

REINDER ZWART  
2008



MODERN MOVEMENT CONSERVATIONS

LESSONS LEARNED

I CANNOT SEE IT; I DO NOT UNDERSTAND IT AND IT DOES NOT LOOK OLD TO ME.

R. Longstreth

WHY CAN'T WE HAVE THOSE CURVES AND ARCHES THAT EXPRESS FEELING IN DESIGN? WHAT IS WRONG WITH THEM? WHY HAS EVERYTHING GOT TO BE VERTICAL, STRAIGHT, UNBENDING, ONLY AT RIGHT ANGLES- AND FUNCTIONAL?

Prince Charles, Prince of Wales

FORM FOLLOWS FIASCO

P. Blake



**Picture 1:**

*House Schminke, architect Hans Scharoun. Löbau, Germany.*

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## 1. FOREWORD

The unenthusiastic quotes on page 1 reflect feelings of a large part of the general public. The quoted people could not see beauty in modern movement buildings. Richard Longstreth could not see it and he did not understand it, Prince Charles apparently thinks only curved buildings can evoke emotions and Peter Blake could not imagine that form would follow its function.

It is sad that these men never looked further than their first opinion. If they would have seen the Schminke house, by architect Hans Scharoun, in Löbau, Germany, it would have been impossible for them to stick to their statements. This building is easily understandable, it has the curves which Prince Charles favours, and finally, the form, due to its function, is not a fiasco but a feat. The only statement that stands ground is that the house does not look old. But this might also be considered as a compliment for a building dating from 1933.

Once, I could have made those unenthusiastic quotes myself. To value buildings from the modern movement is not easy. These buildings are often stained, the concrete slabs are prone to rot, the steel windows are rusted, the flat roofs tend to leak and due to the big single glass constructions the buildings have bad indoor climates. Besides, as pointed out by Prince Charles, the rectangular architecture does not evoke immediate emotions or admiration, which makes it difficult to get public support and private financing for their conservation. To make matters worse, contemporary architecture is based on the same design principles; a large part of our surrounding built environment is the direct or indirect result of modernity. Everywhere there are box shaped villas to be seen which are hardly distinguishable from their modernist predecessors. This makes it difficult to see the distinctiveness of many buildings from the modern movement.

After visiting Jan Duiker and Bernard Bijvoet's 'Zonnestraal' sanatorium in Hilversum (the Netherlands), during restoration, it was no longer difficult for me to see its uniqueness. Before my visit, I wondered why all this effort and money was put in such a building, not old and awfully deteriorated. On site, the restoration architect explained the concept of the design and the techniques



**Picture 1:**  
*Zonnestraal sanatorium, Hilversum, the Netherlands. Before the reconstruction of 2000.*

used by Duiker and Bijvoet. I was astonished to discover that the building dated from 1927, and to learn what modern and innovative techniques were used. For example Duiker and Bijvoet and their structural engineer, Jan Gerko Wiebenga, introduced prefabricated building components which could be replaced when deteriorated or when they malfunctioned. For the first time I saw what Prince Charles and Richard Longstreth could not see- the unique values of one of the modern movement icons.

I hope that the general public will be able to appreciate the modern movement architecture just as I do now. UNESCO considers the modern movement heritage particularly vulnerable because of weak legal protection and the low appreciation of the general public.<sup>1</sup> This low appreciation is reflected in the World Heritage List. As of January 2008, out of 851 properties and sites, only nine are modern movement buildings. But the interest of the general public is increasing. The number of inscribed modern movement buildings has risen from two in 1996 to nine in 2008.

Reinder Zwart  
April 7, 2008.

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<sup>1</sup> Identification and Documentation of Modern Heritage. (World Heritage papers 5). Oers, R. van; Haraguchi, S. (eds.). UNESCO World Heritage Centre, France, 2003.

#### SANATORIUM 'ZONNESTRAAL':

Around 1918, Zonnestraal was founded by the Amsterdam Diamondworkers Union as an aftercare colony (sanatorium) to train tubercular patients for their return to society. Financed by means of collections amongst colleagues, Zonnestraal is emblematic for the emerging ideals of social democracy in The Netherlands.

The sanatorium was built on the edge of the woods of Hilversum, the Netherlands. The sanatorium complex consists of a main service building and two pavilions, accommodating a total of 128 patients. The functional hierarchy in levels of 'community' - from individual patient rooms through common rooms to the large recreation hall in the main building - was a social experiment, essential to the medical approach.

Vanguard architects Johannes Duiker (1890-1935) and Bernard Bijvoet (1889-1979) designed the sanatorium in 1925-1927, with the structural engineer Jan Gerko Wiebenga (1886-1974); all were dedicated to 'the Nieuwe Bouwen', the Dutch branch of the international Modern Movement. The wings of the buildings are set at angles so as to obtain unhampered views and a maximum of sunlight. The architects' conception of the 'functional core of the brief' was pushed to its limits by designing a structure that was intended to last only as long as necessary to eliminate tuberculosis, an estimated 30 years. Typically, the building materials and features used are, or were expected to become, cheap and ordinary and of a modest technical quality. Many were used experimentally. For the same reason, most fixtures are industrially produced standard products. Maintenance works were made part of the patients' therapy. The introduction of a load-bearing skeleton allowed the facades to become a prototypical steel and glass 'curtain wall', resulting in an extremely lucid, transparent architecture, with a strong outward orientation. Where necessary, privacy is provided by introducing precast concrete spandrel panels, the earliest known of such an application in The Netherlands. The reinforced concrete skeleton is in design extremely light, demonstrating the designers' theory of 'spiritual economy'.

This information is part of the description of the "Sanatorium Zonnestraal" in the tentative list of UNESCO's World Heritage (see [www.whc.unesco.org](http://www.whc.unesco.org)). The sanatorium is not yet World Heritage but the Netherlands Department for Conservation is working on its inscription.

## 2. PREFACE

My aim is to give an overview of recent discussions regarding modern movement conservation. I hope that the outcome of the paper will be a source of inspiration and a help for owners of modern movement buildings and non experts who deal with modern movement heritage. They may use this paper to form an opinion and give directions to the conservator.

The reasons why I wrote this paper are diverse. First of all I wanted to learn more about this architecture style and its conservation. Secondly, the recent investments in the icons of the modern movement buildings made me wonder: *'What are the lessons learned from conservations of the modern movement buildings?'*

To start, I would like to explain the title of the paper *'Modern movement, lessons from conservations'*. Firstly, what is *modern movement*? This question will be the starting point of my paper, trying to define the modern movement. I did not want to write an architectural essay, since there are plenty of books about modern movement architecture which deal with this matter better than I can ever do. However, in chapter three I attempt to give a brief description of what modern movement is and why it set off.

In chapter four, I focus on the implementation of the internationally accepted documents regarding the conservation of cultural heritage. I pose the statement: *'The international documents regarding the conservation practice are too rigid for the buildings of the modern movement'*. In reaction to this statement I first try to identify the main causes of the way modern movement buildings deteriorate. Secondly I briefly explain the background of the relevant international documents. From there I explore different parts of these documents and through examples I responded to the statement. I close chapter four with looking at the possibility of 'no intervention'.

I end this paper with my point of view regarding the problems and possibilities of the conservation of modern movement buildings.

My focus is especially on buildings from 1919-1939 because in this period the material innovation and development of architecture go hand in hand. Further, I left developments outside Europe out of consideration.

It is always dangerous to say something general about problems and solutions regarding the conservation of buildings. Every object has its own characteristic problems due to its setting, surroundings, age, materialisation, design (and designer), construction techniques, etc, etc. I understand that in cases where I did generalise problems and solutions, there will always be exceptions.

### **'WHAT ARE THE LESSONS LEARNED FROM CONSERVATIONS OF THE MODERN MOVEMENT BUILDINGS?'**

### **'THE INTERNATIONAL DOCUMENTS REGARDING THE CONSERVATION PRACTICE ARE TOO RIGID FOR THE BUILDINGS OF THE MODERN MOVEMENT'.**

### 3. MODERN MOVEMENT

At the end of the 19<sup>th</sup> century several movements emerged in the arts in reaction to developments following the Industrial Revolution. These movements, which also touched upon architecture, were later influenced by the First World War and the Russian Revolution. The artists of this time dreamed of a world free of war, greed, social differences and injustice. What surfaced was a loose collection of ideas, more than one specific style. Many of these ideas can be characterised as Modernist. They shared certain underlying principles: a rejection of history and applied ornaments; a preference for abstraction; and a belief that design and technology could transform society. The collective term 'modernism' was later given to these movements by art historians. Among the architecture historians the title 'modern movement' became the accepted term for the architecture with abovementioned characteristics. The term 'modern movement' is not reserved for the architecture of the early twentieth century but covers architectural movements from the twenties up to the seventies of the 20th century.

Thus the modern movement is a label for different styles or style names like 'De Stijl' in the Netherlands, the Bauhaus architecture, constructivism in Russia, rationalism, functionalism, the International Style, etc. The architecture broke with the previous styles, as all 'new' styles tend to do. But due to technological innovations the change of style was more drastic, radical and progressive than its predecessors. As A.H. Barr already wrote in 1932 in a preface for Hitchcock and Johnson's 'The International Style':

*"I believe that there exists today a modern style as original, as consistent, as logical, as widely distributed as any in the past... the distinguishing aesthetic principles of the International Style as laid down by Hitchcock and Johnson are three: emphasis upon volume – space enclosed by thin planes as opposed to the suggestion of mass and solidity; regularity as opposed to symmetry or other kinds of obvious balance; and, lastly, dependence upon the intrinsic elegance of materials, technical perfection and fine proportions, as opposed to applied ornament.*

*For even more than the great Styles of the past it requires restraint and discipline, the will to perfect as well to as to invent."<sup>2</sup>*

Although the text of A.H. Barr gives us some hints what the architecture looks like, there are hardly common style elements that define the style 'modern movement'. Even among architecture historians and architects there is no consensus about the exact definition, and perhaps this is the best. The human habit (and especially the habit of (art) historians) of placing everything in a labelled box in order to include or exclude something in the definition are somehow artificial with such a theoretical style. One of the founding fathers of the DOCOMOMO<sup>3</sup> working party (Documentation and Conservation of buildings, sites and neighbourhoods of the Modern Movement), Hubert Jan Henket says it like this:

*"The modern movement does not represent a coherent, identifiable unity but covers a wide variety of trends with different approaches, depending on the individual opinions, political climate, social and cultural context and time. Modern movement is considered to mean social and aesthetic innovation, using state-of-the-art technology and rejecting the values of continuity and tradition in order to shape the present and the new."<sup>4</sup>*

Since the modern movement covers such a great variety of styles, types and time span that it is almost impossible to determine its style characteristics. A lot has been written about the modern movement as an architectural style by experts, critics and fans. As defining the modern movement is not the aim of this paper, I will use the words of Hubert-Jan Henket from his lecture 'Has the Modern Movement any Meaning for Tomorrow?' for the conference 'Konservierung der Moderne' in

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<sup>2</sup> A.H. Barr, preface in: Hitchcock, H.R.; Johnson, P. *The International Style*, W.W. Norton & Company, New York and London 1995 (originally published under the title *The International Style, Architecture since 1922*, New York, 1932), pages 27, 29, 30.

<sup>3</sup> DOCOMOMO is the international working party for Documentation and Conservation of buildings, sites and neighbourhoods of the Modern Movement, founded in Eindhoven, the Netherlands, 1990. The working part has become the advisor for ICOMOS (and therefore for UNESCO) in case of the buildings, sites and neighbourhoods of the modern movement.

<sup>4</sup> H.-J. Henket 'Back from Utopia. The challenge of the Modern Movement' in: Henket, H.A.J.; Heijnen, H. (eds.). *Back from Utopia, The Challenge of the Modern Movement*. 010 Publishers, Rotterdam, the Netherlands, 2002, page 9.

Leipzig, 1996. In my opinion this is one of the best descriptions of the modern movement.

*"The Industrial Revolution had changed the society at the turn of the century, social and technical. Apart from the changing concept of time, the building also demonstrates the increasing tendency to experiment and innovate in social technical and aesthetic matters.*

*For many architects the modern movement was not so much an aesthetic principle or a style, but rather a method of working, a way of thinking about people and their environment. These buildings should primarily be constructed as a utility. They were to be designed as economically as possible and should express the openness, transparency and accountability of the new culture, they should fulfil the ambitions of the emancipating masses, be hygienic and healthy, and they should be produced and assembled as efficiently as possible, making use of as little material as possible by employing the latest technological innovations."<sup>5</sup>*

The architects of the modern movement had an optimistic vision of social equality and the improvement of living conditions for everyone. But the irony is that modern movement derives its reputation among the general public from the 'white villas' for wealthy investors with progressive ideas instead of from the social housings. The most famous villas are probably the Villa Müller in Prague by Adolf Loos; Villa Tugendhat in Brno by Ludwig Mies van der Rohe; Villa Savoye in Poisy by Le Corbusier and Jeanneret; and the Rietveld-Schröder house in Utrecht by Gerrit Rietveld. The post-WWII large-scale housing, like the designs for new cities by Le Corbusier (plan Voisin), on the contrary contributed to the depreciation of the legacy of the modern movement.

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<sup>5</sup> Henket, H.J., Has the Modern Movement any Meaning for Tomorrow? Conference proceedings. For the conference on the conservation of modern architecture: 'Konservierung der moderne? Über den umgang met den Zeugnissen der Architekturgeschichte des 20. Jahrhunderts'. [How we deal with the witnesses of the architectural history of the 20<sup>th</sup> century]. October 31-November 2, 1996, Leipzig, Germany. Organised by the German national ICOMOS committee. Page 23.

Again I use the words of Hubert-Jan Henket and although he is one of the founding fathers of DOCOMOMO he is realistic enough to recognise these problems concerning modern movement architecture.

*"Apart from the political systems that misused this architecture like social democracy, fascism and communism, one cannot deny that several crucial miscalculations were made by the innovative pioneers of the modern movement as well. These mistakes were later copied and multiplied to a huge scale, during the post-war building boom in Europe and America. I just remind you of the drastic separation of functions, the autonomy of the solitary building, the denial of the traditional urban structure and the tabula rasa approach, the overkill of economy and rationality to the detriment of the emotional needs of the individual. The loss of communal and of individual protection in the drive for collective transparency, the lack of attention to the graceful aging of buildings, constructions and materials etc. all these were misinterpretations of very ordinary psychological needs."<sup>6</sup>*

But there is growing recognition that the legacy of the modern movement, including the large-scale housing, is an important one. A large part of the built environment that surrounds us is the direct or indirect result of modernity. If we do not understand the underlying principles of the modern movement and destroy the buildings, we are wiping out our history.

UNESCO's World Heritage Centre took its responsibility and started a campaign in 2003. Their intentions to change the imbalance between modern and classic heritage is already visible. The number of inscribed modern movement buildings has almost doubled from five in 2003 to nine in 2007. Although it is a small number compared to the total inscribed properties it is the first encouraging step.

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<sup>6</sup> Henket, Has the Modern Movement any Meaning for Tomorrow?, Op. cit. page 23-24.

## 4. DIFFERENT VIEWS ON THE CONSERVATION OF MODERN MOVEMENT BUILDINGS

There are different principles on how to conserve buildings. It is however noticeable that the conservation principle of modern movement buildings is different than the conventional conservation principle of older buildings. In this chapter, we will take a closer look on different conservation principles according to international documents and how these are implemented on buildings of the modern movement.

The conservation practice has developed its own principles concerning the preservation, restoration, reconstruction, intervention and transformation of buildings<sup>7</sup>. These principles are written down in internationally accepted documents. Some of the leading documents are the Venice charter of 1964, the World Heritage Convention of 1972, the Nara document of 1994 and the Burra charter<sup>8</sup> (latest version of 1999). The question is if the international documents are suitable for the buildings of the modern movement. To trigger discussion I pose the following statement: *The international documents regarding the conservation practice are too rigid for the buildings of the modern movement.*

### 4.1. MODERN PROBLEMS

I first have to sketch underlying reasons why the documents are too rigid. Modern heritage has specific problems that often come down to technical

failures. Essentially it is the combination of a minimalistic design with a young technology and a degree of professional naivety.<sup>9</sup>

The general thought about how a modern movement building should look like is that of a white, cubist structure with big windows with slim steel frames. This image is built on the memorable black-and-white photographs from the thirties that were taken in the very short period before the houses started to crumble. The problem of a modern movement building is simple: it doesn't deteriorate in a nice way. The ideal, white character of modern movement buildings is easily stained by the influence of weather. Glass, concrete, steel and aluminium look unhappy when decayed, and some materials cannot be repaired. Unlike classic monuments, which gain character with age, the sight of a decaying modern movement building is not accepted. In other words, our standards for modernist buildings are different than those for 'classic' monuments.

The cause of the diverging standards has two main reasons.

#### 4.1.1. Experimental use of new materials and techniques

The first reason is the experimental use of new materials. These materials made unconventional designs possible. But the experimental character of the modern movement buildings, in form, construction technique and applied materials later caused problems.

The list of new materials and new application methods that emerged between 1890 and 1940 is endless, from concrete to steel frames, from linoleum to the mass production of ceramic tiles and from big glass windows to aluminium. Furthermore innovation from the building industry and the start of mass production of prefabricated elements changed the way the buildings site was organised. 'In their drive to transform society, modernist architects set out to industrialise the building process. New construction techniques and the use of

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<sup>7</sup> I use the term 'building(s)' instead of the possibly more correct term 'place' to make the paper readable. 'Place' is defined in the Burra charter and means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

<sup>8</sup> *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* 1999. Initially developed in 1977, revised in 1981, 1988, 1992 and 1999.

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<sup>9</sup> Allan, J. 'The conservation of modern buildings' in: Mills, E. (ed.). *Building Maintenance & Preservation: a guide to design and management*. Second edition. Butterworth – Heinemann Ltd, Oxford, United Kingdom, 1994, page 152.

materials such as steel, concrete and glass would reduce costs and so allow more housing to be built. Economy was not the only motivation for using these materials. Architects saw them as inherently 'new'. They admired steel for its tensile strength, concrete for its resistance and glass for its ability to admit light. They sought innovative and expressive ways to reveal these properties, and used steel and glass to create visual transparency – a quality that was greatly prized in the New Architecture.' One of the reasons why the modern movement could flourish is that a great number of builders (contractors) were attracted by the new, modern culture. In architecture they saw a way to demonstrate this. Therefore they deliberately selected architects of the modern movement. This way they could also show their ability to build with the new materials and innovative techniques.

If iron was the material of the 19th century, then concrete became the 'new marble' of the 20th century. Concrete made it possible to create the daring design of glass curtain walls by changing the position of the load bearing construction inwards on slim concrete columns. The engineers behind these innovative constructions followed the ideas of the architects but were often already way ahead of them. Five years before Le Corbusier presented his famous plan '*five points of a new architecture*', the Dutch engineer Jan Gerko Wiebenga built 'The Technical School' in Groningen. This remarkable building from 1922 had a full concrete structural frame, light infill and steel-framed windows arranged in horizontal bands, just as Le Corbusier wrote in his theoretical writings.<sup>10</sup>

These new materials and construction techniques were used without experience, which caused problems in a later stage. If we look for example at reinforced concrete, we now know that the climate to which the reinforcement steel bars are exposed should be of a high pH-value (i.e. the acid/alkali measure). But over time, the porous concrete is permeated by water and carbon dioxide. These two influence the chemical structure of the concrete and lower the pH-value. Without a high pH-value the steel bars start to corrode. The corrosion (or rust) has the devastating effect of increasing the volume of steel (by factor 2 to 6). The concrete will crack and the process of

<sup>10</sup> Jonge, W. de. 'The technology of change: the van Nelle factories in Transition' in: Henket, H.A.J.; Heijnen, H. (eds.). *Back from Utopia, The Challenge of the Modern Movement*. 010 Publishers, Rotterdam, the Netherlands, 2002, page 48.

#### NEW MATERIALS:

The origin of many materials still used today dates back to the first half of the 20<sup>th</sup> century.

The introduction of the structural steel frame for high rise buildings in the mid-1890s in the United States sparked a demand for industrially produced, light and transportable building parts, particularly for facade panels. For this, new materials like terracotta (1890s), plate glass (1910s), stainless steel (1920s), fibreboards (e.g. Masonite) and plastic laminates such as Formica (1930s), thin stone veneer and glass block (1940s), aluminium and spandrel glass (1950s) were tried.

The development of modern sealants in the 1950s was also instrumental for the development of the contemporary, post-war curtain wall.

A similar drive for new materials was witnessed in the interior of buildings where linoleum (1860s), rubber and cork tile (1890s) and vinyl floorings (1930s) were introduced, followed by gypsum board, plywood, plastic laminates and acoustic panels such as Celotex (1930s) and fibre reinforced plastics (1940s).

Information obtained from Jester, T. (ed.), *Twentieth Century Building Materials*, Washington 1995; the dates between brackets are the approximate periods of introduction to the American market as mass-produced building materials; their introduction to the European market tended to be some decades later.

corrosion will proceed even faster<sup>11</sup>. With our contemporary technology we know how to create this favourable environment for the steel bars, but when the modern movement buildings were built this knowledge lacked.

Not only the lack of experience or the wrong use of materials caused these technical problems but also the design of the form. To illustrate this: in the centuries before the modern movement every attempt was made to divert rain as far from the wall as possible. But the minimalistic design of the modern movement affected the way rain water is being diverted from the building walls. The drive for lightness, thinness, whiteness and geometric purity lead to the omission of conventional details such as copings, sills, drips and overhangs, weathering falls and surface relief generally.<sup>12</sup> This drive caused rapid staining of the walls.

The abovementioned reasons are not general. Not all modern movement buildings were made out of concrete and not all buildings were plastered white. The builders did not always use the new materials; they rather relied on the techniques and materials they knew. There is often a combination of old and new techniques. The construction methods were often based on tradition. If we take a look at for example at Villa Müller in Prague, designed by Adolf Loos in 1928-1930, we see a combination of concrete and brickwork. The load bearing walls are made of brickwork and the floors, stairs and columns are made of reinforced concrete.<sup>13</sup> We can see a shift in architects who use new techniques to create their designs and architects who stick closer to traditional buildings methods. There is even a shift within the architects who use new building methods; Ludwig Mies van der Rohe used steel frame structures while Le Corbusier relied on reinforced concrete.

Architects designed their buildings in materials they knew and valued. In countries where there is a brickwork tradition, like Belgium and the Netherlands, the form of modern movement was carried out in traditional exposed brickwork. In

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<sup>11</sup> Allan, op. cit., page 160-161.

<sup>12</sup> Allan, op. cit., page 151.

<sup>13</sup> Lorenz, K. and Ulrich P. 'Description of load bearing structure' in: Ksandr, K. (ed.); Ulrich, P.; Girsá, V. *Villa Müller*. Argo Publishers, Prague, Czech Republic, 2000, page 138-143.

Italy with its tradition of using stone, the facade of modern movement buildings was often carried out with marble.

These buildings have different problems but are in general more durable because the used techniques were established.

#### 4.1.2. *Transitory design*

The step away from their traditional known materials and techniques made the daring designs possible, but failed in durability. We sometimes have to consider that this was on purpose. This leads us to the second reason why these buildings are not aging in an acceptable way: the throw-away concept of designers.

The design and construction of some 20<sup>th</sup> century buildings was supposed to last for a short time. Functionalist architects designed buildings only to serve a temporary goal. For instance the tuberculoses sanatorium Zonnestraal in Hilversum, by architect Jan Duiker and engineer Jan Gerko Wiebenga was intentionally designed to last only thirty years. The investor and architects believed that after these thirty years a cure for tuberculoses would have been found and the building would serve no goal anymore. This functional idea was put into practice through the use of as minimal material as possible. For example, the columns of the building were made so slim that only very fluid concrete could be poured in. This concrete contained so much water that the compression strength was equal to wet sand. Research has proven that, in theory, the columns could collapse. But the load of the roof was taken over by light separating walls and window frames that were never designed for this purpose.<sup>14</sup>

Zonnestraal has painstakingly been reconstructed into its original form and converted into a health clinic and was 'reopened' in 2005.

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<sup>14</sup> Henket, Has the Modern Movement any Meaning for Tomorrow? Op. Cit. Page 25.

## 4.2. INTERNATIONAL DOCUMENTS

The problems of modern movement architecture, both the use of new materials / techniques and the functional, transitory architecture, can be approached with the help of principles as described in the international documents.

Understanding the main causes of problems concerning modern movement conservation help us to answer the posed statement: *The international documents regarding the conservation practice are too rigid for the buildings of the modern movement.*

The Venice charter of 1964 defined the concept of a historic monument. The aim of the document was to find a globally accepted conservation theory. This document provides guidelines which could be implemented in laws and used in practice.

The World Heritage Convention held in Paris in 1972 defined the concept of outstanding universal value. This concept forms the basis of the World Heritage List.

The Nara document of 1994 acknowledged the fact that cultural context should be taken into consideration. For the first time not only tangible, but also intangible heritage was recognised as relevant and of universal value. Authenticity and integrity became important concepts.

The Burra charter provides guidance for the conservation and management of cultural heritage sites. This charter has developed into one of the leading documents with practical relevance.

## 4.3. VENICE CHARTER, WORLD HERITAGE LIST AND THE NARA DOCUMENT

The Venice charter, the World Heritage List and the Nara document complement each other. The criteria of the World Heritage List and the Nara document derive from the Venice charter. Therefore, it makes sense to discuss them together.

Since the Venice charter is the most important international document and the 'mother' of the other documents I would like to explore some of its paragraphs.

### 4.3.1. Article 9

Modern (movement) heritage confronts us with ideals like form, function, or concept of the architect. These values may conflict with the formulations in the Venice charter. At the moment, the generally accepted principle within the conservation field (particularly in western countries) is the principle of *preservation*. This principle was coined in the Venice charter: *"The restoration process's aim is to preserve and reveal the aesthetic and historic value of the monument and is based on respect for original material and authentic documents."* What if we respect the original materials used in modernist buildings? There are pros and cons for this decision.

The definition 'original material' seems odd in the case of modern buildings. The fact is that modern buildings are often built with industrialised, prefabricated elements instead of materials made on site by hand. These industrial elements lack the highly valued sign of craftsmanship, the authenticity of material. Although made in large numbers there is the value of period design and production technique. But this is a different value than the sign of the craftsman. On the other hand, the modern movement icons are designed as 'Gesamtkunstwerk', meaning that everything was designed by the architect. As

Mrs. Tugendhat<sup>15</sup> recalled in admiration: “*He himself (Mies van der Rohe) designed every item, down to the door handles.*”<sup>16</sup>

The respect for original material has one big problem in the case of modern movement buildings; the materials applied are often in a bad condition simply because they are used in a wrong way. If we would respect the original material, in the same place, we make the same mistake as the designers did. Within years the same problems will occur and time and money will be wasted. New materials are now available with the same aesthetic appearance as the originals. These new materials have qualities that make them more suitable than the originals. Replacing the original materials has become an option. Alan Baxter believes in the ‘intellectual achievement’ of the modern movement so he sees no dilemma in the replacement of material: ‘*When the materials are in difficulty, if it is economic, replace them with better-detailed materials without any philosophical qualms, but with good design and skill.*’<sup>17</sup>

Should wrong materials be kept in their place or is it allowed to replace them with (new) better materials? It is true that architects of the modern movement lacked certain knowledge and experience. But there were reasons why they used these materials and techniques. We should find these reasons and try to understand them, so that we are able to decide whether to replace or maintain these failing elements. ‘*The innovations and experiments of the modern engineer and architect represent a historic value of their own, even if they may have failed.*’<sup>18</sup>

A possible solution would be an annex to one of the documents, which states that in some cases the form of an object is as important as the materialisation.

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<sup>15</sup> Mrs. Greta Tugendhat and her husband, Mr. Fritz Tugendhat were the investors of the Tugendhat villa in Brno, Czech Republic, built 1928-1930 by German architect Ludwig Mies van der Rohe. Since 2001 the villa is inscribed in the World Heritage list.

<sup>16</sup> Kudělka, Z.; Teplý, L. Villa Tugendhat. Fotep, Brno, Czech Republic, 2001, page 22.

<sup>17</sup> Baxter, A. Twentieth-Century Buildings. in: *Journal of Architectural Conservation*. No. 2, Volume 7, July 2001, page 29.

<sup>18</sup> Jonge, W. Three modern preservation cases. The restoration of Rietveld's Biennale Pavilion (1953-54) in Venice, Italy, compared to Sanatorium “Zonnestraal” (Jan Duiker, 1926-28) and the Van Nelle Factories (Brinkman&Van der Vlugt, 1926-31). Text published as a chapter in the *RAIA Sisalation Publication*, Sydney, Australia, 2004.

The Nara document provides this solution. In the Nara document, we see that respect for authenticity has become even more important than in the Venice charter. The wise addition to the concept of authenticity in the Nara document was that it was placed in the context of the culture. ‘*All judgements about values attributed to cultural properties as well as the credibility of related information sources may differ from culture to culture, and even within the same culture. It is thus not possible to base judgements of values and authenticity within fixed criteria. On the contrary, the respect due to all cultures requires that heritage properties must be considered and judged within the cultural contexts to which they belong.*’

This means that every culture or society can have its own judgment about authenticity.

Modern movement buildings have their specific technical problems. But their form, function and concept are as important as their materialisation. In case this opinion becomes leading for modern movement buildings, the solution is found within the framework of the documents. Alan Baxter puts it like this: *There should be a switch from tangible, material issues to more abstract issues of intellectual achievements, social values and long-term sustainability.*<sup>19</sup>

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<sup>19</sup> Baxter, op. cit. page 30.

#### 4.3.2. Article 11

Another article that sometimes clashes with the practice is article 11: *"The valid contributions of all periods to the building of a monument must be respected, since unity of style is not the aim of a restoration. When a building includes the superimposed work of different periods, the revealing of the underlying state can only be justified in exceptional circumstances and when what is removed is of little interest and the material which is brought to light is of great historical, archaeological or aesthetic value, and its state of preservation good enough to justify the action."*

The problem that occurs with this article is that additions to modernist buildings blur the impression of the structure, much more than is the case with other building styles and periods. Alterations to older buildings are easier to accept as they often fit in better. The pre-industrial buildings grew more organically in comparison to modern movement buildings. Dutch architect Aldo van Eyck once wrote *"You don't just add a millimetre to a line on a Mondrian painting. Doing that the painting won't be a Mondrian any longer; it will just become an ordinary painting. It is precisely the lack of that one millimetre, which creates its special meaning and experience."*<sup>20</sup>

#### 4.3.3. Article 13

*"Additions cannot be allowed except in so far as they do not detract from the interesting parts of the building, its traditional setting, the balance of its composition and its relation with its surroundings."* The modern movement buildings are mostly minimalistic designs, so any addition will outbalance the composition. The buildings of the modern movement are simply not suited for additions. Just as with article 11 we could use the quote from Aldo van Eyck about the minimalistic painting of Mondrian again.

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<sup>20</sup> Henket, op.cit. page 25.

#### 4.4. THE BURRA CHARTER

The Burra Charter is one of the most practical documents and in a way a summary of the other documents. This document is useable for both classic and modern heritage.

In contradiction to the Venice charter the Burra charter leaves more room for choice. The Burra charter identifies the same topics as the other charters do but gives a wider definition. This charter is more practical and recognises that the process of conservation can, and often will, include more than one principle. *'Conservation may, according to circumstance, include the processes of: retention or reintroduction of a use; retention of associations and meanings; maintenance, preservation, restoration, reconstruction, adaption and interpretation; and will commonly include a combination of more than one of these (article 14)'. The explanatory notes even say: 'There may be circumstances where no action is required to achieve conservation.'*

I will use the conservation of Villa Müller in Prague as an example how the Burra charter can be used. Although this exercise is after the conservation process and thus can be seen as a justification of the different definitions, it makes the Burra charter easy to read. To me, it also shows that this charter is less strict than the other documents.

*'Conservation means all the processes of looking after a place so as to retain its cultural significance (article 1.4). Conservation is based on a respect for the existing fabric, use associations and meanings. It requires a cautious approach of changing as much as necessary but as little as possible. The traces of additions, alterations and earlier treatments to the fabric of a place are evidence of its history and uses which may be part of its significance. Conservation action should assist and not impede their understanding (article 3.1).'*

#### VILLA MÜLLER:

The Müller Villa, built in 1928-1930 in Prague, was commissioned by a prominent businessman, the building company owner František Müller. For this reason it was not to serve just as a family residence, but also as a building representing the owner's construction companies. Müller therefore entrusted the project to one of the most acclaimed architects of the time, Adolf Loos, who cooperated with the architect Karel Lhota on this project.

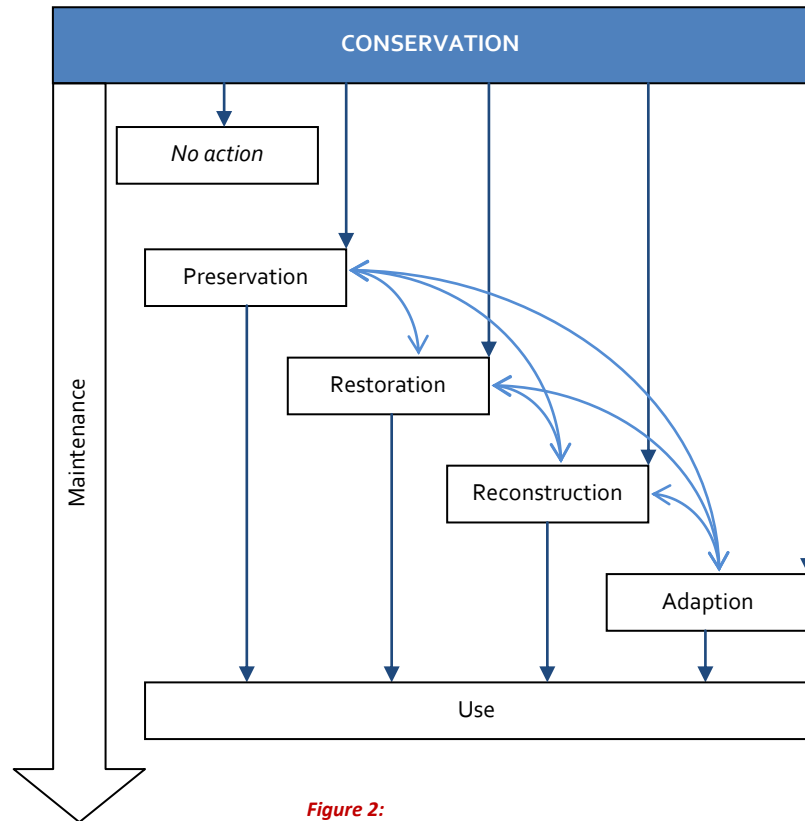
The cubic building situated on a sloping plot bears unique evidence of the global conceptual development of a family residential house in the late 1920s and early 1930s; it is an example of classicizing architectonic Modernism. At the same time, the villa represents a culmination point in Loos' work and his conception of living space. Unlike other functionalist buildings of that time, the Müller Villa is based on a new concept of internal layout (what is called a Raumplan) - on the principle of a continuous interior space with varying structural height of rooms. The individual rooms and other spaces of the villa link up with each other in an ideal interior disposition scheme with 'merging' floors. According to the architect's design, the relative importance of each part of the house is reflected in its clearance height.

The villa is of exceptional importance also with respect to its interior furnishing which was designed exclusively by Loos, using various precious materials dressed with superb craftsmanship. The rooms are provided with fitted furniture and designed individually in correspondence with their respective functions, social purpose and the requirements of their inhabitants. The property includes also a garden whose design corresponds with the simple and pure architectonic style of the house. In the 1990s the Müller Villa was bought by the Municipality of Prague, carefully restored and opened to the public in May 2000 as a monument of modern architecture.

This information is part of the inscription of the "historic centre of Prague" in UNESCO's World Heritage List. The Villa Müller is no World Heritage but lies within the buffer zone of the historic centre of Prague (see [www.whc.unesco.org](http://www.whc.unesco.org)).

#### 4.4.1. Preservation

'Preservation means maintaining the fabric of a place in its existing state and retarding deterioration (article 1.6).' Preservation is appropriate where the existing



**Figure 2:**  
Conservation processes as recognised in the Burra Charter.

fabric or its condition constitutes evidence of cultural significance, or where

insufficient evidence is available to allow other conservation processes to be carried out (article 17).

Preservation is the least visible part of a conservation process, but one of the most important ones regarding the authenticity of material. Leaving a deteriorating fabric in its state is a difficult decision.

The Villa Müller was basically in good condition so the conservators could suffice with modest interventions.

According to preservation theory every element of Villa Müller which was in good condition and dating from 1928-1930 should have been preserved. I will demonstrate this with a few examples. The load bearing construction had been preserved up to the conservation of the villa without any alterations<sup>21</sup>. The state of the building made it possible to preserve the load bearing structure with methods that maximally have preserved the authenticity of the work. Other examples are tailor-made cabinets and immovable interior items. Adolf Loos designed several cabinets, bookcases, wardrobes and fixed sofas that are a part of the total design of the Villa. Since this furniture was generally in good condition it needed no interventions. During conservation they were hardly touched.

In the places where the original flooring, ceramic facing and original bathroom and fixtures have been preserved the team chose not to perform any action. The conservation team made the brave decision not to reconstruct the deteriorated water supply, gas and sewer piping. They let the systems in their deteriorated condition. Of course this was only possible because of the later use of the building as a museum. Even though the team knows that this is not a guarantee: 'It should eliminate the risk of wear and the negative effect of possible defects, and act as a barrier against intentions to improperly use the building which, unfortunately, can never be entirely ruled out.'<sup>22</sup>

<sup>21</sup> Lorenz, K. and Ulrich P. op. cit. page 143.

<sup>22</sup> Girsha, V. 'The significance of authenticity in the restoration of Villa Müller'. in: Ksandr, K. (ed.); Ulrich, P.; Girsa, V. *Villa Müller*. Argo Publishers, Prague, Czech Republic, 2000, page 261.

#### 4.4.2. Restoration

**'Restoration** means returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material (article 1.7). 'Restoration is appropriate only if there is sufficient evidence of an earlier state of the fabric (article 19).'

Restoration can be carried out only after thorough research. Without this research the choices where to remove accretions will be sheer guessing. In the case of the Villa Müller the removal of mostly white latex paint dating from the 1960s revealed the original finishing. On the basis of pre-1960 photographs evidence was available on the original state. This was the starting point where to try to reveal the original surface finishing. Where possible the original paint coats were cleaned, the intact areas were kept as they were and the most devastated areas were reconstructed.

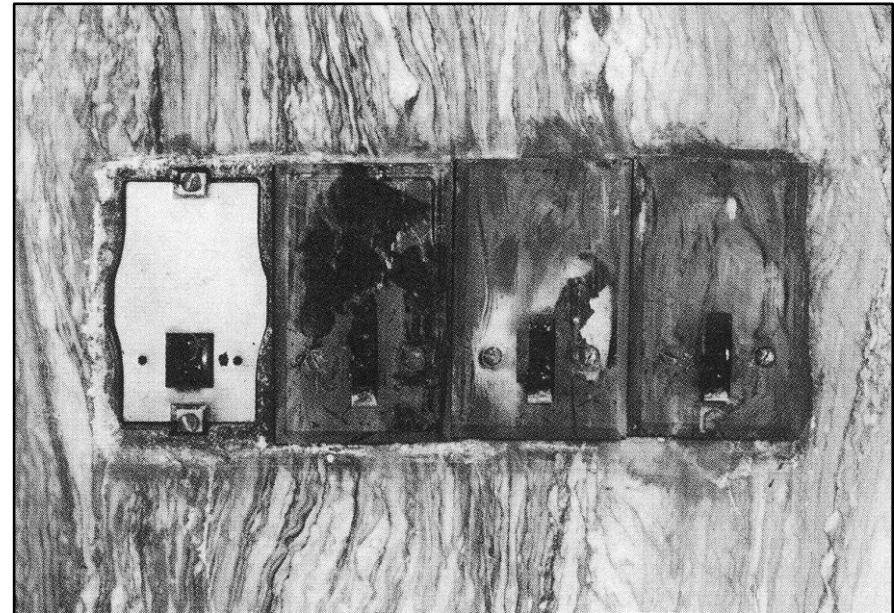
#### 4.4.3. Reconstruction

**'Reconstruction** means returning a place to a known earlier state and is distinguished from restoration by the introduction of new material into the fabric. New material may include recycled material salvaged from other places (article 1.8). 'Reconstruction is appropriate only where a place is incomplete through damage or alteration and only where there is sufficient evidence to reproduce an earlier state of the fabric. In rare cases, reconstruction may also be appropriate as part of a use or practice that retains the cultural significance of the place (article 20.1).'

Reconstruction is often the most dramatic and visible part of a conservation process. Investors are often very pleased with this part of the process; they finally see their money converted into results. Reconstruction does not only apply to complete structures. Parts of a building can also be reconstructed; replastering facades is reconstruction too.

Just as good architecture, good conservation lies in the details. The act for conserving one of the small details of Villa Müller, namely the electrical switches and wall sockets, illustrates the process of reconstruction well.

A considerable number of the original switches, wall sockets and bells were preserved in Villa Müller. Functional switches were restored and replaced in the original places. Missing items were replaced with copies. Irreparable original elements where the visible parts remained undamaged were installed in places where electric wiring was not restored. Only one glass cover of the original wall sockets was preserved. This single survivor was copied and these copies were installed in places where there was enough evidence of their original position.<sup>23</sup>



**Picture 3:**  
*Incomplete switches of Villa Müller.*

<sup>23</sup> Girsha, V. op. cit. page 262

#### 4.4.4. Adaption

**'Adaption** means modifying a place to suit the existing use or a proposed use (article 1.9). Change may be necessary to retain cultural significance. *'Changes which reduce cultural significance should be reversible, and be reversed when circumstances permit (article 15.2).'*

Adaption is the key for survival for all heritage. Without being used a building will deteriorate quickly. Any user of the building will at least turn on the heat and open a window to let moisture out. Perhaps the user will even repair a leaking roof.

After the Municipality of Prague bought Villa Müller in the 1990s the decision was made to convert the Villa into a museum. The adaption of this use required modifications to the Villa. Some rooms had to be converted to make the Villa work as a museum.

Other modifications were for example new wall sockets. In the rooms where new wall sockets were necessary due to adaptation, they were installed and hidden in places where they could not spoil the appearance of the interiors.

The possibility of change guarantees continuous use and therefore the survival of a building. Besides the possibility of change, adaption creates also 'the challenge of change'.<sup>24</sup> In addition to the problem for finding new use for buildings that are designed for a single function (remember the modern movement mantra, form follows function) the challenge of change is the requirement of sustainability. The new standards on energy loss and other environmental issues are possible within the Burra charter. The consequence however is that because the new requirements are so stringent, that the modern movement architecture has to be changed drastically. In other words *"What should be decisive: respect for the original architecture or the deployment of new standards?"*<sup>25</sup>

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<sup>24</sup> 'Challenge of change' is the main theme of the DoCoMoMo conference 2008 to be held in the van Nelle factories Rotterdam, the Netherlands. See [www.docomomo2008.nl](http://www.docomomo2008.nl).

<sup>25</sup> Sub theme at the Docomomo conference 2008.

The search for a new use (if the existing use is no longer possible) should above all suit the building. Louis Sullivan's credo *'form follows function'* that was adopted by the modern movement architects as a guideline has to be reversed by conservators into the guideline *'function follows form'*.<sup>26</sup>

#### 4.4.5. Maintenance

**'Maintenance** means the continuous protective care of the fabric and setting of a place, and is to be distinguished from repair (article 1.5).' *'Maintenance is fundamental to conservation (article 16).'*

Adequate maintenance is without any doubt fundamental to conservation. The financial support for heritage should be based on maintenance and only in very specific cases on restoration. Every well thought-out management plan should include a long term plan on maintenance. Simple actions are the basis of good maintenance like cleaning gutters, mowing grass and regular monitoring of the building.

The investment for Villa Müller's conservation in 2000 of 47 million Czech crowns (\$1.9 million, approx. € 1.6 million) is hopefully followed up by an investment in the same scale for a good management plan.

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<sup>26</sup> Jonge, W. de, *Zonnestraal': Restoration of a transitory architecture. Concept, planning and realisation in the context of its authenticity.* Paper for the proceedings of the Seventh International DOCOMOMO Technology Seminar at Viipuri Library, Vyborg, Russia, September 18-19, 2003. Page 6.

#### 4.5. NO INTERVENTION

Why don't we let the modern movement buildings stay in their state? Can't we tolerate the sight of non white buildings? A building in beautiful decay is sometimes better than a bad reconstruction.

These calls are from different architects who rather see a ruin than a falsification. In their opinion the concept of transitory architecture should be respected. If a modern movement architect deliberately designs a building that should last for only a few decades, who are we as conservators to question this element of the design concept. We also respect the other elements of the design, like form, colour and materialisation.

I can agree with the abovementioned arguments up to a certain level. I too like the sight of a building in beautiful decay and I agree with the idea that not every building has to be saved for future generation.

But I also have some counter arguments against the abovementioned arguments. The transitory architecture is a concept of a time period. The modern movement concept of starting from scratch (the *tabula rasa*) has changed over time. Nowadays we think different about matters as environmental issues and sustainability. This is a reason why also think about reusing buildings instead of starting from scratch and demolish buildings that are on our building plot.

The idea that not every building should be preserved is at least worth a discussion before giving up. A choice has to be made between *saving* the modern movement 'icons' and *documenting* the 'ordinary' modern movement buildings. Just as DOCOMOMO recognises there is a distinction between the master pieces of individual talents and the anonymous products of everyday modernity. If saving is economically not possible, it is essential that the structures are fully recorded in order to at least keep their existence for future generations in documentary form.

I cannot agree with the argument of some who rather see a ruin than a falsification. Of course there is, and always should be, discussion about reconstruction. I have to agree that the result of a reconstruction will always be a falsification. Not even the information on which a reconstruction is based can ever be complete. For example,

during preparations of the conservation of Villa Tugendhat in Brno researchers find out that the architectural drawings made by Ludwig Mies van der Rohe simply did not match with the real situation. This discrepancy is a natural cause of the building process; on site decisions are made which are not recorded nor translated on drawings. Although it may be an interpretation, reconstruction helps us to understand the form, function and concept of the modern movement buildings.

## 5. CONCLUSION

In my opinion, the question '*What are the lessons learned from conservations of the modern movement buildings?*' comes down to the question which conservation principle is appropriate. A conservation principle is a guideline for the approach for conservation. Besides specific technical issues the approach is fundamental for the choices made during conservation. The principles are written down in internationally accepted documents. Therefore the statement '*The international documents regarding the conservation practice are too rigid for the buildings of the modern movement*' is perhaps equally important as the initial question

I posed the abovementioned statement at the start of chapter 4. In this chapter the problems regarding implementation of international documents on modern movement conservations were scrutinized.

In my opinion the problem is not the documents; it is the way they are interpreted. If they are used in a strict and rigid way there is no room for discussion.

I reject the argument of some people who call for abolishment of the mentioned documents. However, I do agree with the line of thinking that *form* is as important as its *materialization*.

The mentioned line of thinking might be included in the documents in the future. The documents are regularly updated in close cooperation with expert parties. For example DOCOMOMO has become an advisor for ICOMOS in case of modern movement issues. ICOMOS is the principal advisor on cultural matters with regard to World Heritage. Thus, DOCOMOMO can indirectly influence the new versions of the documents.

The Burra charter is a fine example of how interpretation of older documents can develop into a very practical guideline. Through the case study of Villa Müller I showed that the Burra charter is a useful methodology.

The general values described in the international documents are as valid for the twentieth century as they are for earlier periods. But when it comes to the actual conservation of modern movement buildings, principles and rules often have to give

way to a pragmatic approach, where each case has to be judged on its specific problems. Recent conservations of modern movement buildings like sanatorium Zonnestraal and Villa Müller show that these different buildings need different conservation approaches and will develop different results even though they were built in the same period.

Sanatorium Zonnestraal was built as transitory building which should have functioned for only thirty years. The technical failures of the building forced the conservation approach to focus on preserving the form of the building instead of on the authenticity of materials. Consequently, the conservation principle is a reconstruction of the form of the building.

On the other hand the example of Villa Müller shows that conservation of modern movement buildings is possible without losing the authenticity of material.

Further, a lot of specific technical lessons were learned through recent conservations on how to preserve different materials. Knowledge about how to preserve material is growing with every conservation. Problems that seem impossible to solve today may have a solution in the future. As the conservation world becomes more familiar with dealing with specific problems of modern movement buildings the initial difficulties will be solved.

The abovementioned arguments are best put down in this quote from Susan Macdonald: '*In order to safeguard this part of our cultural heritage we need to develop new expertise, which combines historical compassion and understanding, practical working knowledge of modern building materials and construction methods, and a thorough understanding of conservation principles.*'<sup>27</sup>

Maybe people like Prince Charles will see the unique values of modern movement if the conservation world keeps on explaining what they are doing and why.

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<sup>27</sup> Macdonald, S. 'Contemporary conservation methodology and modern architecture' in Burman, P.; Garner, K.; Schmidt, L. (eds.). Conference Proceedings of The conservation of Twentieth Century Historic Buildings. Page 85-91.

## 6. SOURCES CONSULTED

Titles within brackets are the translations of titles, not the English versions of the books or articles.

Not all books and articles mentioned in the list were used as a reference; a lot of them were a source of inspiration for this paper.

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## 7. ACKNOWLEDGEMENTS

I have to thank my girlfriend A.O.Rothenberger for her comments on the paper. She lifted the paper to a higher level.

### 7.1. QUOTES

#### Page 1:

"I cannot see it; I do not understand it and it does not look old to me", R. Longstreth in D. Slaton and A. Shiffer (eds.) *Preserving the recent past*. Washington D.C. Historic Preservation Education Foundation, 1995.

"Why can't we have those curves and arches that express feeling in design? What is wrong with them? Why has everything got to be vertical, straight, unbending, only at right angles- and functional?" Prince Charles, Prince of Wales in a speech for the 150th birthday party for the Royal Institute of British Architects (RIBA) in 1984.

"Form Follows Fiasco", title of the book *Form follows fiasco, why modern architecture hasn't worked* by P. Blake, 1977.

#### Page 13:

"You don't just add a millimetre to a line on a Mondrian painting. Doing that the painting won't be a Mondrian any longer; it will just become an ordinary painting. It is precisely the lack of that one millimetre, which creates its special meaning and experience". Aldo van Eyck (architect).

### 7.2. PICTURES AND FIGURES

#### **Pictures on front page:**

Pictures is the decaying window frame of Zonnestraal Sanatorium in Hilversum, the Netherlands. Picture was taken in 2000 just before the start of the reconstruction. Picture by R. Zwart.

#### **Picture 1, page 3**

Schminke House, in Löbau by architect Hans Scharoun, photo taken by: Alice Kerling, August 1933. House as can be seen from the Northeast. This picture was published in August 1933 and laid the foundation for the international fame of the Schminke house. Retrieved February 8 from: [www.hausschminke.de](http://www.hausschminke.de).

#### **Picture 2, page 3**

Zonnestraal Sanatorium in Hilversum, the Netherlands. Picture was taken in 2000 just before the start of the reconstruction. Picture by R. Zwart.

#### **Picture 3, page 16**

Incomplete switch from the Villa Müller, Prague, Czech Republic. Picture was taken before restoration, June 1998. Picture by L. Bezděk.

#### **Figure 1, page 15.**

Flowchart digested from the different conservation principles as lay down by ICOMOS Australia in the Burra charter, 1999. Flowchart by R. Zwart.