrangement for managing change.’ (Kindred, 1995, p. 13)

The proposal was welcomed by all parties, and in 1992-3, Ipswich Borough Council, the owners of the building, and English Heritage agreed guidelines to clarify the conditions of requirements for Listed Building Consent and/or Planning Permission.

The successfulness of this Management Agreement is not a case in isolation, and demonstrates the efficiency of a planned and integrated practice that involves all parties at play. This strategy hails positive outcomes. For instance, it ensures that the listing process does not become a constraining tool that prevents change, as the application of the Agreement itself is willing to acknowledge change if this is proved to be part of a recognized continuity. The status of this continuity is then discussed, and enables stakeholders to confront with each other, as it occurred in the case of Norman Foster’s Ipswich complex. Prior to the drawing out of the document, discussions have been held concerning the original design concept to be preserved, as well as the owner’s needs of an expanding business.



Also, the methodology advised by this approach ensures that a thorough investigation on the significance of the building and its history is carried out. This allows for the understanding of the asset throughout and for making informed decisions on its future. It is therefore on this basis that further changes to the fabric of the asset are accepted, by complying with the condition that the authenticity of the original design philosophy, hence the values that distinguish the building, are not threatened by such alterations.

### **The challenge of change**

The case of the CIS Tower, analysed in Chapter 6 of this thesis, has been fundamental in highlighting the issues that arise when modernist buildings face the need for change, whilst having to cope with the imperatives dictated by conservation theories. The overcladding of the service tower has illustrated the very common struggle that occurs when sustainable requirements overshadow other values that are embodied in the special architectural and cultural interest of the asset. The paradox of retaining the existing fabric to the point of causing further damage, as with the service tower's original tiles, was justified by the statement that the overcladding would only be a temporary solution.

In the light of the discourse on planned and integrated conservation, this approach is not able to envisage a long-term plan. Also, it displays a similar attitude to the one that was first adopted in the 1960s when designing the service tower, where little knowledge was demonstrated as to how the cement-bonded tiles would behave in the near future. If this approach of experimentation with technologies and materials was common at the time, it is now hardly acceptable to consider this as a strategic solution, as we are fully aware of the consequences. These are likely to reflect both on the level of cultural significance, which instead needs to be retained through the careful upkeep of the built heritage, and on the level of environmental impact used by an improper use of technologies, both at design and conservation stage.

As the thesis demonstrates, this discourse is specifically relevant to post-war architecture, whose design represents the logical development of the industrial-inspired design of the Modern Movement, and at the same time precedes the technological experimentations

that would soon inspire the High-Tech Movement. It is upon the understanding of this process, characterised by the presence of technology as a major trigger of cultural change, that the development of a holistic practice is advisable. To this concern, a 'Planned and Integrated Conservation' responds to this need by approaching the challenge of managing change, whilst ensuring continuity in the retention of cultural significance.

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## 9.1 Interviews

### List of respondents

The list below includes alphabetically the respondents who have participated in the research by being interviewed in between late 2013 and early 2014. Of the twenty-three interviewees, only one has not allowed their names and affiliations to be disclosed.

- Tim Benton (The Open University)
- Chloe Bird (Southbank Centre)
- Peter Blundell Jones (University of Sheffield)
- Peter Bonfield (BRE)
- Eamonn Canniffe (Manchester School of Architecture)
- Frank Duffy (DEGW)
- James Dunnett (docomomo UK)
- Geraint Franklin (Historic England)
- David Garrard (formerly English Heritage)
- Miles Glendinning (University of Edinburgh)
- David Harvey (University of Exeter)
- Elain Harwood (Historic England)
- Robert Hume (Land Securities)
- Barry Joyce (ICOMOS)
- Bob Kindred (IHBC)
- Mike McCarty (Southbank Centre)
- Sean O'Reilly (IHBC)
- Alan Powers (20<sup>th</sup> Century Society)
- Andrew Saint (Historic England)
- Patience Trevor (Historic England)
- Susie West (The Open University)
- Tim Yates (BRE)

Profile of respondent(s) who have not confirmed authorisation of their name and affiliation being disclosed:

- Architect of a London-based practice involved with modern heritage conservation

## Transcript of semi-structured interviews

### 1 - FACTORS

Q: What are the main factors that have prompted the need for recognising heritage assets?

Q: What are the main factors that have prompted post-war heritage conservation?

*(Please motivate your answer while highlighting the shift occurring from traditional to post-War Heritage Conservation).*

### 2 - ISSUES and PERSPECTIVES

Q: What are the main issues arisen in the practice of conserving post-war heritage?

*(Please motivate your answer, describing their nature as well as potential interactions within each other).*

Q: Can you tell us more about the theoretical perspectives that embrace such issues?

Q: Do you believe there is a specific building type within the Post-War assets that is more at risk when considering Conservation practices?

### 3 - SUSTAINABILITY

Q: What are the main issues arisen in the practice of conserving post-war heritage?

*(Please motivate your answer, describing their nature as well as potential interactions within each other).*

Q: Can you please articulate the challenges associated with the implementation of sustainability in the context of post-war heritage conservation?

*(Please provide some examples, possibly referring to your professional experience).*

Q: What are the key areas involved in a 'Planned and Integrated Conservation'?

*(In the context of this question, we refer in fact to the current mainstream views towards conservation practice, where a planned as opposed to a reactive conservation is expected to reduce risk and implement perspectives from different stakeholders).*

#### 4 – LEGISLATION

*The 'Principles of Selection for Listed Buildings' (DCMS 2010) defines criteria for listing on the basis of specialness: architectural and historical. This document is to be taken in consideration alongside with the specification of Values in the 'Conservation Principles Guidance' (evidential, historical, aesthetical, communal, as defined by English Heritage 2008), as well as with the Selection Guides defining Factors of relevance by sector. Despite this, the Listing process of post-war heritage still remains a controversial task.*

Q: How do you suggest that the recognition of the intangible communal value can be operationalised in post-war heritage listing?

*The National Heritage Protection Plan (EH 2011, revised 2013) has been built around a set of management priorities, in order to ensure sustainability towards the long-term protection of the historic environment in England. As well as outlining essential supporting actions, it includes an action plan of measures specifically designed for traditional as well as later XXth century heritage, section 4A2.*

Q: Please share your thoughts about the way the measures mentioned in the NHPP can be operationalised.



## 5 – SKILLS and COMPETENCES

- Q: Please describe your current role in the practice with respect to post-war heritage conservation.
- Q: What are the main skills that you bring to your work in the conservation of post-war heritage?
- Q: What are your competences?
- Q: Which are the most difficult skills to acquire in the field of conservation, with specific regard to post-war heritage? Why?
- Q: Which are the most important skills to achieve the required competences?