international working-party for
documentation and conservation
of buildings, sites and neighbourhoods of the
modern movement

docomomo

Conference Proceedings

First International Conference Sept. 12–15, 1990

TUE Eindhoven University of Technology
RDMZ Netherlands Department for Conservation

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First International DOCOMOMO Conference, September 12-15, 1990

scientific edition
Eindhoven, the Netherlands; 1991

cover photo:
Sanatorium Zonnestraal by
Duiker, Bijvoet and
Wiebenga, 1926.

Original photo from
collection E.J. Jelles,
Amsterdam.

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First International DOCOMOMO Conference, September 12-15, 1990

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RDMZ Netherlands Department for Conservation

The First International DOCOMOMO Conference
is sponsored by Crittall Windows Limited

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The First DOCOMOMO Conference enjoys patronage from

Netherlands Unesco Commission
Hungarian Unesco Commission

The First DOCOMOMO Conference is organized under the auspices of

Catherine Lalumière,
Secretary General of the Council of Europe

The First DOCOMOMO Conference enjoys financial support from

Commission of the European Communities

European Cultural Foundation

Netherlands Ministry of WVC

Netherlands Ministry of VROM

Netherlands Ministry of Foreign Affairs

Netherlands Department for Conservation

Eindhoven University of Technology

ISBN 9038600615

Preface du Secrétaire Général du Conseil de l'Europe

Suite à la Conférence des Ministres responsables du Patrimoine Architectural réunis à Grenade (Espagne) en 1985, le Conseil de l'Europe a lancé puis développé au cours des dernières années une activité nouvelle relative à la protection et à la mise en valeur du patrimoine architectural du 20e siècle. Dans le cadre de son programme de travail, il a notamment organisé deux conférences européennes d'experts, l'une à Vienne en 1989, l'autre à Barcelone en 1990. Une Recommandation aux Etats membres, préparée par un groupe de spécialistes sur la base de ces travaux, viendra définir en 1991 un certain nombre d'orientations quant aux politiques à promouvoir vis-à-vis d'une famille de patrimoine encore souvent méconnue.

L'approche du Conseil de l'Europe englobe l'ensemble d'une période allant de la fin du 19e siècle à l'époque contemporaine et vise l'ensemble des tendances architecturales très diverses qui se sont manifestées depuis le début du siècle. L'objectif est de favoriser la connaissance scientifique d'un patrimoine bâti d'autant moins perçu en tant que patrimoine qu'il est encore récent et de susciter à l'échelon européen une réflexion commune sur les critères de sélection des biens à préserver et sur les techniques d'entretien et de restauration de matériaux tels que le fer, l'acier, le béton et le verre.

L'action du Conseil de l'Europe ne saurait toutefois s'appuyer que sur le relais de partenaires publics et privés dans tous ses Etats membres. C'est ainsi que les travaux poursuivis par une association telle que DOCOMOMO présentent un grand intérêt. Se situant sur un terrain différent de celui du Conseil de l'Europe et s'attachant à ce que l'on a appelé le "Mouvement Moderne", qui s'est manifesté dans toute l'Europe, DOCOMOMO concentre ses activités sur l'analyse, l'étude et les pratiques de conservation de l'architecture et de l'urbanisme des années 20 et 30. Un programme qui associe des professionels, de l'ouest, du centre et de l'est de l'Europe vient ainsi aujourd'hui approfondir la recherche sur l'une des composantes les plus intéressantes du patrimoine bâti récent de nos pays. Les actes de la Première Conférence Internationale, réunie en septembre 1990 par l'Association, témoigne du dynamisme et de l'enthousiasme de l'entreprise. Nul doute que les efforts déployés contribueront dans l'avenir à soutenir l'action globale du Conseil de l'Europe en faveur d'un patrimoine à la fois très proche et déjà lointain, d'autant plus présent dans notre société que très abondant, et témoin des innovations et de la vitalité de l'Europe actuelle.

Catherine Lalumière
Secrétaire Général du Conseil de l'Europe

Preface by the Secretary General of the Council of Europe

Translated from French

Following up the conference of the Ministers responsible for the Architectural Patrimony, united in Grenada (Spain), in 1985, the Council of Europe has launched and developed in the course of these last years a new activity relating to the protection and valorization of the architectural patrimony of the 20th Century. In the framework of its work program it has organized two European Conferences of Experts, one in Vienna in 1989, the other in Barcelona in 1990. A Recommendation to the Member States, prepared by a group of specialists on the basis of these works, will define in 1991 a certain number of orientations with regard to the policies to be promoted towards a patrimonial family which is often not recognized yet.

The approach of the Council of Europe covers an entire period from the end of the 19th Century to the present era and aims at all widely varying architectural tendencies which have manifested themselves since the beginning of this century. The objective is to enhance the scientific knowledge of a building patrimony which is not perceived as such because it is still recent, as well as to generate on a European level a common reflection on the selection criteria for the properties to be preserved, and on the maintenance and restoration techniques for materials such as iron, steel, concrete and glass.

The action of the Council of Europe, however, can only be based on the efforts of the public and private partners in all its Member States. This is why the works carried out by an association such as DOCOMOMO are of such great importance. Being active in a different field from that of the Council of Europe and aiming at what is called the 'Modern Movement', which has manifested itself throughout Europe, DOCOMOMO concentrates its activities on the analysis, the study and the preservation practices of architecture and urbanism in the 1920's and 1930's. A program which unites the professionals from the West, the Centre and the East of Europe thus comes to deepen now the research concerning one of the most interesting aspects of the patrimony built recently in our countries. The proceedings of the First International Conference, held by the Association in 1990, testifies of the dynamic and enthusiastic character of the undertaking. No one doubts that the efforts deployed will contribute in the future to support the global action of the Council of Europe in favour of a patrimony which is very close and already remote at the same time, and which is abundantly present in our society and testifies of the innovations and vitality of the Europe of today.

Catherine Lalumière
Secretary General of the Council of Europe

Preface by the Chairman of the Netherlands UNESCO Commission

Preserving the world's cultural heritage is one of the areas in which UNESCO has built up a reputation. Joined by member states and international organisations of experts, UNESCO is actively involved in the protection of monuments and sites which are considered to be of exceptional interest to mankind.

A less visible but equally important task of UNESCO is to stimulate debates between experts and policy makers on specific issues within its mandate, such as conservation and restoration. Such debates are essential for the promotion of intellectual international cooperation. They result in more profound insight in issues, in exchanges of views and knowledge and often lead to practical solutions.

In this respect one will understand that there was no hesitation when DOCOMOMO International requested to organise its First Conference in Eindhoven in September 1990 under the patronage of the Netherlands Commission for UNESCO. The Commission, which promotes the UNESCO-objectives in the Netherlands and operates as a liaison with the Organisation, easily recognised that this conference offered an interesting and stimulating combination of aspects closely related to UNESCO's fields of interest. But next to the general contents and the form of the conference, respectively dealing with the conservation of monuments and acting as an international platform for discussion, the Commission had additional arguments to lend its name to this initiative.

One argument was that the conference would specifically deal with the preservation of monuments of modern cultural heritage: in casu buildings of the Modern Movement. Especially in Europe this important architectural current has had results which are still noticeable today. A great part of this heritage, however, is in bad condition. A situation which also according to the Commission deserves attention as today's cultural and social expressions - or in this case yesterday's - may be part of tomorrow's cultural heritage. A more "nationalist" consideration was the fact that in the Netherlands the Modern Movement, or het "Nieuwe Bouwen", has had a great impact on architecture and has left quite a number of monuments and sites.

An important reason to support the conference was also the possible answer it might bring to the question whether, when it comes to conservation, the leading works of this movement are different from those of any other age. For these functionalist architects regarded their buildings as tools of change, which should be discarded as soon as their function and fabric were exhausted. How this relates to the historical value of the buildings is an intriguing dilemma to which, judging by the discussions during the conference, a standard solution does not seem possible.

The Netherlands Commission for UNESCO was pleased to learn that the conference was a success. It brought together some 170 practitioners and academics from several disciplines. From 20 countries it resulted not only in the numerous papers contained in the present book of proceedings: it lead to stimulating new insights in the diversity and plurality of the Modern Movement and in a great number of professional contacts which will stimulate even more the international network of DOCOMOMO, which has taken up the role of a Modern Movement watchdog. But not only that, it will systematically identify significant buildings, investigate restoration techniques and attract financial support. By doing so, it will contribute to the preservation of the common inheritance of the Modern Movement and related architectural expressions and enable future generations to appreciate them.

The fact that in 1992 in Dessau, Germany, a follow-up conference will take place in the Bauhaus is an indication of the perspective of DOCOMOMO. The Netherlands Commission for UNESCO wishes to express the hope that by then some of the proposed activities with regard to the preservation of monuments of the Modern Movement, have been materialised, be it by means of documentation, conservation or restoration.

Dr. Gottfried Leibbrandt,
Chairman Netherlands Commission for UNESCO

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Introduction

Modern Movement buildings, sites and neighbourhoods form an important part of our social and cultural heritage. They are representative of an approach towards modernity in the recent past, which can widen our understanding of today in general and of the architectural development in particular. Therefore Modern Movement architecture deserves careful documentation, proper management and where and when required appropriate conservation. With these intentions in mind the International Working party for the Documentation and Conservation of buildings, sites and neighbourhoods of the Modern Movement (DOCOMOMO) was established.
At the First International DOCOMOMO Conference, held in Eindhoven from 12-15th September 1990, working parties or representatives from twenty countries were present, consisting of practitioners and of academics, both with varied professional backgrounds and political approaches. The conference was sponsored by Crittall Windows Ltd, the manufacturers of the original steel framed windows of the twenties and thirties.
The very diversity of countries and cultures present at the conference was indicative of the fact that no single universally applicable solution for the conservation of this architecture can be assumed. On the contrary, it was the intention of the conference to start the necessary debate and to continue the polemic for the years to come, in order to arrive at a better understanding of one's own regional position and appropriate approaches.
For this reason the programme for the first day was designed so that a kaleidoscope of opposing points of view and sometimes controversial positions would emerge. The resulting - sometimes forceful - debate about finding an appropriate balance between removal and retrieval, between desirable alteration and authentic repair formed background for the programme of the next two days. This programme concentrated on architectural history, technology, analysis and documentation, urban conservation, policy and numerous case studies. Some fifty-one papers were presented, a feast in itself. Delegates were running from one conference room to the other, eager not to miss a single word.

The often emotionally involved interpretors did their very best in getting the variety of ideas, examples and approaches across. And somehow the more far flung the examples, the more pervasive was the sense of rediscovering a common inheritance. This was the atmosphere in which the founding session of the DOCOMOMO Council was held in the afternoon of the last conference day. At this meeting the representatives of the twenty countries present - now all friends - discussed and accepted the following DOCOMOMO constitution.

1. The general aims of DOCOMOMO are
   a. the exchange of know how and ideas in the field of Modern Movement architecture and urban design and its documentation and conservation;
   b. to act as watchdog when examples of Modern Movement architecture and urban design are in jeopardy;
   c. to stimulate the interest of the public in general and the proper authorities in particular in Modern Movement architecture and urban design;
   d. to make an international register of important Modern Movement buildings to be preserved and/or documented.

2. Since the circumstances in the participating countries are diverse, it is best that national DOCOMOMO working parties operate and organize themselves to suit local requirements.

3. The national working parties may either take action themselves, or they may primarely function as a 'spider in a web' by stimulating already existing institutions to do so in accordance with their merit.

4. DOCOMOMO International is the sum total of all these national activities. The International Secretariat serves as the general communication centre between the various national and individual initiatives, by maintaining an information network about people and their activities, as well as about Modern Movement buildings in danger. The International Secretariat will also publish a newsletter twice a year and will assist the DOCOMOMO Executive Committee.

5. Every two years an International DOCOMOMO Conference will be held. The host country is appointed by the DOCOMOMO Council at the previous conference. The host country is responsible for the organization and the financing of this conference. The main programme of the conference will be decided by the host country in consultation with the DOCOMOMO Executive Committee.

6. At the International DOCOMOMO Conference a plan of action for the next two years is to be adopted. The national DOCOMOMO working parties report to the next conference about progress being made.

7. The organizational structure of DOCOMOMO is as follows:
   a. The national DOCOMOMO working parties elect a national representative. In countries where no national DOCOMOMO working party is in existance as yet, the DOCOMOMO Executive Committee can provisionally appoint a national representative.
   b. The national DOCOMOMO representatives together form the DOCOMOMO Council. The DOCOMOMO Council decides on a plan of action for the next two years. The council elects a DOCOMOMO Executive Committee every two years. Every national DOCOMOMO representative has one vote in the Council.
   c. The DOCOMOMO Executive Committee consists of an elected chairman, an elected secretary and an elected member. The member represents the national DOCOMOMO working party of the host country for the next international conference. The chairman and the secretary are responsible for general international activities and the DOCOMOMO International Secretariat. The secretary is responsible for the running of the International Secretariat. The DOCOMOMO Executive Committee is accountable to the Council and reports every two years. The DOCOMOMO Executive Committee is in no circumstances responsible or accountable for financial or other decisions taken by national DOCOMOMO working parties or individual DOCOMOMO members.

8. Plan of action 1990 - 1992 for the national working parties for the period between the First and Second DOCOMOMO Conference:
   1. to make a register of important Modern Movement buildings to be protected in your country;
   2. to develop the debate about the best policy and approaches to be used for the buildings as listed in the register, in order to arrive at some general conclusions for your country;
   3. to stimulate interest of the public in general in your country.

Afterwards the council voted in favour of the Bauhaus in Dessau, Germany, as the host for the Second International DOCOMOMO Conference to be held in September 1992. Now next a heated debate followed concerning the preparation of the DOCOMOMO final conference statement which was agreed as follows:

The documentation and conservation of buildings, sites and neighbourhoods of the Modern Movement shall be implemented in co-operation with official and voluntary organisations in the Member Countries by the following means:

1. Bring the significance of the Modern Movement to the attention of the public, the authorities, the professions and the educational community concerned with the built environment.
2. Identify and promote the recording of the works of the Modern Movement which will include a register, drawings, photographs, archives and other documents.
3. Foster the development of appropriate techniques and methods of conservation and disseminate knowledge of these throughout the professions.
4. Oppose destructions and disfigurement of significant works.
5. Identify and attract funding for documentation and conservation.
6. Explore and develop the knowledge of the Modern Movement.

Once the statement was accepted a sigh of relief went through the assembly. DOCOMOMO was born, it was time to celebrate and to visit some of the Modern Movement masterpieces in the Netherlands.

The press coverage after the conference was overwhelming, receptive and positive. However, one item of criticism appears in a few reviews which needs further clarification. The argument goes that DOCOMOMO is a singleminded and blinkered organisation, since its members are solely interested in the Modern Movement, to the detriment of other important 20th Century architectural movements. This criticism is based on a misunderstanding. Although the members of DOCOMOMO are dedicated to the Modern Movement this does not mean that by doing so they are opposed to other movements. On the contrary, due to the fact that all architectural movements are part of that complex puzzle called social and cultural heritage, all these movements require the attention they deserve in order to safeguard the past for our future. DOCOMOMO just concentrates on the Modern Movement out of responsibility, interest and love. We sincerely hope that others will develop similar enthousiasm for other movements, because it is vital that this will happen. We will only be too pleased to stimulate others in that direction.
At the moment over 300 professionals in 23 mainly European countries participate in the independent DOCOMOMO network. In the next two years more national DOCOMOMO working parties will be developed worldwide.

Having said this, it must be noted that however active an organisation may be in investigating and stimulating the attention, in the end nothing can be done without support, without financial resources. Up to now both private and public initiative all over the world have failed dramatically in financial support for the 20th Century architectural inheritance.

Hubert-Jan Henket
Chairman DOCOMOMO

Top left. Lunch on the first conference day.

Top right. Registration for national television newsbulletin.

Bottom left. Discussion after session Analysis and Documentation: Molema, Allan, Prak (chairman), Hamon, Marcosano dell'Erba, Bluzzi.

Bottom right. Left to right, prof. Hubert-Jan Henket, chairman DOCOMOMO International, dr. F.J. Philips and prof. M. Tels, members of the Committee of Recommendation, and David J. Blake of sponsor Crittall Windows Ltd.

Conference and Proceedings

This scientific edition of the proceedings of the First International DOCOMOMO Conference, contains all contributions that have been presented at that occasion and more. Over seventy experts from various countries reacted to our call for papers and applied as speakers. Of these, most could indeed be invited to take part in the program. In contrast with the Final Program, Marc Dubois, Noud de Vreeze and Mariagrazia Soldini could unfortunately not be present, which however created the opportunity to include some other speakers. For the same reason Klaus-Peter Kloß has been replaced by Helge Pitz, speaking on the same subject.
Since the amount of speakers was so large the original set up of the conference had to be adjusted. We thought it very important to give every country and every professional field the possibility to present itself at this first gathering of the network. Also, the quality of most proposed contributions was high, which made drastic selection undesirable.
Led by these ideas, the conference program was being extended with poster sessions while simultaneously the available time for each individual contribution was being restricted to twenty minutes plus some discussion time for papers and fifteen minutes for posters. Contributions from Poland, Bulgaria and Rumenia that had been added to the main program in the last resort, had to be presented on the last afternoon by lack of capacity in the preceeding sessions. Papers were expected to be of more general value for all conference participants and posters more centered on specific themes, however their scientific status was being regarded as equal. Although unusual, we therefore included full text of both papers and posters in this publication.
The proceedings of the DOCOMOMO conference have been supplemented with contributions of experts who unfortunately could not be present; these have been included as essays.
Finally, we are grateful for the prefaces by Catherine Lalumière, Secretary General of the Council of Europe, and Dr. Gottfried Leibbrandt, Chairman of the Netherlands UNESCO Committee.

The sequence of contributions in this publication is slightly different from the conference program. The main grouping in themes has been kept. All contributions, whether paper, poster or essay, have been grouped under a theme corresponding with its subject. Generally, we stuck to the original sequence of conference papers, followed by posters on the same theme, the section being concluded with related essays. As an exception, the papers of Christoph Mohr and Helge Pitz have been placed under different themes than originally presented under, to match the contents of the contribution to a more appropiate theme. Evidently, contributions arranged under a certain theme could be interesting from another point of view as well. If you leaf through this book, you will no doubt discover matters of interest to you in sections where you did not expect them in the first place.

The table of contents in this publication is of course corresponding with the sequence of contributions in this book. For those interested, the original conference program has however been included as an appendix. For your convenience an index in alphabetical order of authors' family names has been included as well.

All texts have been edited to a minimal extend, mainly with respect to a certain uniformity in the use of capitals etc. Texts submitted in other languages have been translated by Aram Vertaalservice, except where stated otherwise. However all texts in this publication remain the responsibility of the authors. Relating illustrations have been submitted by the authors. Editors nor publishers could be held responsible for matters of copyright for any illustration in this book.

I hope this scientific edition will proof its' usefulness for all experts on Modern Movement documentation and conservation and that reading the texts will be as informative and thought provoking as attending the First International DOCOMOMO Conference in September 1990 in Eindhoven has been.

Wessel de Jonge
Secretary DOCOMOMO International

Top left. Participants at Zonnestraal, Hilversum.

Bottom left. Czechoslovak delegates at Gooiland Hilversum: Pelcak, Slapeta and Sapák.

Top right. Wirth, Paul and Burmeister in the tea-room of the Van Nellefactory, Rotterdam.

Bottom right. UK coordinator Christopher Dean, his wife Maya and Hubert-Jan Henket at the Hilversum Townhall.

Acknowledgements

We would like to express our gratitude to
- Catherine Lalumière, Secretary General of the Council of Europe, to have had the opportunity to organize the First International DOCOMOMO Conference under her auspices,
- the Hungarian UNESCO Committee, patron of the conference, and
- the Netherlands UNESCO Committee that also lended its patronage.

The First International DOCOMOMO Conference including the publication of these proceedings would not have been possible without financial support from the
- Commission of the European Communities CEC,
- European Cultural Foundation ECF,
- Netherlands Ministry of WVC,
- Netherlands Ministry of VROM,
- Netherlands Ministry of Foreign Affairs,
- Netherlands Department for Conservation RDMZ and
- Eindhoven University of Technology TUE,

and a generous grant from the main sponsor of the conference
- Crittall Windows Limited from Great Britain.

We like to thank the members of the DOCOMOMO Committee of Recommendation and the members of the DOCOMOMO Consultative Council for their confidence in the project and for their valuable advice.

We like to thank Isanne van Dedem for the large amount of preparatory work she did, Jolanda Dijstelbloem for the secretarial work, the team of students of the Faculty of Architecture of the Eindhoven University, Frans Geerts and Leo Balmer of the TUE Conference Office and the team of interpreters for the never failing translations and the amount of extra time they spent on us.

The Post Conference Tour of Modern Movement architecture in the Netherlands was possible due to the help of:
- Ton van Lint (Van Nelle factory, Rotterdam)
- Wytze Patijn and Vincent Scholten (Kiefhoek, Rotterdam)
- S. Faber (Town Hall, Hilversum)
- Jacques van Klooster (Gooiland, Hilversum)
- Jan Schriefer (Zonnestraal, Hilversum).

Hubert-Jan Henket
Wessel de Jonge

Top left.Gerard Monnier from France takes part in discussions.

Top right. Hubert-Jan Henket and Wessel de Jonge during the DOCOMOMO founding Session.

Bottom left. A toast after DOCOMOMO's birth: O'Toole, Verpoest, Van Dedem, Dean, Henket, Morabito, De Jonge, Dunnett, Allan, Paul.

Bottom rigt The DOCOMOMO Founding Session.

Martinus Tels

Chancellor Eindhoven University of Technology

Welcome

Ladies and Gentlemen,
Allow me to welcome you all on behalf of Eindhoven University of Technology.
My university is honored and proud to have been the base from which your Conference was organised.
This is even more true as Eindhoven Tech feels that the name of DOCOMOMO, which is - shall we say - somewhat surprising, covers a gathering that we consider to be important and meaningful. And especially meaningful at this specific moment in time.

Time of hope

We are living in a time of hope.
We are witnessing a series of tremendous events in Eastern and Middle Europe that are reshaping our continent and bringing its people together again after a long period of separation. These events have not yet run their course entirely:
Experts from 16 countries are going to address you. But if this Conference had been held one month later there would have been speakers from 15 countries only, the reason being that 2 European nations that are represented at your meeting have decided to reunite within a few weeks.

The Modern Movement in architecture also began in a time of hope. The 1920's resembled the present period in that respect.
Alas, the Modern Movement was ended by the cataclysme of World War II.
Now I think we may say that the recent, drastic changes have really and truly put an end to this most terrible of all wars that our planet has seen so far, and it seems most interesting and, as I said, truly meaningful to me that you have decided to devote your Conference at this precise moment to the nature and to the conservation of buildings that were designed and constructed in that earlier time of hope.

The French 19th Century historian Taine has said that "l'histoire n'enseigne rigoureusemment rien", that "history teaches absolutely nothing".
That may be true or it may not be true, in either case we are most grateful to you who are preserving and studying the monuments of the recent past. Even if these monuments really cannot teach us anything, they can, at the very least, warn us not to loose our heads in the clouds. They can remind us that we should keep our feet firmly on the solid ground of the present so that we may build a better future.

Winding up

Thus we are most grateful to you for the trouble you take to preserve these monuments. Out of this gratitude I wish you a most useful and a most pleasant Conference. I hope that you will have a very good time in every possible sense of that word. And I also hope that after your Conference has ended you will wish to come back to our university very often. You will be most welcome always.

Leo van Nispen tot Sevenaer

Director Netherlands Department for Conservation

The initiative taken by the University of Technology in Eindhoven, to start an international exchange of ideas and experiences on the matter of the documentation and conservation of the Modern Movement heritage, is of great importance.

The National Working parties are all established, but, although hardly started, it will be one of the tasks of this conference to make agreements about the continuation in the future. For conservation, discussion and exchange of trials and errors should go on.

The interest of a governmental organization like the Netherlands Department for Conservation in this matter, is that participating in the professional conversation, free from everyday's formal activities, has proven to be profitable for the quality of the decisions.

The legal concern of the government with the built heritage is restricted to the "general interest because of the beauty, scientific significance or cultural-historical value". That is how our Law "puts" it.
Especially the Modern Movement, in Western Europe as well as in Eastern Europe, with its specific relation between function and form, construction and use of materials, makes it necessary to have an international forum. For the general interest should be at least a general European interest.

The policy of openness and social reform that is causing radical changes in the East-European countries, now makes it possible for us to re-value together the architectural and social views and insights that formed the basis for many new developments in the field of architecture and housing in the 1920' and 1930's.
This refliction is a joint problem, that we are lucky enough to be able to tackle together. For it is a mutual European heritage we are dealing with.

A central governmental organization, like the Department for Conservation, has - as far as the situation in the Netherlands is concerned - no autonomous position: we are neither the architect, nor the principal. The government engagement as a rule is limited to the provision of information, the stimulation (amongst others with money) and the (detached) watching over private initiative.

To be able to provide the necessary conditions for a good conservation climate, a main concern of the Netherlands Department for Conservation is that there will be a central institute for expert knowledge and information, especially with regard to the conservation aspect; this concerns technical-, functional-, financial- and filosofical aspects etc.

Hopefully the International DOCOMOMO Working party will also in this perspective prove to be a fruitfull initiative. Continuity is an essential factor however. The Netherlands Department for Conservation offers to assist with the establishment of the necessary organizational infrastructure in that respect.

Here, in the Netherlands, we are, with reason as you know or will see, proud of what we have to offer on the field of the Modern Movement. At the same time we realise that more than a national concern is at stake; our stewardship over this heritage is a very serious matter, even to such an extent that we do not only want to share our pride but also our concern. We hope to enrich our knowledge and to sharpen our methods of handling this unique heritage and therefor, I wish for all of us, this first DOCOMOMO conference to be a succes.

Jan Riezenkamp

Director General of the Netherlands Ministry of Welfare, Health and Cultural Affairs

On behalf of the Minister of Welfare, Health and Cultural Affairs I have great pleasure in welcoming you today to the Netherlands, the country in which Modern Movement, the subject of this conference, manifested itself so strongly. The Ministry participated in the preparations for this conference with great interest.

As specialists from the Department for the Conservation of Historic Buildings and Sites, which resorts under the Ministry, will be addressing you too, I shall restrict myself here to brief outline of ministerial policy on the conservation of the products of this recent school of architecture.

The intrinsic value of the Modern Movement was recognized early on by both the present Minister and her predecessor. The Dutch Monuments and Historic Buildings Act, which is implemented by the Ministry of Welfare, Health and Cultural Affairs, has provided, and, indeed, still provides the Minister with the scope to translate mere admiration for the Modern Movement into conservation. And this scope has been exploited. In the 1980's, statutory protection for Jan Duiker's Zonnestraal Sanatorium was archieved, a development which was by no means unchallenged. Protection is not all that was achieved; extra funding for the conservation of historic Modern Movement buildings was also provided. The fact that special grants for the preservation and restoration of the Van Nelle factory, a building designed by Brinkman and Van der Vlugt, the Gooiland Hotel by Duiker, and the Hilversum Town Hall by Dudok is an indication of the significance accorded to the Modern Movement in the Netherlands. I shall get back to the Zonnestraal Sanatorium, the jewel in the crown of the Modern Movement, shortly.

The particular attention which the Ministry of Welfare, Health and Cultural Affairs lavishes on the preservation and restoration of Modern Movement buildings is not an isolated phenomenon; it is simply a focal point in a policy which has been conducted for a long time now. This policy covers architecture in the period between 1850 and 1940 and the policy instrument is known as the Monuments and Historic Buildings Inventory Plan.

This ambitious undertaking, which will cost 12 million Dutch guilders and take eight years to carry out, is approaching the completion of the first phase. Twelve provincial teams, under the supervision of the Department for the Conservation of Historic buildings and Sites, are drawing up an inventory of about 175,000 buildings and objects of particular significance dating from the period between 1850 and 1940. The policy aim of this enormous project is documentation and scientific description, physical planning, urban development and the preservation of historic buildings and, finally, the registration and selection of the buildings for conservation.
I shall begin with selection. In the coming decade, the Minister wishes to designate a number of buildings constructed between 1850 and 1940 as monuments and historic buildings. This will add about 17,000 buildings and objects to the current list of approximately 47,000 monuments which are at present protected by law.

The selection will also include the designation of about 165 town and village conservation areas which, as ensembles, are instrumental in determining the nature of urban development in the Netherlands. By protecting these ensembles the Minister is making a statement on urban development, thereby joining the lively debate on architecture and urban and rural planning in the Netherlands. Thus the care of our historic buildings and sites has been elevated above the loving care with which each individual object is preserved and restored. This is not a superfluous activity. Attention in the Netherlands is increasingly focused on the preservation of whole complexes and, within the complexes, of buildings and objects, for in a small, densely populated country such as the Netherlands, it is no longer possible to consider the conservation of monuments and historic buildings independently of urban and traffic planning.

The Minister, however, has even more in mind with the Monuments and Historic Buildings Inventory Plan. There is a category encompassing a register of many tens of thousands of buildings and objects dating from the period between 1850 and 1940 which, although they are of particular significance, will not be designated by the Minister as protected monuments or historic buildings or as town and village conservation areas. Whole blocks of houses and large complexes of buildings will belong in this category of meritorious but unprotected buildings and objects. And this brings us to a particulary important

chapter in the preservation of our cultural heritage - the question of what a monument or historic building actually is.

It is a common misconception that a building can be called a monument only when it is protected by national legislation of by a provincial or municipal regulation. The 1988 Monuments and Historic Buildings Act says that the Minister may "designate historic significant buildings as protected historic significant buildings". This wording clearly provides scope for indicating that a large number of buildings and objects which are not protected by law may certainly have historic of architectural significance. In this way the Department for the Conservation of Historic Buildings and Sites is trying to emphasise that there are many unprotected significant buildings and ensembles which also merit careful treatment.

The Minister's attention extends beyond historic buildings from the Modern Movement and rightly so. Many of these buildings are part of an urban structure, that consists of ancient and contemporary buildings, without which they would not be able to function properly.

In addition, the care of Modern Movement buildings is related from a financial point of view to the preservation of other historic buildings.
Nevertheless, from time to time there is reason to award a special grant to a special historic building. Such a building is the well-known Zonnestraal Sanatorium designed by Duiker. I should like to go into a little more detail about this building which is so closely allied to the history of the trade unions between the two World Wars.

For the Dutch, this building is a monument in more ways than one.
Naturally, in the physical sense it is a rehabilitation clinic for tuberculosis patients designed by Duiker in the 1920's at the request of the General Diamond Workers' Union. The diamond workers of Amsterdam raised the money for this building themselves with the help of the business world and the Red Cross. They did this in a remarkable way: instead of spending the proceeds of the diamond dust, to which they were traditionally entitled, on alcohol, they donated the money to the clinic. The history of Zonnestraal is therefore closely related to the fight against alcoholism thereby making it a social monument as well as an architectural one.
Zonnestraal is no longer a sanatorium; it has been converted into a hospital. Part of it has been radically rebuilt and part is dilapidated as you will see for youselves when you visit it on Saturday. The hospital is due to move out of the building next year and this will create a situation which is causing the Minister and others a good deal of concern. The building will be empty and will become a ruin, but not the beautiful and impressive ruin which professor Reinink, one of the guest speakers at this conference, would like to see. Once it has been damaged by vandals it will be only a matter of years before it has disappeared from face of the earth. In order to prevent this, the Ministry of Welfare, Health and Cultural Affairs and, in particular, the Department for the Conservation of Historic Buildings and Sites requested the architects professor Hubert-Jan Henket and Wessel de Jonge to carry out a study into the restoration techniques which would be appropriate for Zonnestraal. The result is a substantial book which was published by the Department for the Conservation of Historic Buildings and Sites.

And this is not all that has been done. In the spring of this year, the Minister took a special initiative; she turned to the spiritual heir of the former General Diamond Workers' Union, The Federation of Dutch Trade Unions, the FNV, for assistance. She asked this organisation if it would be prepared to take on the duties of "godfather" to Zonnestraal. The FNV's response was extremely positive and it expressed the wish to found an educational institute there if this is technically and financially feasible. The Minister responded by providing the FNV with the funds to conduct a study into feasibility of restoring the building for this purpose. The study, which is now in progress, is being conducted by professor Henket.

It is only the FNV which is eagerly awaiting the outcome of this study; the Minister and the Department for the Conservation of Historic Buildings and Sites are equally keen to the results.

It gives me great pleasure to end my speech with good news. In the hope that it will be feasible to convert this top-class monument into an educational institute, the Minister has earmarked an amount of 2 million Dutch guilders for its definitive restoration.

All that remains is for me to wish you, on behalf of the Minister, not only a fruitful conference, but also inspiration from your visit on Saturday to one of the most beautiful modern buildings which the Netherlands has to offer.

Benedicte Selfslagh
Representative of the Commision of the European Communities

The role and action of the Commision of European Communities

When I received the agenda for this conference, I noted that I was supposed to discuss the role and activities of the European Commission.

That is a very ambitious undertaking which would mean that I would have to discuss the Commission's proficiency, the success of the Internal Market, the social aspects, economic and monetary integration and many other subjects as well.

The dossiers on the standard relating to the subject of emissions from cars, for example, or the incidence of the crisis in Kuwait on the "real" political decision-making processes of the communities would make very interesting reading, to be sure, but I doubt that these would be the "real" concerns of the participants of this conference on the trends in Modern Architecture.

Therefore, with your permission, I would like to limit my talk to the measures taken by the European Commission on the subject of the conservation of architectural heritage.

To start with, two comments need to be made:

1. The first is that what is properly referred to as culture is not represented in the Treaty of Rome, which means that the Commission has no direct authority on the subject.

2. Secondly, as far back as 1974 the European Parliament had urged the Commission to take measures to support the heritage of architecture and furniture; it was not until 1986 that the ministers of culture adopted a resolution pertaining to the conservation of the architectural heritage.

It is necessary to recognise that in recent years moral responsibilities vis-à-vis the conservation of historic buildings have developed appreciably. I used the term "moral" responsibilities. I am not talking about budgetary or legislative measures. Nor do such responsibilities observe national boundaries. An example: the deterioration of the Acropolis is not solely the concern of the citizens of Greece, it is the responsibility of all Europeans. I dare not suggest that there is a concensus of opinion with regard to the buildings which are part of modern trends. This is a question to be discussed in the coming years.

It was not solely a moral responsibility vis-à-vis future generations which persuaded the European Parliament to come to the aid of these historic buildings. Conservation of historic buildings has an intrinsic social and economic dimension. Preservation work entails research, qualified skilled labour, appropriate materials. Historic buildings will then serve a new purpose, add to the quality of life and perhaps even contribute to the development of the tourist trade. Consider the example of the Luxembourgers.

The socio-economic aspect of conservation is looked upon today as being self-generating. In general, it must be admitted that economic influences within the cultural sphere are continually growing. That was certainly not the case when the resolution was first adopted.

What measures have resulted from these resolutions? They can be divided into three categories:

- there is the fund for financing students at the European centers of learning;
- there is participation in conferences or cultural projects which have a European dimension, of which this conference forms part;
- there is the creation of a fund for historic buildings and historic sites, rechristened with the cumbersome name, "Action Group for Promoting Architectural Conservation". They organise an annual event with a theme that changes each year.

Restoration work receives a subsidy from the Commission, one which is supplementary to national or regional subsidies. This is because, as you undoubtedly realise, the Commission does not intend to substitute itself for the Member States.

The time has now come to introduce the idea of "subsidiarité".

The principle is simple: only those tasks are devolved at the Commission which can be accomplished more efficiently together, but by means of independent measures taken by the separate Member States. This is a

far-reaching idea, but no one likes to talk about the added value.

A concrete example is necessary. It is difficult for the Commission to subsidise research centres. Yet it is here that such aid could be channeled to the specialists who encounter and deal with the common problems. It would appear that, in effect, there are too many instances of specialists working in isolation on projects of a similar nature.

Clearly, these principles can be applied to the question of modern trends in architectural conservation. Such conservation raises similar dilemmas and technical problems in all the Member States: what must be preserved, how are they to be preserved, what are the most appropriate techniques - are not the only questions you will be discussing this week.

As Europeans, I urge you to commit yourselves to such exchanges, to profit from one another's experience, to develop an effective cooperative effort. I hope that the debate concerning the conservation of modern architecture will progress and that concrete measures will be taken.

Nic Tummers
Representative of the Council of Europe

The role and action of the Council of Europe

As chairman of the Committee on Culture and Education in the Council of Europe I am very pleased that this conference takes place at a Technical University of which the Architectural Department has a good reputation.

Your conference not only takes place at this University of Technology, but is even initiated within the heart of this Architectural Department.
Obviously students are stimulated by this Department to reach for the best quality possible in practising their architectural profession.
In ideal circumstances this should lead to the production of an architectural quality comparable to the best examples of classical building as well as to the best examples of the 20th Centuries' "Nieuwe Bouwen". It is the latter that here today has our special attention.
"Het Nieuwe Bouwen" is essentially an architecture without any pretention for monumentality. Monumentality is the least to be formed in the most characteristic examples of this architecture.

Yet we want to protect and preserve especially those examples.
Is that contradictory?
In my opinion: no! Had we achieved a stage of perfection, would our building production in all its parts be equally good as the best examples in history, more specifically the 20th Century then there would be abundance and no nead for preservation of a particular selection.
But those days are yet to come. (This stage is not achieved in history).
As long as our contemporary building production cannot compare with those examples of our remote and recent past, we will need them to be our standard and our touchstone, which means we will have to protect and preserve them!
In my opinion this is not only familiar to the task the organisers of this conference have set theirselves to , but I do think that within this work lies the quintessence of the whole meaning of this conference.

The Council of Europe's activity on the protection of European 20th Century architectural heritage is one of the Council of Europe's intergovernmental activities. It was launched four years ago by the Steering Committee for the Integrated Conservation of the Historic Heritage (now denominated Cultural Heritage Committee) which was in charge of activities concerning the protection of Europe's architectural and cultural heritage.

Already the Council of Europe has been responsible for promoting a number of legal instruments which pertain to heritage matters. Among these, one of the most important is the Convention for the Protection of the Architectural Heritage of Europe, open to signature in Granada in 1985 and ratified by eleven Member States.

20th Century architecture has been a subject of increasing interest and concern in recent years as a part of Europe's heritage. But it was clear that this subject required a suitable approach.

The reasons for this will be familiar to you: 20th Century architecture is recent, there is a great deal of it in a wide variety of forms and techniques, and some of it remains in one sense or another controversial. The issues surrounding its protection require careful thought, discussion and enquiry.

For these reasons the Council of Europe set up a group of specialists representing various member countries.
This group has been working towards the preparation of a Recommendation to the Committee of Ministers of the Member States of the Council of Europe. This recommendation is an international legal instrument which will serve as a guideline for governments and other bodies involved in this area to consult as they tackle the complex problems involved in protecting the architectural heritage of the 20th Century.

The group of specialists meet regularly and the Recommendation based on its advice will be ready in 1991.
At the same time, to gather information, promote dialogue and shed light on this important subject, the Council of Europe has promoted major colloquies, of which the first took place in Vienna (Austria) in December 1989 and the second is to occur shortly in Barcelona (Spain) from 25 to 27 October 1990.

As a result even more urgent issues of protecting 20th Century architecture have been brought before an increasing number of experts, architects and other interested parties.

Pierre Vago
Honorary President International Union of Architects
Vice President Academic Council of the International Academy of Architecture
Director of the International Committee of Architectural Critics

The meaning of the Modern Movement for contemporary architecure

First of all let me say that I'm here as an individual, as an architect who is interested in this initiative and I will talk without any of these reserves which officials might have to take. Therefore I will be fairly franc.
I started my professional career very early in life and that's why I've been both an actor and a spectator at those things that happened in architecture from long years hence.
In 1930 I participated in the foundation of "L' Architecture d'Aujourd'hui".
In 1931 I was only twenty-one years of age. I was a student and chief editor of "L' Architecture d'Aujourd'hui" and I continued working on that periodical after the Second World War. That's why I was very much involved in this whole period of architecture, which appears to interest you most specifically. Not only that, but in 1932 I took the initiative to launch a movement of young people, who wanted to be freeer than the C.P.I.A. (the International Permanent Committee of Architects) and less enclosed than "CIAM", which existed since 1927. We held international meetings of architects, which started in the Soviet Union. In that time the Soviet Union was still a bit of a mysterious mythe of which good and bad was expected. After that specific meeting in Moscow, Leningrad, Kiev, etc. we continued and we went to Italy, during the Milano Trienniale in 1935, and we also went into Central Europe. Finally we had a meeting (we didn't call them congresses at the time) in Paris, during the exhibition of 1937 and than obviously the World War started.
During the Second World War we thought about the futility of certain of the major discussions which had occupied the minds of the people at the official meetings of architects. We launched the idea of the International Union of Architects, which was started in 1948 in Lausanne and during the next 25 years I was its secretary-general. I'm just saying this in order to tell you that I participated actively in these architectural movements. In that period between 1920 and 1940 I had the opportunity to meet and sometimes also befriend many of the people and architects (I wouldn't call them masters) who have written architectural history.

What is the meaning of this period to me ? The architectural developments that took place in that period, were more or less an interim between the stages before and what happened afterwards. I think that this, what we quite easily identify as "modern architecture", - but after all we know very well what we mean by that - indeed became part of evolution in architecture in a logical way. When we start in European architecture from roman, romanesque, gotic architecture, renaissance, baroc, rococo architecture and moving towards this sclerosis of academicism at the end of the 19th Century, we see that this led to the birth of an attempt to once again get to less sterile, less formal, less rigid architecture and architecture which was more alive. We saw also a number of attempts, which were either romantic or formalist in character and sometimes also linked to artistic movements, such as cubism. Finally we see the cristallization of this movement, that tried to take its departure on a solid basis of social needs, the inspiration of men of that time, and by using totally new techniques and technology, which were available to us then.
That conjunction of factors, which were starting points, characterizes these attempts of architects: not so much an aesthetic aspect, not so much a romantique literature, a populism, not so much characterized by nationalism, which had its clear sources in Central Europe, or an affirmation of national (maybe Czech, Hungarian) architecture, which was an affirmation of a specific political will, rather than anything else. But it was based rather than that, on eternal absolute values in architecture. These elements are to be found throughout the whole history of architecture and we see them reflected in the works of the great thinkers of architecture. These elements are a program of functional requirements, the available technical possibilities to permit its'realization and their result: the aesthetic, plastic and formal expression. This movement had twenty years to try and find its expressions. Although we all know that there were various trends within this major development. In the Second World War there was a watershed of about 6 years. After the war there was a great need for reconstruction and construction and the urge for production, pushed by necessity, caused a banalisation in architecture. The introduction of economy and time as predominant factors resulted in works , that were just about bad caricatures of what the artists and executors had accomplished in the twenty years before the War, in trying to express themselves and their dreams.
This led to profusion of construction and building, during the years when men built in ten years as much as their predecessors had done in twenty centuries. This caused a kind of bad vulgarization, which is assimilated by the public at large as modern architecture, not distinguished from it's first appearance. This led to chain-reactions and a return to nostalgia; dreams about the good life, the nice little house with a little garden, with a bit of roof, creating a mythe of well being, towards the nice quiet road where children could run around, because that was all possible now.
This was all embellished by memory and it provoked a reaction which we all know. It brought about a total rejection of everything that had been accomplished before, so that the Modern Movement could only express itself in a limited number of very interesting high quality structures, that are still of present interest. On the one hand there was a leaning towards the past and on the other hand there was a wish to rectify architecture in a superficial way with artificial means, like embellishing a dirty monster with a nice tie: what they call post-modernism or whatever you like. All these idiot things, as far as I am concerned, all these superficial elements, which haven't got any real foundation, will be forgotten soon and basically will not leave behind what other movements such as jugendstil and sezession have left behind.
We also live in the years of the media and most certainly those who manipulate these media very well and use it more than their reason would order, may feel that they have created a succes. But history will make them disappear. After ten years from now we won't talk about Bofill anymore, just as we don't talk about Pouillon or other "starlets" of architecture.
Unfortunately, now we live in a period where the public is unaware of what happened in that heroic period in the twenties and thirties. Not only because there is no respect for the works of that period. Also at the level of theory we see certain absurdities which go totally against the thruths of history. Although I have never fully supported all the rules set by it, this makes it to our task to defend the Charter of Athens even today, because still a lot of nonsense is being said about the ineffaceble role of it.
After 1945 the philosophy of the Modern Movement was very little known by the general public and the officials of various countries, and it is said that this even was the case amongst architects and theorists in modern architecture. They were in favour of doing away with the tradition and erasing the past. This was all wrong, because the Modern Movement tried to arrive at a real tradition again, since tradition had been betrayed by the academism and the decadence of the previous years.
I feel that if we really want to do good works here at the First International DOCOMOMO Conference, we have to reconsider that whole era and think about it seriously, not only superficially, not only by easy slogans of being in favour or against it, but think about it seriously. When we look at it at the level of both its architectural and humanist expression, because I think these things are very much linked together, and also look at it from an ideological point of view, the philosophy and theory behind it, this is an enormous field to cover. But we shouldn't be afraid of that because it could contribute and be very useful to the future development of architecture and also to research of these immense and extremely complex problems, where the present directions in architecture have no answer whatsoever. There is a point in time, and I think that's a point of reflection too, that there is a pressing need to save these rare and remarkable witnesses of an era, which unfortunately are disappearing day by day.
In my country, in France, and we have seen and still see it happening more and more, that works of architecture, which are in a way evidence, sometimes great works and sometimes not but nevertheless witnesses of a high cultural value and as such very important, are giving way to speculative projects. For instance several buildings of Le Corbusier. We are trying to save the "Maison de Croix" of Robert Mallet Stevens that is also under threat of destuction.
We also regret the disappearance of a building like the Garage Malboeuf in Paris of the architects Laprade and Bazin, just like the Alfa Romeo building next to it, two remarkable works in which place a building has been erected that nobody will ever notice.
But there is something else that's very important too, and that is the infortunate raise of the Theatre des Champs Elysées, Perret's masterpiece. Obviously that is a product of an era preceeding the period 1920-40 that you are specifically interested in. However, it is just as well an example of remarkable architecture of the 20th Century, on top of which a panoramic restaurant has been constructed, in spite of all protests against it and all legal protections.

This case illustrates why I regret the limitation of this initiative to those twenty years from 1920-40. Although that era indeed was extremely interesting and very important, I hope that during the discussions you will have on the actual foundation of DOCOMOMO, you will consider to extend that period. In doing so you will be able to survey both the origines and roots of the Modern Movement in the past and its continuity, since in a lot of countries this movement in architecture arrived with some delay. In England for instance, like in many other countries, the Modern Movement was set going maybe even after 1940.
These were a few thoughts I liked to express at this moment. I think it should be considered a great succes if you leave here with ambition and energy.
I think that organisations such as the International Union of Architects, which includes architects of 90 countries, or the Academie Internationale d'Architecture, could also have a beneficial contribution to your work. Once more I would like to wish you very much succes with DOCOMOMO.

Sherban Cantacuzino
Chairman Icomos UK, Secretary Royal Fine Arts Commission, London; Great Britain

Principles of protection for the architecture of the Modern Movement

Protecting the architecture of the Modern Movement is no different in principle to protecting the architecture of any other period.

It is usually a case of extending the system to cover the period between the two world wars and up to 10 to 15 years after the Second World War. The difference lies, not in the principles of protection, but in the method and technique of restoring buildings which were often designed for a limited life and constructed in an experimental spirit.

In the short time at my disposal I want to do three things:
1. Put the protection and preservation of this archticture in a wider context.
2. Examine the specific problem of preserving samples of this architecture and ask a number of questions, all of which have to be answered if preserving a building is to keep it alive, not frozen.
3. Outline a policy and a structure.

Protection and preservation fall within the wider term conservation. And conservation means the act or process of preserving something in being - of keeping something alive, this something being in our case anything from a single building to a whole neighbourhood or even a whole city.

Doing this may involve infusing new life and finding new uses, so that conservation must not exclude change. In other words, it must not exclude the possibility of demolition or new construction.

A conservation policy for a particular area must take into account the wider planning issues and address itself not only to the problems of protecting and preserving the architectural heritage of whatever period, but also to the problems of new development - problems of height and density; of infrastructure; and aesthetic problems of scale, proportion an rhythm.

A conservation policy for a particular area must also take into account social and economic factors. There is little point in preserving a building and then allowing it to be engulfed by a car-park or overshadowed by a tower block. Life in a beautiful suburb like Bedford Park in London (a little too early to quanlify as Modern Movement) can become intolerable if it suddenly finds itself on the flight-path of an airport. Removing uses (usually industrial or commercial), which do not comply with modern zoning requirements, can suck the very life-blood out of a neighbourhood or city quarter.

Conservation, in short, has to be considered as an integral part of a planning policy.

Before embarking on a planning policy for a particular area - and I come now to the second part of my talk which examines the specific problem of preserving the architecture of the Modern Movement - it is necessary to find out as much as possible about the buildings in the area and the uses to which these are put. This knowledge is fundamental because, without it, it is not possible to develop theory - and theory is important because it is the systematic statement of principles concerning, in this instance, the action of keeping a building in being.

So the first task is survey and analysis. In this task it is important to understand both the building and the reasons for its preservation. Sir Bernard Feilden in his Introduction to Conservation (Unesco 1979) suggests four stages: a general report, a detailed and meticulous inspection, an historical analysis and a structural investigation in depth.

But such a survey should go beyond the architectural quality, historical interest and physical condition of buildings. It should include an analysis of the uses to which buildings are put and of the local economy generally. It should identify the dynamics of the place -mix of people, mix of uses, movement of people on foot and in vehicles.

This research and documentation leads to an assessment of the buildings. To make this assessment a number of questions have to be answered:
1. What is the historical value of the building - the circumstances which caused it to be built and any famous people or events associated with the building throughout its history? This question can be answered quite factually; the more the history and the more important the history, the greater the historical value.

This is not therefore a matter of opinion. It is an objective assessment. Examples which come to mind are Eric Mendelsohn's Einstein Tower at Potsdam (1921) and Wells Coates's Isokon flats in London where the tenants included Walter Gropus, Marcel Breuer, Moholy-Nagy, Gordon Cullen and Agatha Christie.

2. What is the architectural value of the building? This is more difficult, especially at a time when the Modern Movement is discredited in the eyes of the man in the street who is, of course, unable to distinguish between the authentic examples of Modern Movement architecture and the many travesties committed in its name. Again, a factual approach will help: the name of the architect, the date and style of the building; influences both on and from the building; any structural innovation and the use of new materials and finishes. In the case of Modern Movement architecture it was often a case of putting theory into practice. This was true of the Russian Constructivist Movement, of Le Corbusier's early houses, of Ernst May's work in Frankfurt and of much else. One should try and answer the question "how successfully was the theory put into practice?".

3. What is the significance of the building in its wider context of street or town - what role does the building play on the urban stage? Is it a building where the main interest lies in the interior space like the train shed of a railway station, or Tony Garnier's great abattoir at Lyon (for which there are ambitious plans to convert it into a commercial and social centre)? Is it an isolated building that provides a focal point like Otto Bartning's Round Church at Essen (1929-1930)? Is it a building with a facade that belongs as much to the exterior space of the street or square in front of it, as to the interior accommodation behind, like Aalto's Enso-Gutzeit building in Helsinki or Albini's Rinascente Store in Rome? Is it a building that is part of a greater whole? Is its significance of urban scale and does it, like so many medieval and Victorian churches, make a vital contribution to the silhouette of the town as a whole?

4. What is the essence of the building? Its very nature? This is of particular importance if the building is to be converted to a new use. A church or a railway station are essentially single-space structures: an apartment block is essentially cellular. Many Modern Movement buildings have walls and partitions which are independent of the skeletal reinforced concrete or steel structure. Mies van der Rohe's Lange Haus at Krefeld (1928) has a sequence of related spaces which flow into one another, and its conversion into an art gallery rather than, say, its subdivision into a number of apartments, ensured that this flow of space was preserved.
Brinkman and Van der Vlugt's Theosophical Temple in Amsterdam (1927) is essentially a single-space structure and this has been respected in the recent conversion of the building into a district library.

5. What are the economic and social needs of a particular area, and how can these needs be best met by the introduction of new uses, and by the increase or reduction of existing uses? It would be a disaster, for example, if the Weissenhofsiedlung at Stuttgart were ever to be made into a museum quarter like certain well preserved historic town centres in Eastern Europe. Conversely, it would be wrong to deny the possibility of new buildings or the alteration and extension of existing buildings, provided these were justified on social and economic grounds, and provided they were designed to be in sympathy with the existing buildings.

Finally, I want to outline a policy and a structure.
There are five parts to a basic conservation policy:
1. There must be an inventory of the building stock. As we have seen, this is a matter of survey and analysis. Such an inventory, recording the condition of every building, would make it possible to build a maintenance plan into a conservation programme so that there would, in theory, never again be a need to restore buildings.

2. Identifying and listing specific buildings or groups of buildings for protection. Protection must include the setting of a building so that the design of any building development near that building which could affect its setting is properly controlled. To have listed Ernö Goldfinger's Alexander Fleming House in London (about which you will hear more later on during the conference) would have helped prevent the demolition of the cinema (also Goldfinger and part of the whole) and the totally inappropriate re-cladding which the office building is about to undergo.

3. Identifying and designating conservation areas. The concept of conservation areas is important because it helps to make conservation part of planning policy; and because it discourages the treatment of buildings as isolated momuments and directs attention to spaces between buildings. The Modern Movement is rich in neighbourhoods like the Siedlungen in Berlin, the Kiefhoek housing project in Rotterdam (which we are going to visit), or the housing colony at Eglisée near Basel, which was built in conjunction with the First Swiss Ideal Homes Exhibition in 1930. Many of these neighbourhoods need protection and preservation. One might indeed extend this notion by designating whole towns from Welwyn Garden City to Chandigarh.

4. Providing financial incentives in the form of grants, subsidies and tax relief. There are as many ways of doing this as there are circumstances requiring it. So we should never say "this won't work here", but find a way that will work. Although I believe several countries have found ways round the regulations, it nevertheless remains a disgrace that the CEC will not exempt listed buildings from having to pay value added tax on repairs and maintenance work.

5. Involving the public by setting up voluntary amenity societies both at national and at local level. This is the grass-roots element which more than anything else will convince governments with democratic aspirations that protecting and preserving the architecture of the Modern Movement matters. Although I said that this architecture was going through an unpopular phase,

there is often plenty of support for it, as was proved by the recent case, already mentioned, of Alexander Fleming House.

None of this policy is any use unless there are effective ways of implementing it. To do this there must be a strong planning authority, together with (to insure against abuse) an appeals system to the responsible government minister. To be strong, a planning authority must have a sound administrative structure and a sufficient number of properly qualified people and must have the backing of legislation which is capable of implementation. In the United Kingdom planning authorities have power to serve a notice on the owner of a listed building to undertake repairs, but, if the owner refuses, the planning authority has to carry out the work and get the money back from the owner through the courts. This is an example of legislation which is difficult to implement. There are countries (Turkey and India are examples) where the rights of the individual are so strongly established, that the courts will usually overturn a planning decision in favour of the individual, even where, as in the case of the man who was quarrying the hill behind Fathepur-Sikri with dynamite, the planning decision to prevent this was for the greater good.

I have attempted to outline a fairly comprehensive set of principles for the protection of buildings of the Modern Movement, or indeed of buildings of any age. They are intended to provide a framework which, I am aware, already exists in varying degrees in the countries represented at this conference. But they may, I hope, also provide a standard by which each country may measure the efficiency of its system and, if necessary, improve it by identifying its shortcomings.

Enrico Mantero
Milano University of Technology; Italy

Translated from Italian

Modern Movement and Italian razionalismo

Since the publication of my first work in the field of the culture of the Italian rationalism, performed as a cultural obligation and contemplation of the past with regard to Giuseppe Terragni, I have gradually grown more and more convinced that the "individualist" limit of the Italian rationalism is not a scientifically established fact, about which critical considerations can be written, and that it does not relate exclusively to the figure of the "protagonist", but that it is caused by the operational difficulties in the creation of a collective cultural content.
There is question here of a problem outside the contents, which I have discovered during the rereading, this time driven by plans for the future, of the contemplations and testimonies, presented to us at the "crucial" moment of the reconstruction by the protagonists, who have survived the "forced epopee".
I was looking for an explanation which was different from that of many publicists, who have ascertained implicitly the "second death" of the rationalism, which would have occurred after the "first death", announced by Persico in 1934, with the disappearance of the most important protagonists. As I am convinced that "rationalism" is an ideal praxis, which is continuously present in architecture as a whole, I could not believe at all that the enthusiasm and the youthful elan had disappeared altogether before the occurrence of the great "civil agreement" which the reconstruction actually was. One only has to think of the extremely fast and well-conceived implementation of the AR-plan in 1944 for the reconstruction of Milano, and of the discussions on the reconstruction, which appeared especially in issues 1, 2 and 5 of the year 1946 of the periodical "A" (Attualità (topics), Architettura (architecture), Abitazione (Living) and Arte (art)), published by Domus, with contributions by Bottoni, Diotallevi, Gardella, Zevi and others.
Actually, I did not intend to write a monograph, which would have nourished the mystery of the individualism and of the individual experience, opposing a reality felt much deeper by the protagonists in their pursuit of a mutual confrontation. The answer to the questions which I asked myself came to me, when I looked back, keeping an eye on the "restoration" of rationalism, in the real possibilities, in the real conditions which the eternally winding road of architecture created, especially at the time of the reconstruction. By the term "restoration of rationalism" I mean that stormy and fascinating activity, which is characteristic for the "research and productivity" in the work of Bottoni for the 9th Triennale, for the "stylistic" work of Albini, for the "critical" work of Rogers, for the "political and polemic" work of Zevi and for the "artisan-polytechnical" work van Ridolfi.
And thus our research, which was born from the contemplation of ideological-moral conditions, was transferred to questions with regard to the consciousness of an artistic-operative continuity beyond the "political difficulties".

These are questions which have been raised often by the protagonists themselves, and which relate to the potential of art, of the style, of the material instruments, as well as to questions inherent to the artistic work, when it comes to removing conservative conditions or conditions that are damaging to the progress of architecture.
For the question of the style must be understood (thanks to the polemics of Pagano in the beginning, and those of Bottoni subsequently), as "project practice", and in this sense the Italian rationalism indicates two ways to interpret the project style: one as a model to imitate (this is the reference point of the present works of rationalism which I have not examined), the other as a result, that has to be obtained through a course that is original and that expresses a feeling of interior awareness.
These facts are reflected in the experience of the rationalism, in the redde rationem of the years 1937/40, where the noblest efforts and the most unexpected and deciding changes seemed to converge, i.e. in which the cultural parable in my opinion is the most meaningful. It seems to me that Italian rationalism has at last found a cultural substance which is comparable to the global experience of the Modern Movement. We shall see in this alternative analysis of the rationalism that the works which I first called "late", because they were rooted strongly in the "regional" culture, actually appear to belong to the Modern Movement. As examples hereof we mention the design of the Cortesella by Teragni, de Malaparte villa by Libera and the nursery school at Ivrea by Figini en Pollini.

But how is it that this maturing process has taken such a long time, or why has it remained hidden for so long? I am of the opinion that it was not just the "political difficulties", but especially the lack of willingness to attack the fundamental problems, and the fact that the new movement was helpless in front of the authority of the

"current" critics.
We will now give a brief summary of the facts. The obstinate affirmation of internationalism, which can be seen from the beginning in all theoretical and programmatic statements by the various groups of followers of the rationalism, would never have come forward if we had not gone over the story of the cultural context of each "group". In times of intolerance and perhaps also of youthful ignorance, the existence of this internationalism was admitted only to hold off the abstractness of the avant-garde. I would like to point especially at this consciousness, which is present in the late works, i.e. the works from the period between 1937 and 1940.
In Italy the new architecture was born under the influence from abroad. Without going back to D'Aronco, Rigotto or Sommaruga, who were influenced by the strength and the effectiveness of the style of Otto Wagner, you only have to remember the intellectual education of many new architects: Baldessari, who spent some years in Germany, is the creator of the first new building in Milano in de style of the German expressionism, Faludi is actually a Hungarian and Diulgheroff a Bulgarian, Gyra graduated in Vienna, Sartoris was trained in Switzerland, without counting the inevitable influence undergone by Guzzi and Pagano in the cosmopolitan atmosphere of pre-war Trieste. And perhaps all this would not mean so much if there had not been another fact, which is much more important and even decisive, namely the fact that the new architecture receives its strongest impulse in Milano and in Turin, in two industrial cities, where the "rationalism" becomes the expression of a rebellion against the world of the bourgeoisie, and of an essentially "European" experience.
It is undoubtedly a "leap" which the rationalists make, and which is caused by the confusion brought about by the acts of the avant-garde. This, however, is not a "negation", as appears clearly from the writings of Group 7: the large cities certainly constitute the operative reality, but Persico forgets that it is not only the "industrial cities", but also the centres of the cultural traditions, which record the events surrounding the rationalism. Works such as the villas by Libera on the lido of Ostia, the Novocomum by Terragni at Como and the office building by Rigotti on the Via Roma at Turin, testify hereof.
However, I wish to return to this point, which I consider of essential importance, at a later stage, when I will examine the various styles of the first stage of the rationalism, this in close coherence with the cultural inheritance of the various geographical-cultural areas.
And so, after the surge of dialectics had been overcome by the 20 th Century movements, any "thought" of an "own" cultural identity was suffocated again in the period of the fascist consensus.
However, I will return to this subject too when I will examine the second stage of the rationalist experience, i.e. the stage of the so-called Great Competitions, which is also characterized by a "consensus", by a "compromise" between the regime and the rational architecture until the epilogue, the "forced epopee", that represents the third stage to which I referred when starting this analysis. There, I only wanted to anticpate by recalling that, little before the era of the Great Competitionss, the so-called "consensus" produced works that related to the fascist Welfare State. Among these were first of all, the Opera Nazionale Balilla (National Opera during the period of fascism; translator's note) and the seaside and Alpine holiday homes. Here we see the line of resistance when tackling these subjects in accordance with the own cultural opinions, in other words we see the design decline into symbolism and allusions, as is the case of the building of the Opera Nazionale Balilla at Como by Gianni Mantero, and of the holiday home for heliotherapy by Clemente Busiri Vici at Cattolica.
These appear to be for me the most convincing "points of view" for the correct description of the rationalist experience in Italy, because it is not an experience that grows linearly, even if it is based on a history that originated in deep foundations, which are so old that in the beginning they were not recognized as such by the protagonists themselves.
The reason hereof is that we are dealing here with a process which does not further develop continuously, as is the case of many European experiences, especially as this process is interfered with all the time by door external - not extraneous - facts, which submit it to continuous verifications, that are different in each context, and which in the end are cleared up partially, especially in the period between 1937 and 1942.
The following is the announced quotation from Rogers:
"Everyone went his own way, in accordance with a destiny which was in accordance with their nature and cultural interest. Only few were saved from the suffering.
Many of the protagonists came to their end in a tragic manner: Terragni was shot through the head after the terrors of the Russian campaign, Beltrami came to his end among his partisans, Banfi died at Mauthausen, en small and dear Labo, who had always been an anti-fascist, was shot by the Germans.
On rereading more recent documents, including the issue of the "Hinterland" periodical, which is dedicated entirely to post-war Italian architecture, it seems to me that I find a confirmation of the above. During the first years of the rationalism they hardly realized that they were part of a European architectonic direction, and that a cultural isolation might result from that, since most orders originated from special relations with the bourgeoisie.
The problems of that period, which still exist today, are conveyed well by Giuseppe Samonà:
"I have the deep conviction that we have arrived at an important turning point in the history of architecture, and that we have started a quest for another meaning and substance, than that of the great masters of the Modern Movement, and that they have begun to express to a greater extent the own specific character of the architecture, without copying elements from other arts and sciences, as was often done in the past.

That does not mean, however, that we should discontinue the tradition in the deepest sense of the word, and furthermore that we should reject any radicalism and any concession to forms that would imply a return to the past.
In that sense the occurrence of a modern and conscious line in architecture can be discerned in the works mentioned by me in this introduction, which line goes back to the essential characteristics of the roman, baroque and neoclassical architecture, and which through a dynamic vision of the role of urban architecture, has overcome both the convictions and the style of the end of the 18th Century and of eclecticism, as well as all futuristic abstractions. In this context we can mention the design for the reconstruction of the Cortesella by Teragni at Como in the years 1940/42, the villa for Curzio Malaparte at Capri by Libera in 1938, and the nursery school at Ivrea by Figini and Pollini from 1939/42, by which the construction stage of the rationalism is concluded, and which created newer perspectives of greater freedom in the field of design and execution.
The urban strategy of the first work, which points in the direction of a role which is characteristic of the roman and renascence buildings, the rustic unrestrained character of the second, which refers to the typical role of the buildings from the baroque, as well as the dignity of the third, which demonstrates a relation with the architecture at the end of the 18th Century and from the neoclassical period, point in my opinion at a maturing process with regard to the history of architecture as a whole. The same applies to the aspects of contemporaneity, of originality of the experience, which on the one hand confirm the fact that these works belong to a clearly defined cultural context, whereas on the other hand they represent an unambiguous interpretation of the tradition. These are works, which in my opinion do justice to the point of view of Persico, which is rendered here:
"The Italian rationalism is necessarily unaffected by the impact of the European trends, because there has never been much confidence in these. Thus a shift occurred from the Europeanism of the early "rationalism" to a kind of "romanism" and "mediterraneanism", from which the last proclamation of corporative architecture resulted eventually.
The objection that this process, in the last three stages that is, corresponds with that of fascism, is too simple and tendentious to be reckoned with seriously. We would do better here to examine the last disguise of Italian "rationalism": the corporative city."

From the above results the existence of different kinds of rationalism and of different stages of these differences, of which I wish to mention the principle ones.
The first stage is characterized by a style, which has been influenced by the Central-European architecture, as is the case of the Milano rationalism, which is expressed in the design of a garage by Figini and Pollini, or which is under the influence of the vernacular architecture, as is the case of the rationalism of Rome, with the Garbatella apartment building of Aschieri, or which is influenced finally by the Viennese neoclassicism or romanticism, as is the case of the Turin rationalism, which is expressed in the head office of the Fascist Artisan Community of Sartoris.
For each of these rationalisms a direct orientation towards the constructivist and gropusian experience is evident, and orientation towards the "international of late baroque", towards the experience of French and Austrian modernism of Mallet Stevens and Hoffmann.
The intermediate stage of the search for "consensus", which we have already mentioned, is characterized for all by the development of the discussion, mentioned several times already, between history and tradition, which is aimed at justifying and implanting the experiences, and at qualifying them as legitimate in face of the ever ascending commemorative praxis of fascism. This is the case in the Milano cultural context of the "Electrical House" by Figini and Pollini for the 5th Triennale in 1933, this is the case in the cultural context of Rome of the Mathematics Faculty by Ponti, realized in 1934 for the University City, and this is finally the case in the cultural context of Piemonte of the works by Bottoni, Rogers, Peressuti and Belgiojoso with the beginning of the Olivetti planning experience in 1936/37.
Finally, the third stage which resulted from the maturation of the "Great Competitions". This is the stage which I called "precathartic", and about which I expressed my views previously, mentioning a number of projects and quotations.
With regard to this stage I already expressed myself when I spoke of cinematography, in connection with which I wish to emphasize once more the moral role of certain films, especially the action of "truth" undertaken by Luchino Visconti with Ossessione in 1942/43.
The hypothesis of the "stages" is based on these themes: the first on the supposition of the free confrontation, the second on the supposition of convincing, the third on the construction of autonomy.
These themes should not be considered as "labels" or categories, which are characteristic for a "specialistic criticism", but as the methodologically founding chapters of a "novel", which I certainly do not wish to develop integrally.

Catherine Cooke
Open University Cambridge; Great Britain

Modernism's Soviet connections: How do they influence our criteria?

The Soviet Union has perhaps a worse crisis than any other country in respect of its' modernist heritage. The roots of the problem are essentially those of the country's larger economic and organisational crisis at present, and any speedy change that can be considered a 'solution' is equally hard to envisage. As in the larger crisis, an objective admission of the reality, and some positive practical action by individuals, however modest, are certainly the only way a true reversal of the situation will start.

The obstacles are daunting, however, and the record so far is bad. Major masterpieces and canonical works of world class are in a state of decay that would be technically almost irretrievable even in our better-equipped countries of the West. Even simple repair to a small domestic work like Konstantin Melnikov's personal house has for several years now proved impossible, the architects being totally defeated by bureaucracy, resentful infighting and shortages of the most basic materials. And this little building was no experiment with unproven components or novel techniques. The architect's whole intention here was to demonstrate a conception of modern architecture that used indigenous local materials with a slight rationalisation of traditional artisan trades. Primitive as it is, the next generation has been defeated by it; I only hope that Vladimir Rezvin brings news of a turn to the tide on this front.

But my task here is not to discuss individual cases. It is to look at Soviet modernism as a whole, with its various similarities and differences from Western work; and speciaficially, to ask whether its particular features or concerns throw up any general observations that should influence our criteria in selecting buildings for DOCOMOMO's attention elsewhere.

As elsewhere, we have first to define the period. Here the difference between the autocratic Soviet Union and the free countries of Europe is immediately marked. For reasons that are broadly political - though not, I would argue, necessarily misguided in their own context - the Modern Movement in all its strands was aborted by central government action in the early thirties, essentially through the mechanism of the Palace of Soviets competition of 1931-34.

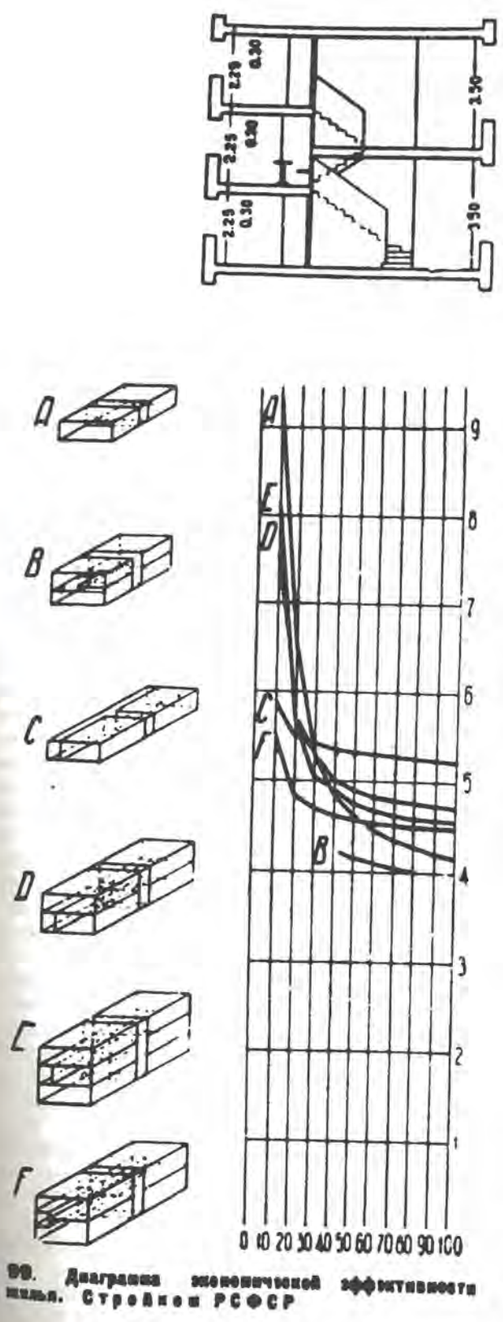
The year 1934 also represents a general end-date for the big modernist complexes which started construction in the late twenties. Unless Soviet researchers discover some unknown later masterpieces (and the problem of knowledge of their stock is another where the Soviet situation is particularly backward), this date can be taken to represent the end of modernism under Stalin. Thus the period when a developed modernist approach overlapped with the economic possibility to build was very short. When we talk of Modern Movement buildings in the Soviet Union, we are concerned really with a period of only 5-6 years, from 1925 to 1930.

During this period, several groups of quite different philosophy were operating within the larger movement of modernism. This diversity of view about the proper aesthetic and methodological concerns of a modern architecture, as well as differing formal and technical preoccupations, is in my view one of the great contributions of Soviet work to the total international heritage from this period. Even before the concealment of that diversity could be blamed on aesthetic censorship from politicians, loud voices and media domination by certain stronger groups in the profession lead to a quite false external impression of homogenity in the modernist camp. The process is of course equally familiar to us in the West, and we too are only just beginning to break through the false surface of uniformity to rediscover the true richness of our heritage here.

The importance of reflecting this richness in conservation policy has already been stressed in a pioneering recent research study which aimed at establishing criteria within Soviet architecture as a whole. Submitted in 1988, this doctoral work by Ekaterina Shorban in Moscow was supervised by the then Chairman of Soviet ICOMOS, the late Oleg Shvidkovsky, and derived considerable authority not just from its study of worldwide practices, but from a close integration of theory with fieldwork all over the Soviet Union.

Shorban stressed the point I would also strongly endorse, that conservation policy should seek to reflect 'the reality of each architectural period in all its complexity, its contradictions and divergences of styles and trends'. This as she commented, 'is a new proposal and criterion of choice which has not so far been amongst the obligation of practice in this field'. It is certainly a criterion which the Soviet oeuvre reminds us we should apply within international modernism.

The particular ideological circumstances of the USSR lead



Systematic and quantified design methods of the constructivists: Ginzburg and others, alternative sections for apartment complexes, and graphs comparing certain properties, 1927

to two characteristic features within the range of theories being pursued there, that seem to me of particular importance in this context.

The first was a self-consciousness about the actual process of designing which is characteristic of modernism as a whole, and as a philosophy, but which ideological circumstances caused to be more rigorously and explicitly debated in Soviet architectural practice than perhaps anywhere in the West.

The provocateurs here were the constructivist group, OSA. To them modernity and social accountability, as well as their simple reading of Marxist thought, demanded that the architect integrate the functions of design into a clearly organised and publicly transparent working method. This so-called 'functional method' was the basis of constructivist design practice. By working from first principles, through social, environmental, constructional and aesthetic aspects of the design task, the architect of modernity would create for the new society what Moisei Ginzburg described as 'a logical building unconstrained by models handed down from the past'. More than that, the spatial organisms so generated would be catalysts of social change, altering the users consciousness by the way they shaped the material and social dimensions of his daily life.

But this approach espoused so loudly by the constructivists was vigorously opposed by Melnikov, who believed with equal force in the role of some kind of 'intuition' as generator of a basic spatial and formal motif appropriate to a problem, and who vehemently denounced any notion of a standardised ordering of the process or any single correct starting point for it.

To the so-called rationalists, lead by those great teachers Ladovsky and Krinsky, the designer's key tool was a science of perceptual psychology derived from the researches of Hugo Munsterberg in Harvard, and others. Expressive properties of building form, they insisted, have a potential 'psycho-organisational role' in 'evoking particular attitudes in the individual people as consumers of architecture and users of the city'. In this approach to designing, the formal solution precedes any consideration of material or structure.

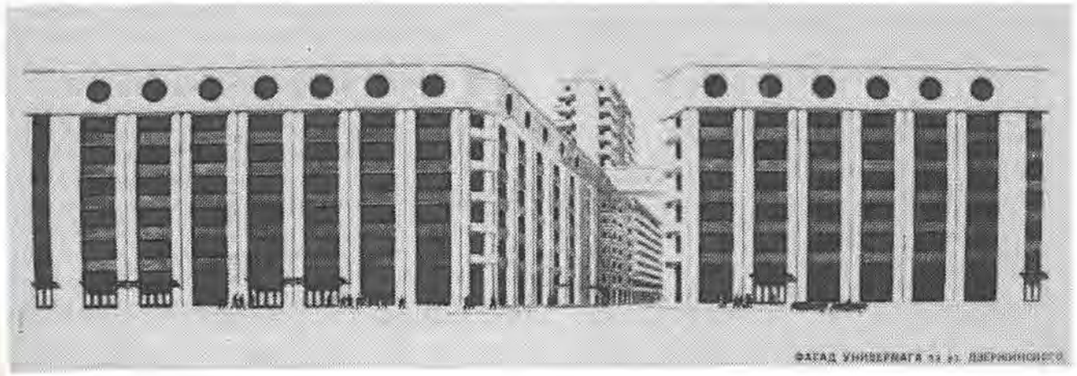
Such an approach was the polar opposite of constructivist practice, but the existence of this range of polemicly and passionately held views brought the inner processes of the designer's work into the public domain in Moscow of the twenties as perhaps never before or elsewhere.

In terms of built oeuvres or extant building stock, the leaders of rationalism left little. That gap is somewhat filled by some good modernist works of social housing and public facilities built by their followers and pupils, especially in Leningrad. Melnikov, of course, built a great deal, and the lazy homogenisation which still leads to his buildings being described as 'constructivist' would have the old man turning in his grave. In his work I think we are seeing an intuition intensely informed by a traditional Russian aesthetic of the richly three-dimensional object in space. This self-assertiveness is very different from the urbane neighbourliness of most Western modernism, or in varying degrees, of his Soviet colleagues. In this context Melnikov reminds us of the need to insist that the DOCOMOMO umbrella extends beyond the cubic work normally identified by the phrase 'functional and

Work of the Rationalist group in Leningrad: Barutchev, Gilter, Meerson and Rubanchik, Viborgskaya factory kitchen and public feeding complex, Leningrad, 1929-30 (photo 1989)

constructivist', to include those strands of modernism which derive from what Heinrich Klotz has called the Crystaline or Organic paradigms.
This formal diversity is certainly one of Soviet modernism's great contributions to the movement. The teaching programmes developed by Krinsky, Ladovsky and others served here to channel artistic formal innovation into architecture. Sadly few of their pupils got the chance to build in a modernist idiom before the chopper came down. But behind formal diversity lies something deeper. The main point I want to make here is that if we seek to transmit something about the nature of architecture through our choices, not just to hand on good objects, the heritage we save should consciously reflect this central modernist concern with process, with the nature of practice and the self-consciousness of what it is to 'design'.

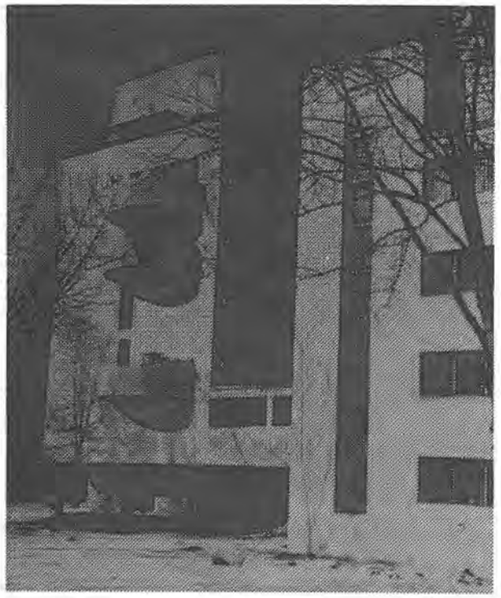
The second characteristic feature of Soviet work, which now seems less extraordinary in the West than it still did a few years ago, was the existence within modernism of a body of work which explicitly sought some continuity with historical architectures in tectonic, compositional or proportional disciplines. Here we have a dimension of the heterogeneity of modernism that was generally suppressed by the polemic polarisation of views in Europe. This caused so many designers to deny the true sources of vitally important lessons they had learned from historical architectures in their youth.
In the Soviet Union, meanwhile, important modernists were keeping this dialogue open. It was done through personal convictions about architecture, but it was also consonant with the official Leninist belief that a proletarian aesthetic must synthesise advanced technologies with still-valid elements of the 'heritage'. In less sophisticated forms, this was of course the aesthetic principle which became dominant in the early 30's as socialist realism, closing the door on modernism thereby. Earlier in the 20's however, the teaching of such leading modernists as Melnikov and Ilya Golosov was explicity and programmatically informed by a pursuit of expressive and compositional lessons from traditional architectures.
Amongst leaders of the slightly older generation who now espoused a modern architecture, such as Ivan Zholtovsky and Ivan Fomin, elements of classicism were central to the modernist aesthetic. For Zholtovsky, it was the proportional systems, which would make utilitarian industrial buildings into an enhancement of working life. To Fomin, the tectonic principle of post-and-lintol provided the logical and proper formal paradigm for the clear expression of a concrete frame.
As my colleague Boris Kirikov has pointed out, Fomin's inspiration here may have been Peter Behrens' German Embassy in St Petersburg, finished just before the First War. But the two architects' further development of the language diverged interestingly. In the Soviet Union, with Fomin, the historical reference point was retained, because the ideological climate continued to give it positive value. In the West, on the other hand, Behrens' later work quickly suppressed it, in a professional climate where progressive credentials were increasingly linked to a ruthless disdain for historicism.
Socially and technically, the work of Zholtovsky's pupils or Fomin has certainly to be considered as a strand of modernism, though too narrow a definition of DOCOMOMO's concerns could exclude it. In Britain we have a long-established pressure group, the rather confusingly named 'Thirties Society', which fights for work of quality in the twenties too, across a broader stylistic spectrum than our DOCOMOMO group is adressing. But in countries without such parallel activity, DOCOMOMO must surely embrace this work as one end-point of a continuous spectrum of experiment to establish a modernist aesthetics.



Fomin: Dinamo Complex of administrative, residential and retail accomodation, Moscow, built 1928-29

With a small profession in a backward country, the number of executed modernist works in the Soviet Union was relatively very small, though it includes some which have rightly entered the canon of international modernism. Their present condition ranges from reasonably good repair, when there happens to be a prestigious or caring occupier, to near-ruination through contempt, indifference, neglect or simple poverty. Technically, all this work was the product of a poor country neither aquainted nor equipped with modern technology. The divergent views of the appropriate way to respond to that fact, which I refered to in connection with Melnikov's house, raise the important but normally heretical question of how far 'advanced' technology or even modern materials really were integral to modernism.

Events of the last year, and the welcome presence of so many colleagues here from the East, make it easy to forget how different and separate these two worlds were in the period concerning us here. At the same time, the shared sense of being part of a 'movement' was heightened by the exoticness in both directions. Western and Soviet views of the time are important first indicators of where Soviet modernism's difference lay.
In social respects the Soviet situation was widely perceived in Europe as ideal, either in the explicitly political sense that attracted many of the German left-wingers; or in the more general sense appreciated by Corbusier: that this was a land of grand projects, where large scale aspirations for building and urban restructuring could actually be realised. Both groups retired home disillusioned, but these features of the situation were not illusory. They were real, and if not always used positively, or not actually exploited on the scale they hoped before it was too late, they were important premises of Soviet modernist thought and project work. These in turn are part of what we have to document, even if not to conserve.
In looking at the oeuvre for conservation in the context of East-West connections, there are some major works by European modernists on Soviet soil. Of Corbusier in Moscow we shall hear more from Irina Chepkunova. There is also Mendelsohn in Leningrad. Field explorations may yet reveal significant extant works by the emigres form Bauhaus and Frankfurt in the new industrial towns.
One reason for Soviet modernism's vulnerability to ideological attack was precisely the fact that this architecture differed so little from what those architects produced for their Western technical and social environments at home. In the highly charged political atmosphere, leaders of the main Soviet modernist platforms naturally spoke out forcefully in self-defence and for clarification of their own professional stances vis-à-vis the West. Rationalists and constructivists alike perceived their Western colleagues' aspirations to radicalism to be severely limited by lack of a larger social programme outside what Ginzburg called their own 'little bit of professional strip-farming'. Ladovsky saw his perceptual theory as offering a tool for environmental organisation that was 'innaccesible to the Western architect and planner'. Ginzburg saw 'Western functionalism' as doomed to pursue an 'unresolvable deadlock of particularity and subjectivity' as it tailored solutions to individual clients, whilst Soviet constructivists pursued 'a completely different problem: the creation of socially new types.'
The categories were not of course so distinct as that, but the assertion reminds us of the importance of making building selections that will consciously hand on a representative range of the socially innovative new types from this period. The problem of finding viable uses for another generation's social experiments is of course not trivial. Poverty and the restricted property market make this even more difficult in the USSR than here.



Ginzburg & Milinis: Narkomfin housing complex, Moscow, 1928-30, with residental wing, left and communal facilities, right (photo soon after completion)

In this respect as almost every other, the desperately threatened Narkomfin housing complex in Moscow by Moisei Ginzburg serves as a checklist of the selection criteria highlighted by Soviet modernism. It was the result of a programmatically modernist design 'method'. It was a new social type of so-called 'transitional' housing where the spatial organisation to catalyse the shift to a new life-style had been systematically generated and tested against agreed criteria by quantified methods. It was a test-bed and demonstration of economical, hence socially-responsible, use of building materials by modern techniques. It perfectly embodied the East-West dialogue by demonstrating Corbusier's 'Five Principles' whilst in turn providing the prototype for spatial aspects of his later Unité d'Habitations. Even as it stands now, it is an extraodinarily handsome piece of architecture. If one piece of Soviet modernism only was to be saved, my arguments indicate it would have to be this one, but at present I am pessimistic of its chances.

I have not detailed specific East-West contacts across what the constructivists journal calls here 'The International Front of Modern Architecture'. The best expert on those contacts, Irina Kokkinaki, is here from Moscow, and documentation is not my present concern.
Suffice it to say here that links with German modernists were strong, including constant exchange of people, exhibitions and publications since soon after the 1917 Revolution. Links with the Dutch avant-garde were solid but less numerous. Initially these too owed much to Lissitzky, then blossomed through affinities between Van Doesburg and Malevich. Connections with France were naturally dominated by Corbusier, through his writings, buildings and personal visits, though Lurçat and to a lesser degree Mallet-Stevens were involved.
Finally there is a question. We have to save all posible good buildings, but to what larger purpose? What the Soviet connection stresses, I think, is that we need to understand not just the nature of the Modern Movement as an entity, as a noun, but also to understand the processes of movement that are taking place to generate the entity: to understand movement as a verb. This question has great topicality again today, with immediate global distribution of drawn and built images through extraordinary levels of architectural publication and individual travel. Is it really the same thing being replicated - either physically or semantically - at both ends of the connection? Are the fashionable forms really so culturally non-specific that they are directly transplantable?
Back in the early 30's, siedlungen which seemed spatious and egalitarian in dense and sophisticated Frankfurt were detested by peasants on the Russian steppe as cramped and soul-less windtunnels. In the other direction, it was the late Anatole Kopp, with whom I visited the Marseille Unité, who pointed out to me the absurdity of a Moscow-style built-in bakery when every French housewife must prove her discrimination by not buying bread from the shop which is most convenient.
The Soviet contribution to modernism was so strong and so particular in character that it highlights many subtle points of difference in what too easily appears, as it did in 1932 to the New Yorkers Alfred Barr and Philip Johnson, to be a homogenously 'international' architecture. As an international organisation we should be able to learn something from the totality of Modern Movement work that will help our larger understanding of what happens as ideas move from one culture to another now. For both sides of the former East-West divide, the DOCOMOMO project surely offers a simple laboratory example through which to sensitise our own students and public to the nature of aestetic transfer and cultural mutation in the even more international architectural movements of today. The constructivists always insisted their greatest debt to Corbusier was that he taught them how to analyse; that may be our larger lesson from this whole project.

Le Corbusier in Moscow with the Vesnin brothers, Burov and other constructivists, probably October 1928

Dilemma's concerning conservation of Modern Movement architecture

Hilde Heynen
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The issue of transitoriness in modern architecture

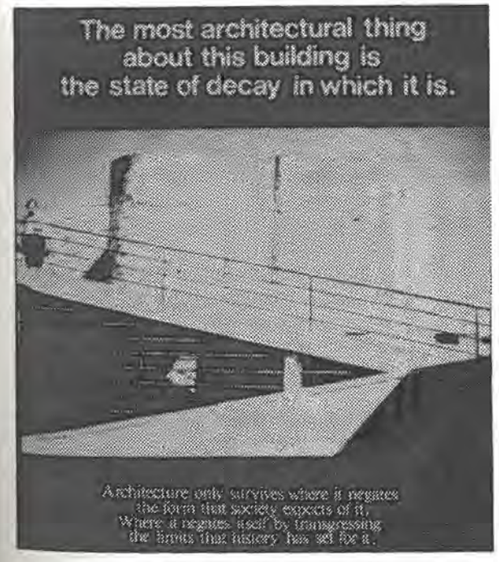
1.

Bernard Tschumi once published an *Advertisement in Architecture*, showing a photograph of the distinghuished villa Savoye in a state of heavy deterioration. (1) The commentary accompanying this picture said:

> *"The most architectural thing about this building is the state of decay in which it is."*

Of course Tschumi's first goal was to shock and raise a certain indignation, but this intention does not impede that he has a point. There is something very appealing, even something sensual in a building which is gradually becoming a ruin. Such a building does reveal the influence of the passing of time, it reminds us of the fleeting away of the past. It thus awakes very strongly - much stronger than a historical building which has been restored - our awareness of history, of past generations, of people living and dying before us.

Tschumi, 1976



Tschumi might be surprised, but he finds himself here in the company of no one else but John Ruskin. Ruskin holds that restoration means the most total destruction a building can suffer:

> *"It is impossible, as impossible as to raise the dead, to restore anything that has ever been great or beautiful in architecture."*

This is because

> *"that spirit which is given only by the hand and the eye of the workman, can never be recalled. ... If you copy what is left, ..., how is the new work better than the old? There was yet in the old some life, some mysterious suggestion of what it had been, and of what it had lost; some sweetness in the gentle lines which rain and sun had wrought. There can be none in the brute hardness of the new carving."* (2)

There was moreover Antonio Sant'Elia, the most famous among futurist architects, who, for quite other reasons than Tschumi or Ruskin, rejected any restoration of historical monuments or ancient buildings. In his manifesto of futurist architecture he disfavours of *"classical, solemn, hieratic, theatrical, decorative, monumental, frivolous, charming architecture"* and also of *"the preservation, reconstruction and reproduction of monuments"*. (3)

Here we are: from three very different point of views we have heard statements against the striving towards conservation and restoration of monuments, be they ancient or modern. All three stress that transitoriness, the ability of being affected by time, constitutes an essential characteristic of architecture. Ruskins view is based on a romantic outlook, in which craftmanship is considered the most determining element for the quality and even for the very identity of a building. His plea reveals a certain melancholy: it is clear that for him the idea of remembrance is most important. Buildings should be able to reveal a certain presence of the past, and they can only do so when nothing is changed or added to them. Sant'Elia on the other hand enjoys transitoriness, not because it awakes remembrance, but because it points towards the future: remembrance should be broken, tradition rejected, a completely new condition of life is emerging and thus there is a need for a completely new architecture. The past should be forgotten, nothing is worth remembering in the face of this gloring new future.

As to Tschumi, his argument is a more complex one, in that it is very consciously brought into a paradox. After stating that the most architectural thing about villa Savoye is its state of decay, Tschumi goes along:

> *"Architecture only survives where it negates the form that society expects of it. Where it negates itself by transgressing the limits that history has set for it."*

Tschumi thus witnesses of a conception in which architecture is seen as a kind of paradigm for the experience of everything which is illogical or irrational. He holds that the pleasure of architecture is rooted in the very paradoxes and ambiguities it embodies. His valorization of the sorry state of Le Corbusiers masterpiece is based on this sensibility for the erotic qualities which he recognizes in such contradictory situations.

The fact that none of these three personalities can be considered senseless or without culture, makes the parallellism between their observations all the more striking. It means that we should take care indeed to build very strong arguments legitimating the whole undertaking of this conference: why are buildings to be conserved or restored? what is it that makes this undertaking worthwile? isn't it much more simple to leave them in peace and let them become ruins? or wouldn't it be much more convenient to destroy them and build anew? This last solution would moreover be in line with the ideas of modern architecture itself, in that some of its most famous representatives were prepared themselves to do away with almost everything that was inherited from the past.

It might be useful in this respect to remind you of the interpretation Walter Benjamin gave of such intentions. In a short text called Experience and Poverty (4) he states that mankind has come to a state of poverty - he means poverty in real experience, poverty with respect to an authentic culture, poverty in matters of humanity. According to Benjamin it is precisely this situation of poverty that is rightly expressed by e.g. the steel-and-glass architecture of the Bauhaus: by starting all over again, by creating a kind of new barbarism (that is how he calls it), without any reference to a past or to a supposed cultural inheritance, these modern architects are, in his opinion, justly responding to the necessities of the age. Benjamin thus legitimizes the tabula rasa attitude of the moderns by pointing at the incredible injustices begone by society, at the disastrous situation culture was in. (This essay by the way was written in 1933, which might explain its pessimistic overtones. Nevertheless this circumstance does not really reduce the argument: one cannot say that at present mankind is doing much better than it was then.)

So the question becomes: how should we react to the buildings of a recent past, to these exponents of a new tradition whose declared intention it was to break with all previous traditions and to start all over again. The issue becomes still more complicated when we take into consideration that the idea of transitoriness was also literally applied to the new architecture itself: there was indeed a feeling that modern buildings might be designed with a limited life expectancy in mind, i.e. they were not meant to last longer than say one generation.

TRANSITORINESS

Study for a terraced house
Sant' Elia, 1914

2.

A little reflection on the meaning of modernity could be illuminating here, not only because this might clarify some cardinal ideas which were affecting the architecture of the Modern Movement, but also because the idea of conservation and restoration seems to be a particularly modern one (after all it got momentum only in the 19th Century).

In Marshall Berman's seminal book *All That Is Solid Melts Into Air* (5) the experience of modernity is described as one that is caused by living in a world that is constantly changing and transforming itself. Berman is quoting Marx with the title of his book, but the same idea is expressed in Baudelaire's famous dictum *"La modernité c'est le transitoire, le fugitive, le contingent,..."*. Modernity thus has to do with the experience of an ever more rapidly changing world.

This experience of a changing world can be interpreted in different ways. In 20th Century views on modernity one can discern at least two commonly used concepts of modernity, a programmatic and a transitory one. The programmatic concept looks upon modernity as a project: emphasis is put on the pursuit of liberation and emancipation and a linear, purposive history model is worked with. The transitory concept highlights the fugitive aspect of modern reality and unlinks the continual change and variation from a purposive pursuit of progress. These diverging concepts are both reflections of the perception of one and the same concrete reality: the reality of a modernizing world, one that is constantly in the making and is transforming over and over again, a world that today looks different from yesterday, and tomorrow again will be different from today. The programmatic concept considers this constant change to be the consequence of the striving towards controlling the future and establishing a better society, whereas the transitory concept focusses on the fascinating character of 'fleeting' effects.

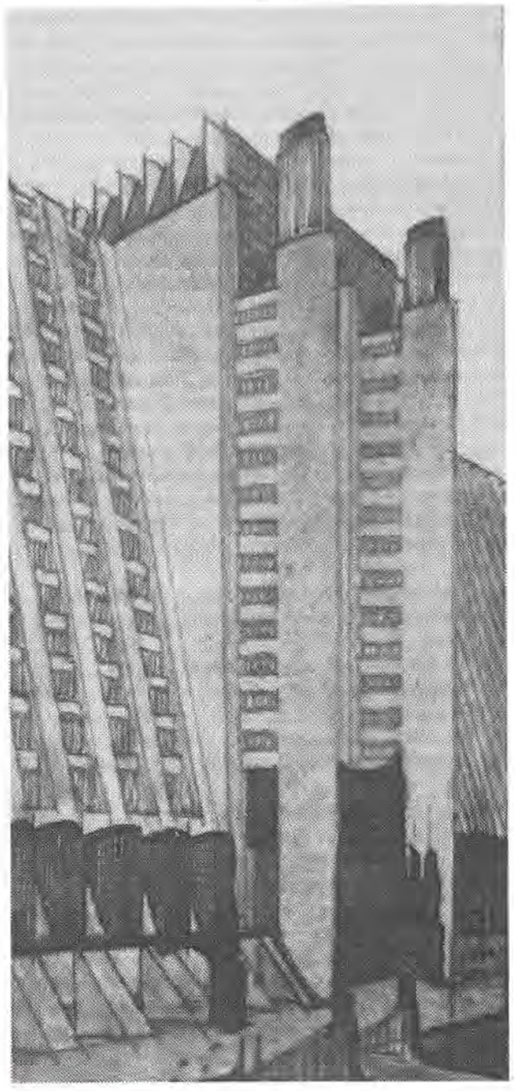
The intriguing character of modernity primarily consists of these two modes going hand in hand: modernity paradoxically links a strong orientation towards the future with a certain melancholy, a pursuit of progress with a feeling for the ephemeral and the transitory. All these different feelings can be recognized in the extended fan of modernisms, in the large body of ideas and movements that reacted to the experience of modernity. Thus one can say that Ruskin and Sant'Elia represent two extremities within modernism: the first one wants to deal with modernity by building a certain resistance against the ongoing, ever more rapid changes, a resistance that would rely upon remembrance (this might be the romantic stance within modernism), whereas the latter apparently gives in to transitoriness and happily plunges himself into the enjoyment of dynamism and mobility (this of course is the futurist stance within modernism).

The architecture of the Modern Movement in a way participates in the paradoxical quality of most modernisms, balancing between different attitudes and contradictory reactions. The double presence of both a programmatic and a transitory concept of modernity within the writings of Giedions e.g. do confirm this. However the Modern Movement gradually tended to become (under the influence of the CIAM) a kind of orthodoxy, a one way ideology which left no room for ambiguities or contradictions. This can be illustrated by the adventures of the transitory concept of modernity which has played a remarkable role within its history. It first came to the fore in the *Manifesto of Futurist Architecture* of 1914. The Manifesto ends with the following passage:

> *"... the fundamental characteristics of futurist architecture will be its frailty and transitoriness. The houses will last less than we shall. Every generation will have to build its own city. This constant renewal of the architectural environment will contribute towards the victory of Futurism, ..., for which we are struggling relentlessly against traditional cowardice."*

There is however something strange with this passage. The manifesto was signed: Antonio Sant'Elia, but in fact consisted of an elaboration by Marinetti of a previous text of Sant'Elia, called *The New City* (6). When both texts are attentively compared, it becomes clear that the whole idea of transitory architecture probably is due to the literator Marinetti, rather than to the architect Sant'Elia. Sant'Elia argues in his first text that *"profound changes in our conditions of life"* make it necessary for architecture to break with tradition: one should begin from the beginning again, getting advantage from new possibities such as *"the lightness and superb grace of girders and the fragility of reinforced concrete"*. Architecture should show a taste for the light and the practical, it should be flexible, mobile and dynamic in every part. Thus this text by Sant'Elia indeed hints at several of the most important themes of modern architecture: tabula rasa, rationality, no decoration, new materials, dynamism, a house as a machine. The idea of an architecture for consumption

Citte Nuova
Sant' Elia, 1914



within one lifetime however - one of the ideas for which this manifesto has become most famous - seems to be exclusively Marinetti's. This is confirmed when one takes a look at Sant'Elia's designs: most of his descriptions of a new architecture do apply to these drawings - his buildings are unadorned, they express a certain dynamism and a machine-like character, they rely upon the use of concrete, etc. - but there is nothing which refers to transitoriness in the literal sense: these are not buildings meant to last just for twenty or thirty years, these are buildings witnessing of power and strength, they are conceived of as artistic expressions of a new age. Transitoriness is present in a metaphorical way: several of these designs have to do with movement, with traffic, with energy (railroad stations, airport buildings, power stations, elevator-buildings were favourite design objects of Sant'Elia's). But they most certainly do not reveal an aspect of easy consumerability: looking at these pictures one can easily assume that Sant'Elia did not mean to extend the condemnation of monuments to his own creations.

The topos of the *one-generation house* reappears every now and then within the discourse of the Modern Movement. Sigfried Giedion e.g. explicitly recalls it in *Befreites Wohnen*, a booklet he publishes in 1929 (7). Here he states that a house has no value for eternity, but only use value: it should be amortized within a limited period of time. However this occurence of a concept of transitoriness (in a literal sense) in Giedion's is not typical: in the whole of his work a programmatic concept of modernity is doubtlessly prevailing, whereas the traces of a transitory concept are mostly confined to references to dynamism and mobility. In *Space, Time and Architecture* (8) e.g. it is clearly said that modern architecture was to build a new world, corresponding to the image of the new man which was given shape by the new age. Modern architecture therefore was establishing a 'new tradition': according to Giedion its buildings were intended to constitute a new monumentality, which would establish part of the inheritance of future generations.

This is confirmed by a reading of several text belonging to the discourse of modern architecture. Marcel Breuer e.g. states that

> *"the solutions embodied in the forms of the New Architecture should endure for ten, twenty or hundred years as circumstances may demand - ... Though we have no fear of what is new, novelty is not our aim. We seek what is definite and real, whether old or new."* (9)

The idea of transitoriness thus was not celebrated in itself: it indeed occured to modern architects, that changes were inevitable and that architecture should adapt itself to changing circumstances, but in most cases consumerability as such was not the aim. Therefore one cannot simply refer to this idea in order to construct an argument legitimating the destruction of Modern Movement buildings (one should moreover admit that the argument on the occurence wouldn't be a really valuable one: the fact as such that a building is meant for thirty years only does not imply that it should be destroyed anyhow after its foreseen lifetime).

There is also the other argument of Sant'Elia's, the one that Benjamin picked up: the idea that modern architecture is to start all over again, that one should make *tabula rasa* of the existing and construct a completely new world. When we would transfer this idea to the present situation, it could also become an argument in favour of destruction. However, if we have learnt something from the recent history of architecture, it is precisely this: that a *tabula rasa* architecture is not capable of fulfilling all human needs, that there is some deeply felt human desire which has to do with a sense of history, with a feeling of belonging, with a need to establish some relation with the past. One could say - as Félix Torres has it (10) - that modernity has grown up now, that it is entering a stage of adulthood: modernity now is no longer a matter of combat, the fight has been fought, now the issue is rather: how to deal with a modernity that has implemented itself. This new stage of modernity brings along a certain historical consciousness which embraces modernity itself: people are beginning to acknowledge the importance of the short history of modernity itself. Marshall Berman also stresses this point: he holds that

> *"modernists can never be done with the past: (...) If modernism ever managed to throw off its scraps and tatters and the uneasy joints that bind it to the past, it would lose all its weight and depth, and the maelstrom of modern life would carry it helplessly away. It is only by keeping alive the bonds that tie it to the modernities of the past - bonds that are at once intimate and antagonistic - that it can help the moderns of the present and the future to be free."* (11)

Thus Berman holds that we should learn from the generations which before us tried to cope with modernity and that we should pick up the most valuable reactions they formulated to the experience of modernity, in order to construct for ourselves a rich and diversified field of ideas and attitudes.

Next to the simple observation that modern buildings are part of history and are therefor entitled to a careful treatment, this remark of Torres and Berman constitutes in my opinion the most important argument legitimating their conservation and restoration: Modern Movement buildings and sites form a very relevant part of our inheritance, because they reveal an attitude towards modernity which can enhance our own awareness of our present-day situation and of architecture's stance towards this condition. Referring to Benjamin I would say that we have moved ahead from the idea that the depressing state of our culture necessitates a new barbarism: it has become clear that we cannot start all over again, it has become clear that such an attempt risks to take a totalitarian outlook. In order to avoid this danger, it is necessary to consider history as an important source for the future. In order to establish our own identity, we need to rely upon the experiences of the past.
This attitude towards modern architecture does not imply of course that every remnant is worth conservation: only those buildings or sites are to be kept which embody a real architectural quality - i.e. which provide a particularly rich spatial experience or which are prominent exponents of the history of the Modern Movement.

3.

To conclude this contribution I would like to give some remarks with respect to the way these 'young monuments' are to be treated. Personally I do not feel at ease with the kind of attitude that has directed e.g. the restoration of the Rietveld-Schröder house or of the villa Savoye. The way in which these monuments are frozen to a certain state of perfection, killing all the life they contained, weeding out all traces of use and inhabitation, is really depressing. I can agree that these are very special examples, in that they are paradigmatic buildings which, for didactic reasons, should be kept in their original appearance. However I sincerely hope that this approach will not be enlarged to our whole inheritance of the Modern Movement. I believe that the very ideas of dynamism and functionality which this modern architecture embodies, should prevent us from conservating these buildings as if they were relics never to be touched or altered. An honourable treatment of this inheritance looks for a position balancing between a truthful reproduction of the original design and a dynamic renovation which accepts new functions and thus honestly reacts to the buildings' primary conceptions.

Notes

1. Bernard Tschumi, "Architecture and Transgression", in Oppositions 7, Winter 1976, pp. 56-63.
2. John Ruskin, The Seven Lamps of Architecture (1849), ch. VI, par. 18 (quoted in: Kenneth Clark (Ed.), Ruskin Today, Penguin, Hammondsworth, 1982, p. 249.
3. Antonio Sant'Elia, "Manifesto of Futurist Architecture" (1914), in Luciano Caramel, Alberto Longatti, Antonio Sant'Elia. The Complete Works, Rizzoli, New York, 1988, pp. 302-303.
4. Walter Benjamin, "Erfahrung und Armut" (1933), in Walter Benjamin, Illuminationen, Suhrkamp, Frankfurt a.M., 1977, pp. 291-296.
5. Marshall Berman, All That Is Solid Melts Into Air. The Experience of Modernity, Verso, London, 1985 (1982).
6. Antonio Sant'Elia, "The New City" (1914), in Tim 1 Charlotte Benton, Dennis Sharp (Eds.), Form and Function. A Source Book for the History of Architecture and Design 1890-1939, Crosby Lockwood Stapler, London, 1975, pp. 71-72.
7. Sigfried Giedion, Befreites Wohnen (1929), Hrsg. u. eingel. von Dorothee Huber, Syndikat, Frankfurt a.M., 1985.
8. Sigfried Giedion, Space, Time and Architecture. The Growth of a New Tradition (1941), Harvard University Press, Cambridge (Mass.), 1980.
9. Marcel Breuer, "Where do we Stand?" (1934), in Tim & Charlotte Benton, Dennis Sharp (Eds.), o.c., pp. 178-183, p. 180.
10. Félix Torres, Déjà vu. Post et néo-modernisme: le retour du passé, Ramsay, Paris, 1986.
11. Marshall Berman, o.c., p. 346.

Wessel Reinink
University of Utrecht; the Netherlands

Controversy between functionalism and restoration: keep Zonnestraal for eternity as a ruin

The following statement is meant as a contribution to a free and independent exchange of intellectuel and artistic opinions. There will be no consideration of any kind to practical and financial politics. We show some slides of Zonnestraal's Dresselhuys Pavilion, taken some years ago. It is one of the most beautiful ruins of recent buildings in the world. This ruin possesses, moreover, a high degree of authenticity: nobody has done anything as yet to make this monument more 'authentic' than it is by itself. As such it admonishes us to keep it as authentic as the lapse of time and ensuring decay will allow.
If some of you feel sensitive to the purity and economy of this thesis, you may also be prepared to think about the processes which account for what I see as that purity and economy. If we follow the trend of thought that a building should represent both a utopian ideal and the impossibility of that ideal (Heidegger), this acquires especially great momentum in the case of avant-garde buildings of the Modern Movement: these dialectics were, so to say, built into the structure, as a self-destructor by the time that the building's functions stop. Duiker, the architect of Zonnestraal, wanted primarily premises for the functions and he clad these by a structure which also expressed a utopian dimension. As soon as the fysical functions cease to exist, the envelope has no reason for existence any more. This is the slow-motion time bomb the next generations have to face as far as the physical functions are concerned.
Thus, how can we, miserable admirers of Duiker's genius, think of 'restoring' a ruin like the Dresselhuys Pavilion? Even if it would be feasible? We would commit impurities of a very awkward sort. It would be at best a replica of which the visual and tactile properties would result into a lifeless model (scale 1:1) for conservation for the future. And we would destroy a beautiful, authentic ruin.
My proposal would be as follows. As the Dresselhuys Pavilion (by the way much less of a problem then the catastrophically altered other buildings) already has decayed too far, let it further fall into a ruin. Take, if necessary, non-obstructive safety precautions. Let it thus be the realistic part of the tribute we pay to Duiker's view of the role of architecture. But let us also erect an illusionary - if you like: a utopian - tribute to his visionary legacy. This can be done by commissioning (by way of a prize competition) of a new structure to be erected on the spot and containing the best visual presentation modern techniques can offer of the architectural qualities of the Zonnestraal complex and its social and medical background. In this way we would honour the utopian contexts of Duiker's architecture.
Here I have come to my main argument: let nobody in the present audience object that this would be a poor surrogate for the real thing, because what in fact has motivated all of us in our writing and teaching is practically nothing else than the old photographs from the times that Zonnestraal was a living organism. This can never be matched by a mummy.
Let us spare ourselves the embarressment of the lifeless material presence of a fake corpse. However spic and span and immaculate the result of our restoration efforts would show, Duiker's utopian vision would be stripped off it for ever. We should have the cultural courage to refrain from such efforts.

Zonnestraal as a ruin.
photo: Delft Univerity of Technology

Peter Palumbo
Chairman Arts Council, London; Great Britain

It gives me great pleasure to speak here today at what is arguably an historic gathering. This is the first opportunity for countries with a common European frontier to discuss their common architectural heritage. It is also an important event for us at the Arts Council of Great Britain, which is the principal agency for funding the arts in the United Kingdom, and of which I have the honour to be chairman.

This event is important because it gives those of us in Britain who care about 20th Century architecture the opportunity to present our case in the wider context of Europe.

The single voice of a single country often finds itself difficult to be heard. But when the theme is common to all of Western Europe, then the best hope is surely to adopt a united front, and to work towards common European policies. This does not mean that member states should not adopt their own policies, to be applied to suit local conditions in their own countries.

But it does mean that we should try to discover what are the common problems which affect all countries in attempting to care for 20th Century architecture.

And this I take to be the purpose of this conference: to offer up national experiences; to provide evidence of what is really happening, in order then to begin to shape solutions for each country.

But first a backward historical glance. Britain's part in Modern Movement architecture has quite a lot to do with the accident of geography and the tide of political events. On the edge of Europe, the outlook of British patrons was largely shaped by their contact with European and American intellectual currents. For example, the arrival in Britain of Berthold Lubetkin, Serge Chermayeff, Erich Mendolsohn, and for a short time Walter Gropius owed a good deal to Britain's reputation at that time as a safe haven for refugees. There was, at first, no particular friendliness in Britain towards the Modern Movement as a whole, at least not on any popular level beyond the affections of an educated few.

These early arrivals imported the "international style" into a Britain totally unprepared for its characteristic geometry, and the work of these men, in particular, has proved of lasting importance.
Unhappily in Britain we simply do not have many examples of Modern Movement architecture at its best.

But what we do have, we are in danger of losing, to the forces of indifference, inaction and inattention. Unless we act quickly, the best will simply disappear.

It is, in my view, one of the functions of the Arts Council of Great Britain to draw attention to the best architecture we have, to educate the public, and to promote policies to government, local authorities and volunteer bodies.

So what are the problems? And how do we approach them? First, the buildings themselves: for example, there is much to be done to preserve the work of Berthold Lubetkin, and the Tecton practice: happily, the restoration some years ago of the Penguin Pool at London Zoo helped to raise public awareness of the work of this great architect. But the Finsbury Health Centre, Highpoint flats, and the Six Pillar House in Sydenham, South London, all need urgent attention.

One general point can be made: there is a striking representation of private, domestic houses of the Modern Movement in Britain. There are, thus, fewer public buildings, and those private houses commissioned by discerning patrons in the 1930's are often, although not always, tenanted by owners who care for their buildings. Where they are not cared for, there is, in effect, very little that can be done by the public authorities. The listing process operated by the Department of the Environment is markedly deficient in nurturing buildings. It is something of a blunt instrument, designed to prevent excess, rather than encourage care. And the grant regime currently available from English Heritage hardly goes far enough to meet the needs of individual owners.

Where the owners of buildings are local authorities there are acute difficulties. Take the case of Rother District Council, owners of the Bexhill Pavilion on England's south coast. The pavilion is a masterwork by Erich Mendelsohn and Serge Chermayeff, built in 1933. The building is remarkable in being the first purpose-built art centre. It displays all of Mendelsohn's design flair, and expresses the genius of the engineer Felix Samuely. The Bexhill Pavilion

is the first all-welded steel building to have been constructed in Britain. But it has been sadly neglected by successive generations of owners now out of touch with the designer's original intentions. There are serious structural problems and extensive corrosion. But still the building is populair, and in daily use. The question is, what to do?

The first thing that we have recommended is the appointment of dedicated architectural advisers. One of the problems has been the lack of informed, specialist advice. The Rother Council has not felt confident in proceeding too far with repairs, lest it be considered a "waste".

We have also recommended that a campaign should be mounted in Bexhill to educate the local population. Practical steps, practical policies. Sensible, simple strategies for long-term results. The problems of the Bexhill Pavilion are a paradigm of the Modern Movement legacy as a whole.

I would therefore like to take the opportunity of this conference, Mr. Chairman, to set out a three-point plan for the protection, restoration and conservation of Modern Movement buildings.

My plan would be applicable not only to buildings in Britain but also throughout Europe. The plan might be described as "record, investigate and support".

The first stage of the plan is to compile a record of what exists. Not a record, necessarily, of the best buildings, but simply to survey the existing landscape. The hierarchy of quality will always be a matter of opinion, but a printed record, a "databank", perhaps with measured drawings, will enable scholars, conservators and public agencies, to know what exists. There are, of course, arguments over terminal dates - does the Modern Movement begin with Frank Lloyd Wright? Does it continue, in some fashion, with James Stirling? Or are we talking only about a homogeneous group of buildings from about 1914 to 1940? These questions may never be settled. But so far as recording is concerned, there is arguably a "core" of Modern Movement buildings on whose importance everyone can agree.

Second, to investigate the most appropriate means of conserving and repairing Modern Movement buildings. There needs to be found a means of drawing attention to the methods of the past, to publish the knowledge of craftsmen and architects alike. The technology for dealing with typical structural problems such as reinforcement, rust and concrete degeneration is still in its infancy. Knowledge can and should be disseminated widely. Why re-invent the wheel each time?

The third point of my three-point plan is to offer support to individual owners and voluntary bodies involved in conserving and protecting Modern Movement buildings. Support is not always expressed through money, contrary to widely-held opinion. The problems faced by these buildings are not to be solved simply by throwing money at them. A more sophisticated and subtle strategy is required, one which raises the level of public opinion and creates a climate in which affection, rather than disdain, can be shown towards these buildings. Support is more than a regime of grants, important though these are. (And here I should say how in Britain the relief on V.A.T. attracted by repairs to historic buildings is a useful incentive to careful ownership). Support also comes crucially in the form of public education. Here the Arts Council of Great Britain, together with our friends in the Royal Fine Arts Commission and English Heritage, have an important role to play. We intend to develop this role in Britain, and.to offer support to the European Commission, where appropriate, in spreading knowledge of the virtues of the Modern Movement.

I speak, Mr. Chairman, with some feeling on these matters, and with certain practical experience, having undertaken in my private capacity restoration of the kind we are discussing today. My passion for the arts as a whole, and for the benefit they bring to all Europeans, leads me to place this special emphasis on architecture, our most visible art. In a Europe changing so fast, so impressively destructive of all the old things which divided us, there is now a moment to look back at our recent common cultural past, to the Modern Movement, and celebrate the best expressions of the human spirit. That is why I commend to you my three-point plan: RECORD, INVESTIGATE AND SUPPORT.

Mr. Chairman, I have called my talk "Preserving The Future". I should like to explain this apparent tautology or paradox. One of the benefits of consciously preserving Modern Movement buildings is that attention is also drawn to contemporary architecture. Awareness of the past can be used to stimulate interest in the present. In Britain this is a necessary objective. We have suffered in the recent past from an absence of informed patrons of architecture.

Regrettably, our planning system often appears to promote paralysis. There is often a loss of nerve at local level, when planners working in the locally-elected councils have to offer an opinion on contemporary design. They know that the public finds reassurance in comfortable echoes of the past. The result is often that mediocre buildings are given consent at the expense of new and emerging talent. This tendency is widespread, despite the valiant efforts of design panels and the Royal Fine Arts Commission to raise the level of public design.

We need to find a way of celebrating an architecture of the present, with all the difficulty that comes with the new and unfamiliar.

How can awareness of the Modern Movement help this process? The answer is by re-examining the ideas which once underpinned the Modern Movement, and applying the best of them to today's problems. These ideas are by no means dead. Indeed, they are more and more pressing, in their insistence upon purity of design.

The philosophy of rationality which was the basis of Le Corbusier's buildings, for example, spilled over into the better design of streets and coherent open spaces. With traffic at frightening levels in many European cities today, we need to re-devise sensible planning policies to create new 'liveable' places in the town and the countryside.

We still have much to learn from Le Corbusier, from Mies van der Rohe and the other modern masters who showed us that the experience of good design can of itself modify behaviour. (This is not a sinister conclusion, but recognition of a fact that is becoming more widely understood: that a pleasant living and working environment is good for family life, for productivity, and stability. Good government needs good design).

The tragedy is that perhaps never before in the history of western architecture have architects enjoyed such a varied palette of materials and technical possibilities. Building technology has advanced immeasurably since 1945. Yet - and here is another paradox - this freedom has not always led to more beautiful buildings.

(Our current ability to create fully waterproof membranes, and durable concretes leads us to an interesting speculation: how much better would Modern Movement buildings have been if they had been devised in the 1980's!).

But the knowledge that we have acquired since 1945 at least allows us to look again at the specifications for buildings by Corbusier, Mies van der Rohe, Mendelsohn and others, and to marvel at the way in which their ambitions often ran in advance of techniques than available.

We have the means to make of their buildings the masterpieces they deserve to become once more.

Mr. Chairman, we in the United Kingdom support the policies of DOCOMOMO. The Arts Council hopes to renew its support for architecture after a gap of forty years. Through publications, support for conferences, education, and the promotion of good design, we intend to increase public awareness of the architecture of this century.

Mr. Chairman, we hope that DOCOMOMO does not become backward-looking. We hope that it is not just a pressure-group for conservationists. We hope that DOCOMOMO will not emerge as a club for scholars. None of these things, we believe, would be in the best interests of the Modern Movement. DOCOMOMO is about the future, if it is about anything. It has to forge a connection between the past, and the conditions which confront us today. If it does not do this, it has no future.

I believe that DOCOMOMO has reached a critical phase in its development. This conference will determine the direction it will take. I ask you to think carefully about your relationship to the past, and your hopes for a better future in Europe. But as much as this, I commend to you my programme for action, my practical plan, whose implementation I believe will bring sure results.

Martin Pawley
Architectural critic and historian, Kingsbridge Devon; Great Britain

A modern morituri

We in Europe live in a heritage culture, a culture that worships its past with increasing fervour as it recedes from living memory and is replaced by 'interpretations' that are continuously updated using the most advanced technology. In this paradox is encapsulated the schizophrenia of our time. For it is only by means of a kind of schizophrenia that a technological society and a heritage culture can coexist. In contemporary commercial architecture we see the physical product of this schizophrenia. The post-modern and classical revival elements that make it indentifiable are merely steps on the way to a 'heritage' architecture that consists of homogenized historic references stretched over vast rafts of electronically serviced floorspace. On a converging course with this spray-on alphabet soup of historical styles is the increasingly ingenious and widly applauded conversion of old buildings to new uses. In France ancient abbeys are converted into arts and research centres and, with lumbering wit, the greatest surviving work of the revolutionary proto-modernist Claude-Nicolas Ledoux, the saltworks at Arc-et-Senans, has become a Centre for Reflections on the Future with a special stop for the TGV to conform its modernity.

In England the former homes of the aristocracy are converted into schools, or become hotels, or are divided into 20 or 50 apartments for would-be post-modern aristocrats. Old mills in the industrial north and maltings in the east become museums of industrial archaeology, the homes of insurance companies and the computerised offices of building societies; old naval dockyards become new maritime museums, perpetually squabbling over the inadequate supply of ancient ships; the pioneer utopian community of Saltaire has become an art gallery and the home of an electronics firm. There is even a plan, proposed by a speaker at this conference, that more than £ 1,5 billion should be spent between now and the millenium on the restoration and refurbishment of all cathedrals, churches, public and cultural buildings, great and small houses, factories, canals, farms and statues deemed to be of architectural distinction, so that the new century can begin with everything handed down to us by the last century as clean and tidy as it was in the summer of 1914.

All such projects for and achievements of restoration, refurbishment, adaption and reuse are much admired within our heritage culture, even though they plainly demolish the identity of all buildings and devastate any true historic sense they may possess. Yet so accustomed to them have we become that we think noting of it when we look at a remote information industry terminal and see an ancient country cottage; we look at a merchant bank and see a church; we look at an apartment building and see an 18th Century warehouse; we look at a modern electronic office complex with underground parking for 300 cars and see a row of 18th Century houses.
The damage that has been done to the intelligibility of architectural history by all this ingenious adaption and heritage-decorated new construction by alleged lovers of historic architecture is difficult to estimate. Reality starts with history, as professor Titmuss said. But fake history destroys real history just as illusions destroy reality. Is it too much to say that this pulverizing of the past in the name of the past has destroyed the past forever, and condemned us henceforth to progress down a read populated with young buildings that look old and old building that are perpetually rejuvenated by applications of the refurbishers variant of hormone replacement therapy? And will this endless youth-in-age be perpetually decked out in fancy dress as though it were a great and demented cocktail party at the end of civilization, or untill time itself is annihilated?

Fortunately it is not required of US to answer such tedious and imponderable questions. WE are enthusiasts for modern architecture otherwise WE would not be here. And modern architecture, whatever else it may have been, had nothing to do with styles or with history, with monuments or with facades. Modern architecture was not a style, it was the application of scientific thought to building and planning, just as socialism was the application of scientific thought to government. The difference between modern buildings and historic or post-historic 'style' buildings was, as the Czech artist Karel Teige said, the difference between 'instruments' and 'monuments'. Authentic modern buildings were conceived as utilitarian, expendable machines. Like the great gothic cathedrals they were conceived as organisms - von innen nach aussen - not as patterns of decoration to be applied by amateurs to the anonymous work of engineers.

Attempts to extricate modern architecture from this presently unfashionable view are futile. At the very least they turn us into allies of the enemies of history, contributors to the general grinding into anodyne powder of all the solid value that remains in historical truth. If modern architecture was just a style, like Greek revival or rococo, then what did the great modern pioneer Le Corbusier mean when he wrote in 1923: 'Within the next twenty years, a building will no longer be a solidly-built thing that sets out to defeat time and decay: it will be a tool as the motor car is becoming a tool'? What did Hannes Meyer mean when he wrote: 'Building is a technical, not an aesthetic process; architecture is no longer an agency for the growth of tradition or the embodiment of emotion' ? What did Bernal mean when he wrote in The Social Function of Science; 'It will soon be possible to break altogether with the tradition of putting stone on stone or brick on brick unchanged since the time of the pharoahs, and move in the direction of the assembly stage of machine production and rational fabrication'?

Since 1988 there have been two cases relating to the attempted conservation of modern buildings in England that have convinced me that today very few of the architects who read Le Corbusier's Vers Une Architecture when they were students either understand or are prepared to stand by its central point about buildings being tools like the motor car or aeroplane or typewriter, instead of priceless artefacts.

The first case concerns 'overcladding' which is big business in England nowadays. Buildings as diverse as the Leicester University Engineering Building by James Stirling and high rise public housing in the London Borough of Westminster have been rescued from rain penetration, squalor and imminent demolition by overcladding. Not only is it as practical as a kidney transpant and cheaper and quicker than demolition and rebuilding, but in performance terms it always makes for a better building.

'Overcladding' conforms perfectly to the modern principle that buildings should not be regarded as fine art objects, but as flexible tools with social and economic jobs to do. But alas, Le Corbusier did not count on the emergence (in England at least) of a government-funded conservation lobby. Today we have elevated the capacity of buildings to defy time and decay to the status of national policy. 'Listing' has run amok like the mop and bucket of the sorcerer's apprentice, and nowhere can the farcical consequences of this ancestor-worship be more clearly seen than in the fuss that 'overcladding' has caused.

Alexander Fleming House is a massive office complex at the Elephant and Castle in London which was leased by the British government Department of Health and Social Security from its completion in 1963 until 1988. It was designed by the Hungarian emigre modernist Ernö Goldfinger, who died in 1987. A huge, grey reinforced concrete frame structure enclosing over 500,000 square feet of offices, it was not air conditioned and had always been plagued by problems of condensation, water penetration and poor climate control.

Yet amazingly the proposal to 'overclad' this building led to an acrimonious heritage wrangle - not over whether the building was worth saving (technically its structure was never even in danger) - but because there was sudden conservationist opposition to a kind of 'upgrade' whose only aim was to give it another quarter century of useful life.

Late in 1987 a firm of architects named Fairhursts were invited to 'overclad' Alexander Fleming House. The firm proposed to cover the entire structure in tinted glass and aluminium, and aircondition the interior. This suggestion was approved by the owners of the building and planning permission was obtained. Indeed Southwark's planning officer was so impressed with Fairhursts scheme that he showed it to the decrepit Elephant and Castle shopping centre next door, with the idea that something similar might be done there

But that was before James Dunnett, an architect who had worked for Goldfinger and co-organised a 1983 exhibition of his work, launched his crusade. Dunnett protested that Alexander Fleming House was variously 'Corbusian', 'constructivist' and 'Miesian', and should therefore be saved for posterity whatever its condition. He appealed to English Heritage and the Royal Fine Arts Commission - bureaucrats he otherwise characterised as 'champagne-swilling conservationists'. Ignoring the modern principle of utility, no doubt endorsed by Goldfinger himself, Dunnett insisted that Alexander Fleming House was both 'a modern building and a work of art of a fearsome beauty'. 'I don't care what bedfellows I have to lie down with', he said defiantly. 'I must save that building!'

In fact Dunnett had chosen his bedfellows with care. English Heritage, the conservationist organisation charged with advising the Department of the Environment on historic buildings, was facing a no-growth situation. In 1988 it presented the government with a list of 70 post war buildings for legal preservation, and the Secretary of State - to his credit - out it down to 18. Faced with the prospect of running out of masterpieces to save, English Heritage became desperate to break into the virgin territory of the recent past. Goldfinger's brutal epic looked like just the ticket.

An application for the spot listing of Alexander Fleming House was lodged with the Department of the Environment. Not only Dunnett and English Heritage, but the Thirties Society, SAVE Britain's Heritage and the secretary of the Royal Fine Arts Commission all made moves to protect its obsolescent squalor. Philip Johnson, who has been having some trouble with the Fine Arts Commission over his London Bridge City complex, joined them. So did Richard Rogers - who should have known better - he is after all an architect who said in 1978 of one of his own buildings; 'When the Centre Pompidou no more serves its purpose, I hope they get rid of it'.

In the event objections to the overcladding of Alexander Fleming House were overruled and work began last year.

The second case concerns demolition. Reliance Controls is the name of a potentiometer factory, one of the largest in Europe, situated in Swindon, about 80 miles west of London. It was built in 1967 by two architects who were destined to become world famous: Richard Rogers and Sir Norman Foster were at the time partners in the young firm of 'Team 4'. It was by far the largest building at 30,000 square feet that either of them had ever designed. In the end it also turned out to be both the last and the most famous building they were to execute together.

Reliance Controls was a genuine piece of industrial design. Clearly - to use a later terminology - something designed 'from the top down', not a community effort 'from the bottom up', or a piece of industrial bricolage. Its design logic defeated obvious arbitrariness. Everything that is there - even if like the diagonal bracing it is not always structurally necessary - looks as though it belongs.

Reliance Controls was also remarkably cheap. At £ 4 per square foot it only cost four times as much as Foster's later Computer Technology inflatable office. Furthermore its envelope was value engineered down so that only 20 per cent of its £112,000 price was accounted for by superstructure.

Thirdly, Reliance Controls really was a pioneer building, not only of the idea of a 'new industrial democracy' with its single entrance and combined staff and management restaurant, but of deep-plan, large-module, clear spanning steel construction, and of the rational lateral distribution of services from a floor trench and roof space. It also demonstrated the practical capacity to reorgnise and expand without ceasing production. Two years after occupation, Spectrol Reliance added another 8,000 square feet - and forfeited the north facing glass wall - without a day of lost production.

Fourthly, Reliance Controls was, and is, an examplary transitional object on the road to the full 'ephemeralisation' of all buildings as envisioned by Richard Buckminster Fuller. It marked the arrival of American de-ideologised thinking and practical steel construction technique in Britain. It also marked the last throw of Fine Art Modern architecture - the expressed, heavy, hot-rolled steelwork of Mies van der Rohe, and the totem to the Smithsons in front - and the beginning of what was soon developed into real 'more for lessing design', or what Casabella called at the time: assembly without composition. None of the 'fine-art' structural features at Reliance Controls was ever to be dramatised by either architect again.

Fifthly, Reliance Controls was accorded critical recognition at the time it was built, not 'rediscovered' afterwards. In the years since its completion Spectrol Reliance has become an object of pilgrimage for architects and architectural students from across the world. But as early as 1966 it won an Architectural Design Project Award, and in 1967 it won the Financial Times Industrial Architecture Award. In the citation for this award the assessors described the building as 'looking like a lost vernacular'.

Reliance Controls is an important modern building. If any modern building deserves on art-historical grounds to be saved, it is this one.

But Reliance Controls is not a work of art. It is a tool and, after 23 years it has simply worn out. When I visited the building in February of this year I was able to speak to the managing director who had worked in the building since its completion. He was very outspoken. He told me bluntly that the building, which he always referred to as 'the biscuit tin' was about to be demolished and he was going to 'push the button himself'. This man's first job at Reliance Controls in 1968 had been to dig into the concrete ground slab with a hammer and cold chisal to find a leak in one of the burried underfloor heating pipes. Apart from 'taking five hours to heat up and five hours to cool down', these same heating pipes had repeatedly flooded the pioneer underfloor service trench and infiltrated the compressed air system necessitating its removal to the roof space before the building was five years old. Even today humidity rising from the flooded service trench still caused production problems, and rats living in the trench had regularly to be poisoned because otherwise they ate through the electrical and telephone wiring until, in 1976, these services too were moved overhead.
'All the services in this building are rotten', I was told. The roof's rotten, it leaks everywhere. There is nothing you can do to turn this building around that would not cost £ 1 million. In the summer it gets so hot in here we have to have "heat breaks". I ask you! "Heat breaks" in England!
Apparently the temperature in the building regularly rises to 85 degrees Fahrenheit. At 88 degrees, by union agreement, the staff are sent home.

Reliance Controls is not, and never has been air conditioned. The felt roof has never been re-covered. No plumbing or cabling has ever been renewed. No finishes replaced. Virtually no maintenance has taken place in the 23 years of the building's active life. Asked if he had one word to say in favour of this admired piece of high-tech architecture, the managing director at first said; 'Not one', and laughed savagely. Then he paused and added; 'I suppose you could say it was state of the art - once'.

The firm has since moved out of the building and into a speculative factory unit on a science park nearby. The original Rogers/Foster building is now derelict and vandalised. It is destined to be demolished before the end of this year. Local architects and conservationists are endeavouring to gain support for a move to block its destruction. I am making a television documentary for the BBC about its life and death and the issues that both raise for the subject of this conference.

My conclusion in both these cases is that the position of those who seeked to prevent the overcladding of Alexander Fleming House, like that of those who are now trying to mobilise support to save Reliance Controls, is anti-modern. The conservation industry has aims and ambitions that run entirely counter to the ideas that inspired modern architecture, but architects today seem unable to prevent a whirlwind romance. The reasons are not hard to find. Ever since European Architectural Heritage Year, the ranks of the Modern Movement diehards have been steadily depleted. One by one true believers have either died off or slipped away into the post-modern or revivalist camp under one pretext or another. Now the handful of iron-willed survivors that remains has been made an offer they cannot refuse: a last opportunity to march out beneath the banner of modernism, straight into the arms of the museum culture.

It would take a miracle, like the reconstitution of the central committee of DOCOMOMO in the shape of real modernists, veterans of the Great War, men brutalised by life in the trenches and determined to rebuild society starting at the top, to recognise this siren song immediately and reject it out of hand, and I do not expect it to take place. The power of heritage culture is too strong.

For modern thought this is a tragedy. We have an opportunity to demonstrate the architectural difference between analytical thought in the service of society, and sentimental hogwash, but we need courage to sieze it. A proper respect for the modern thinking that underlay such tools of social and economic experiment as Zlin, the original Bauhaus buildings, the Weissenhof, the maison Savoye and many more, demands that they should be allowed to die. Better yet, that they should be allowed to demonstrate their continued allegiance to the modern principles of eugenics and euthanasia by offering themselves for demolition. Morituri te salutamus! How shameful to be the architect of the rambling piece of serviced floorspace, wallpapered with classical knicknacks, that succeeded any one of these honest buildings of the modern age. How stirring to watch the video of the demolition that preceded it! One has only to call to mind the eternal life of the moving pictures of the destruction of the Tacoma Bridge and Pruitt Igoe to see how powerful such a fate could be.

If filmed destruction to draw attention to expendability seams too hard to bear, there is one other radical alternative to heritage destruction and that is terminal neglect. Although bathed in a sentimentality of its own, the concept appeals to me because it reminds me of a trip I made as a student to the maison Savoye in the summer of 1957, when this great Corbusier villa was a ruin surrounded by waist-high grass and nettles. At that time one could enter the building easily, wander up and down the cracked and discoulored ramp, contemplate the looting of one of the doorhandles, even find undrunk wine in a cupboard. Never was the enormous authority of this machine for living in ever so well expressed as in this scene of picturesque desolation. It was like stubling upon a forgotten battlefield, which in a sense was exactly what it was.

The recorded destruction of documented modern buildings, or their determined neglect, seem to me to be the only ways in which DOCOMOMO can remain true to the spirit of modern architecture.

Jos Tomlow
Institute for Leightweight Structures (IL), Stuttgart; Germany

Recent developments in the history of structural design

The Institute for Lightweight Structures (Stuttgart University), led by prof. dr. Frei Otto, has been engaged in model building techniques for the past 26 years. These model building techniques have been developped into a first class instrument of research into forms, covering not only the forms of technical structures but also forms of specific structures in living and dead nature. The aim has been to elicit laws that influence form in order to re-evaluate the narrow-minded thinking in the building and structures field. Lively contacts with many disciplines have confirmed the scientific value of this work which is incorporated into the Special Research Programme SFB 230 "Natural Structures - Lightweight Structures in Architecture and Nature" employing available funds from the Deutsche Forschungs- gemeinschaft (Lit.. 4).

Additionally the Institute has taken a keen interest in the history of structural design. Dr. phil. Rainer Graefe has been responsible for the particular field of research called the "Geschichte des Konstruierens". It attempts to cover the history of structural design, which has been neglected in comparison with other aspects of architectural history by the academic world, and which has been successful in answering questions with regard to previous master builder's knowledge of scale, forces and form.

The innovational structure types to be presented here mostly come from the time before 1920, the pre-modern period. Their relevance to the theme of this conference has to be differentiated.

1. Some of these innovational structures, whilst still being designed and built throughout the modernist period, remained remote from the general modernist stream, concentrated as they were on the development of structural basics, for instance the optimized masonry structure for wine-storage in Pinell de Brai by C. Martinell, 1919. (Lit.. 10)
2. Others inspired the utopian projects, never to be built, of expressionist, futurist or constructivist artists, for instance the architectural sketch with the form of a hyperboloid by I. Leonidov, 1929-1930 (Lit. 11) and an architectural phantasy, reminiscent of a hanging roof, by Erich Mendelsohn, 1917. (Lit.. 12)
3. And yet others forced modernist architects to reevaluate their form language and were in this way influential for post-War architecture, as can be seen on the sketch of roof forms by Le Corbusier, 1951: the word Gaudí and the adjacent sketch of the ruled surface reminds of Le Corbusier's visit to Barcelona in 1928, when he sketched Gaudí's school near the Sagrada Familia (Lit.. 13).

Instead of discussing the relevance of these structural inventions for the interpretation of modernist architecture - certainly an interesting issue - this paper deals with the innovational structures themselves and the new knowledge which has been brought to light by our investigations.

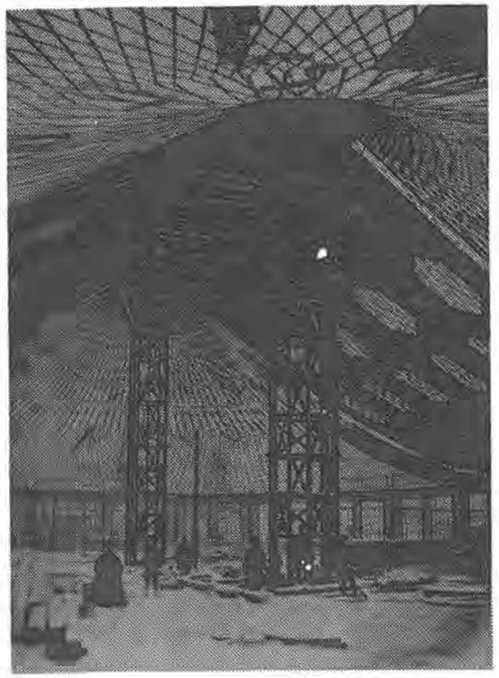
The hanging roof

The inventor of the so-called hanging roof is the Czech engineer Friedrich Schnirch, who in an article of 1824 about wrought iron roofing, for the first time transferred the principle of the suspension bridge to the structure of roofing (Lit.. 9).

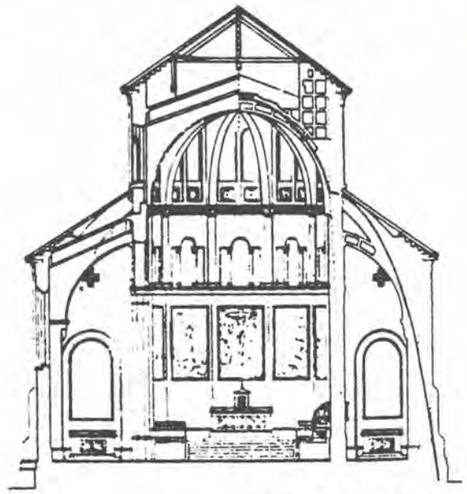
From the few hanging roofs that were realised in the 19th Century those of the Russian engineer Vladimir Suchov (1853-1939) are the most interesting (Lit.. 7, 8, 9).

After first experiences with a building for the Bari Firm in Moscow, where Suchov was chief engineer, several halls were built for the Pan-Russian Exhibition in Niznij Novgorod in 1896. Between a high ringbeam on pillars in the buildings centre and the low outside ring wall is suspended a net of iron bands of 3/16" to 2" (approx. 0,5 x 5 cm). The long bands of the hanging roof structure were riveted together. The roof was covered with thin metal plates and glass to admit light.

To avoid the difficult calculation of the mathematical equation of the catenary, Suchov analysed structural aspects of the hanging roof with the much simpler equation of the parabola being the form that the roof attains under snow load.
Suchov's hanging roof was part of more general structure type that he had developed by means of scientific analysis: the grid structure. Grid structures were built out of elements of approximately the same length and constant section. They were supposed to require a minimum of material (Lit. 8,7).



1) Interior of the hanging roof with oval plan of the Pan-Russian Exhibition in Niznij Novgorod, 1896 during construction, by V. Suchov (Lit. 8)



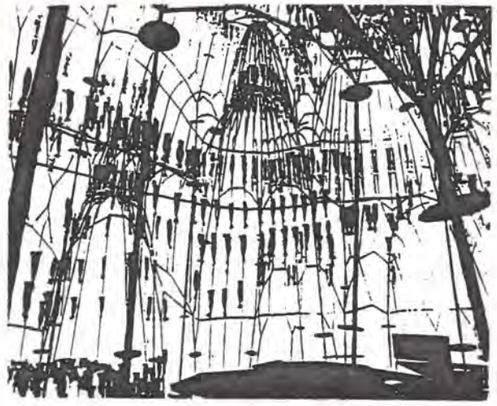
2) Cross section with compression line (right half) of the Bulach church by H. Hübsch, 1837. (Lit. 3)

3) The reconstruction of the Gaudí hanging model, 1983 by R. Graefe, J. Tomlow, A. Walz in the Institut für Leichte Flächentragwerke in cooperation with the Gaudí Research Group Delft, director J. Molema, for the Kunsthaus Zürich. (Klaus Bach)

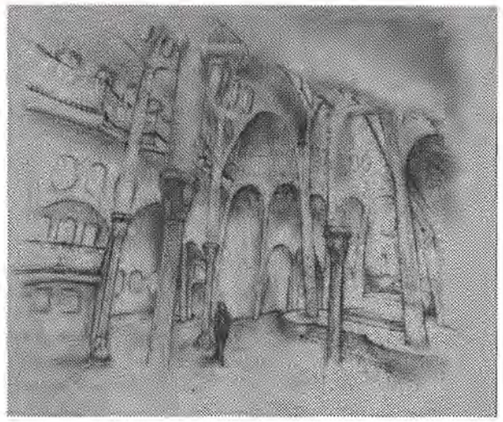
The design method with a hanging model

The use of hanging models for design reasons is based on the theory of the reversion of the catenary (the form that is naturally taken on by a suspended chain). Being a structure comprising pure tension forces, a chain has an optimized structural form. By reversing the catenary form an optimal bow-form is reached for an arch of material that can only bear compression.
Tridimensional structures can also be studied in accordance with this theory by loading a hanging model of thin threads with weights that simulate the material weight of building parts. The thread form shows the compression lines of the building design in reversed position. The tension in the threads represents the compression in the respective building parts.

The following is a brief chronological survey of the development of the hanging model. The roots of this theory go back to 1670, when Robert Hooke presented it to the Royal Society.
Especially the publication in 1748 of Giovanni Poleni's structural analysis of St Peters' Cupula, that was derived from a hanging model, made the hanging model principle famous (Lit. 3).
The first known application of the hanging model for design was Ivan Petrovic Kulibin's project (1772) for a 300 m span wooden bridge over the Newa in Petersburg. The design in a modified catenary shape was tested in a 1:10 model in masonry (Lit. 3, 9).
The architect and Karlsruhe University professor Heinrich Hübsch was the first to apply the hanging model to the overall structure of an architectural design: the curch in Karlsruhe-Bulach (1837). The cross section of this church (Fig.2) shows how the form of the compression line, given by a two-dimensional hanging model, could be integrated in the neo-romanic forms, with only a few alterations. A model in scale 1:2 was also built of this interesting design to test the static qualities of the new form (Lit. 1,3).
For two-dimensional structures, not only a hanging model but also a graphic static calculation can be used to



4) Interior view reversed of reconstructed hanging model of A. Gaudí. (Lit. 6)



5) Same view as Fig. 4, with reconstructed church interior towards altar. (Reconstruction 1989 J. Tomlow)

find the optimal form. In this respect some projects for neo-gothic churches from the end of the 19th century are of interest. In his early work the Catalan architect Antoní Gaudí (1852-1926) already used graphic statics for the determination of vault structures. His most important contribution to statics and to the aim of optimizing vault structure, however, was his design with a hanging model for the Colonia Güell church near Barcelona (Lit. 2, 6).

The first hanging model by Gaudí is rather simple, with chains of different lengths for weights (Lit. 6). Only half of the symmetric design had to be executed in the hanging model that was fixed in the symmetrical plane to vertical threads. Based on the old photo, the church design was reconstructed. An interesting double structure of the thin outside wall together with three galleries assure stability for the whole structure.
His second hanging model in a scale of 1:10 served both formfinding and determination of dimensions of certain building elements, including the pillars. After 1898 the years were spent on the hanging model and it took a further six years until the crypt was finished, the only part to be completed. The 19 known photographs of the model (Lit. 6) are early examples of technical photography. By turning them upside down the true form of the design could be recognised more easily than by observing the hanging model itself. These photos were also used to design the general architectural features of the building, simply by drawing upon them.
Based on the high quality of the traditional Catalan vault technique and in close cooperation with the masons Gaudí solved all structural details, thus offering a rare masterpiece in brick and basalt.
Our reconstruction of both the hanging model (Fig. 3, Lit. 2,6) and the building design (Fig. 4, 5, Lit. 6) offered a new insight into the design method of Gaudi and confirmed its conscious rationality.
Gaudí considered the unfinished Colonia Güell church as a scientific experiment and a proto-type of his major work, the Sagrada Familia (Fig. 6).

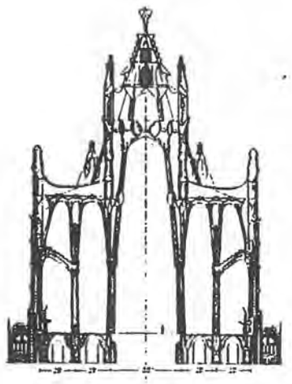
The use of ruled surfaces in architectural design

Ruled surfaces are curved forms that can be generated by guiding a straight line over other lines of straight or circular form. The hyperbolic paraboloid (Fig. 7), for short HP, and the hyperboloid (Fig. 8) have several characteristic sections like hyperbola, parabola or ellipse, generally known as conical sections (Lit. 8, 6, 9).
As early as 1669 Sir Christopher Wren had proposed a machine to grind aspherical lenses, with the use of two hyperboloid wheels.

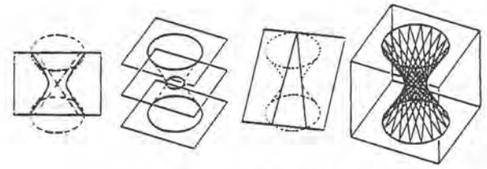
Both Antoní Gaudí and Vladimir Suchov introduced, independent of each other, the ruled surface as an architectural form.
In the little school near the Sagrada Familia of 1909, Gaudi solved all architectural forms in ruled surfaces (Fig. 9). Only the thin walls make use structurally of the superior stiffness of the double curved form. The roof of some layers of thin brick is supported by a system of beams.

The most interesting application of the HP-form in the Colonia Güell church are the vaults of the entrance portico (Lit. 6). The HP-form was not derived from the hanging model, in which only the arch forms were executed, but by geometrical means.
Subsequently these experiences were incorporated in the reworking of the Sagrada Familia design (Fig. 6). All surfaces of the church interior were shaped with both HP-forms or hyperboloids. In order to connect these forms as simply as possible - and yet geometrically correct - Gaudí used a straight border common to both adjacent forms.

Suchov's use of the hyperboloid form, from a structural viewpoint, is even more interesting. The ability to generate a double curved surface with straight profiles was immediatly translated in the grid of steel girders, riveted together in a hyperboloid form (Lit. 8). Horizontal rings were added to the rhomboid grid, in order to obtain

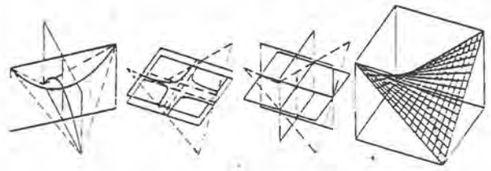


6) Cross section of the Sagrada Familia, final design by A. Gaudí, ca. 1926. (Catedra Gaudí)



7) Hyperbolic paraboloid with its sections: straight line, hyperbola and parabola. (Lit. 8)

8) Hyperboloid with its sections: straight line, circle and hyperbola. (Lit. 8)



a continuous stiff triangle grid (Fig. 10). Besides water towers of different height and capacity (max. 1.200.000 l) a 68 m lighthouse was also built (Lit. 8).

A 350 m high tower for the Sabolovka-radio (1919) was designed in nine parts. The material to be used for this design was only one third of that used for the Eiffel Tower (Fig. 11). The realised 150 m high version of the Sabolovka radio-tower is still a landmark in the city fo Moscow. One of the innovational aspects of this and other towers of more than one section is their montage (Lit. 8).

Later implementation of these innovational structures

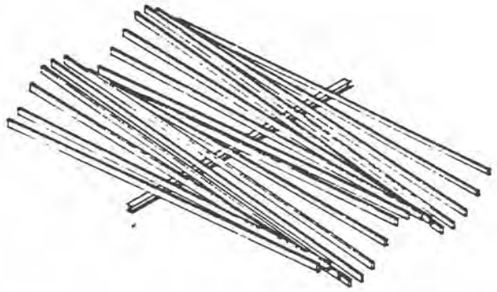
At the end of this paper I would like to point out that the three innovational structures that have been presented here: the hanging roof, the vault design with the hanging model and the architectural form of the ruled surface - despite the fact that they appeared little in the 20's and 30's - were later to undergo a true renaissance. Of the many singular possible examples, that we are tracing in our research programme, I would like to present one from the late 50's and a recent one.

The architect Jordi Bonet Armengol, who is involved in the continuing building of the Sagrada Familia, designed the church of St. Medir in Barcelona, a structure of hyperbolic parabolical scales in brick. The creative development of both Gaudí's first hanging model and his hyperbolic parabolical vaults is apparent here (Fig. 12).

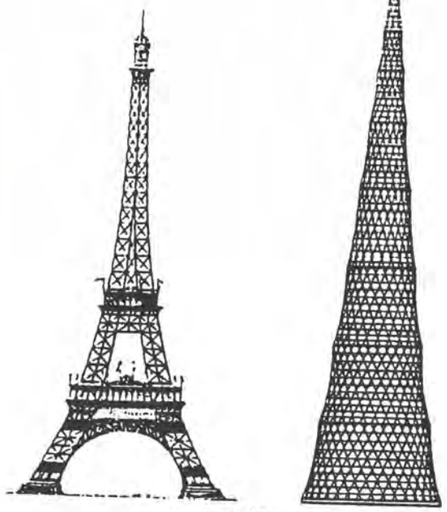
In the Hooke Park Forest School in England, a village of true experimental structures, a hanging roof of tree trunks is of particular interest. The ability of wood to take tension forces as well as compression, led to this structure type, that is derived from simple catenary models (Fig. 13).

Literature

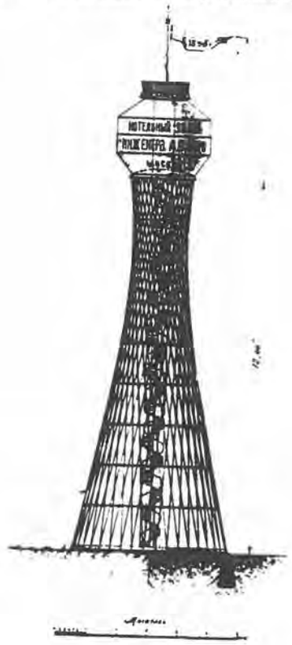
1. Graefe, R. : Heinrich Hübsch als Konstrukteur, in: Katalog Heinrich Hübsch, der grosse badische Baumeister der Romantik, Karlsruhe 1983, S. 184-189.
2. Graefe, R. Tomlow, J., Walz, A.: Ein verschollenes Modell und seine Rekonstruktion, in: Bauwelt 15/1983, S. 568-573.
3. Graefe, R.: Zur Formgebung von Bögen und Gewölben, in: Architectura - Zeitschrift für Geschichte der Baukunst 1/1986, S. 50-67.
4. Otto, F. und Mitarbeiter: Natürliche Konstruktione, Stuttgart 1982.
5. Otto, F.: Das hängende Dach, Berlin 1954, Stuttgart 1990.
6. Tomlow: The Model - Antoni Gaudí's hanging Model and its Reconstruction - New Light on the Design of the Curch of Colonia Güell (Dissertation; German, English, Spanish) Information of the Institute of Lightweight Structures (IL), volume No. 34, Stuttgart 1989.
7. Tomlow, J.: Vladmimir Suchov en zijn bijdrage aan de architectuur - Kunst uit de gedisciplineerde omgang met getallen en formules, in: De Architect, 7/8 1990.
8. V.G. Suchov (1853-1939) Die Kunst der sparsamen Konstruktion, bearbeitet von R. Graefe, M. Gappoev, O. Pertschi, Stuttgart 1990.
9. Zur Geschichte des Konstruierens (Hg. Graefe, R.), Stuttgart 1989.
10. Martinell, C.: Construcciones Agrarias en Cataluna, Barcelona 1975.
11. Gozak, A. and Leonidov, A.: Ivan Leonidov, London 1988.
12. A. Temko: Eero Saarinen, Ravensburg 1964.
13. Von Moos, S.: Le Corbusier - Elemente einer Synthese, Frauenfeld 1968.



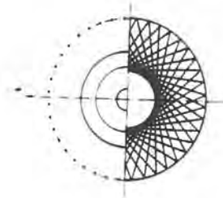
9) System of beams for the school near the Sagrada Familia. (Lit. 8)



11) Comparison of the Eiffel Tower and Suchov's project for the 350 m high Sabolovka radio-tower in Moscow, 1919. (Lit. 8)

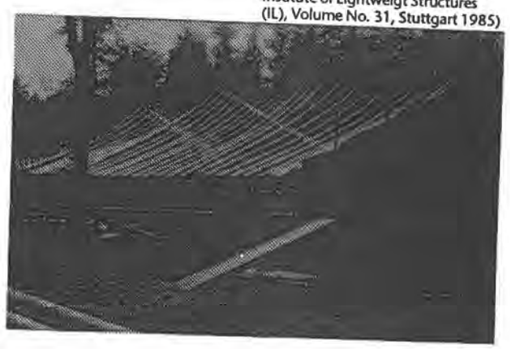


10) Water tower for Niznij Novogorod by V. Suchov, 1869, now in Polibino. (Lit. 8)



12) The St. Medir church in Barcelona with HP-scales in brick during construction, by J. Bonet Armengol, 1955-1960.

13) Student residences of the Hooke Park Forest School with a hanging roof of round timber during construction, 1985 by Ahrends, Burton and Koralek, London; with Atelier Frei Otto, Warmbronn and Happold Consulting Engineers, Bath. (Bamboo, Information of the Institute of Lightweigt Structures (IL), Volume No. 31, Stuttgart 1985)



David Blake
Crittall Windows Ltd, Braintree Essex; Great Britain

Windows, Crittall and the Modern Movement

In the earliest recorded time windows were mere holes in the walls of buildings covered with reed mats or for the more prosperous wooden shutters. As buildings became used for defence, as well as shelters, the windows became narrow with iron grilles to the outside and wooden shutters on the inside to keep the weather out. Glass did not come into general use until the second half of the 16th Century, during the reign in England of Elizabeth I and iron was used extensively in the Elizabethan casement. England was a seafaring nation and timber was required to make their ships and the decline of English forests was of considerable concern to the statesmen of the day. This and the fact that each village had a black-smith who could hammer out an iron window on his anvil led to the widespread use of metal frames particularly in rural districts and in great country houses such as Hampton Court and Hamm House and these were a unique feature of English architecture.

By the end of the 17th Century however, metal windows had all but disappeared. With the architecture of Wren houses and buildings were much grander with large double hung wooden sash windows, which were much more appropriate to the buildings of the day than the small frames that were possible with the technology of iron of the time. Glazing and metal all but disappeared until the second half of the 19th Century when the great Exhibition Centre at Crystal Palace was reglazed in steel instead of timber to reduce maintenance costs and to make the building more weather-tight. Metal windows continued to be produced however particularly in rural areas for both farms buildings and churches and some of this was carried out by Francis Henry Crittall of Braintree from a workshop behind an ironmongery in the High Street. He produced his first effective casement in 1886, although there were already around five manufacturers in the United Kingdom making occasional metal windows. These windows were made from a variety of metals, wrought iron, gun metal, bronze or mild steel, from whatever sections were available and the corners were brazed and each window was handmade, often with ornate wrought iron handles formed over the anvil. Soon brazing was replaced by simple dovetail corners and the business grew slowly and the Crittall Manufacturing Company was formed to manufacture windows in 1889. For the rest of the 19th Century, Crittalls and other manufacturers in the United Kingdom survived by producing general metalwork including some notable window contracts such as Flixton Hall but these were few and far between.

It was in the early days of the 20th Century, that the steel window industry began to advance. Francis Henry Crittall was joined in the business by his two sons Valentine, who was responsible for opening the first steel window manufacturing company in the United States of America and Walter Francis or 'Pink' Crittall, the younger son, who was to become the father of modern steel window design. Prior to joining the family business, Pink Crittall attended Art School in London which undoubtedly influenced his approach to the business and when he joined the Company he set about designing one range of simple sections to replace the vast array of profiles that were used up until then.
In 1909, the Universal Range as it was called, replaced all other window designs. Just prior to this the Company had acquired the patent of the Fenesta Joint from an Austrian engineer Karl Zucker and this new method of making a cross joint by threading one bar the other enabled much larger windows to be made than hitherto and very soon this technique for large sash windows was outselling all other types in Europe and in the United States, where it was used for the fast expanding factories of the day.

Just as the steel window seemed set to challenge the dominance of timber, the First World War broke out and the Company was turned over to munitions manufacture but indoubtedly during this period many mass production techniques were learned that were to prove to be of great use in making windows after the War. Pink Crittall was indoubtedly greatly influenced by the Modern Movement and immediately after the War, the Company commissioned a housing site for its workers in Braintree which was designed by the architect Quennell and were built to metric sizes to avoid cutting to waste. The architectural style was dictated by the functions of the rooms rather than the desire for an ornate external appearance. Variety on the estate was achieved by the placing of the rooms and led to a considerable saving in cost and time for erection. At the same time, the first 'Standard' metal window was designed by Pink Crittall specifically for the housing market. Fearing that architects would regard the use of a standard window as being too restrictive to their design of the building, he commissioned twelve eminent British architects to design housing schemes using the new Standard window ranges and such was the variety produced that the reservations were overcome and the Company soon secured a large project at Chepstow, followed by an even larger one for Bristol Corporation and a typical Standard steel window was soon being produced at one third of the price of an equivalent pre-war window. The success of the Universal and Standard window designed by Pink Crittall can be gauged by the fact that the Company was producing ten tons of steel windows a year prior to the design of the Universal window and this was to rise to one thousand tons per week used in the UK alone, for both the home market and export, plus of course the considerable tonnages produced by Crittall's subsidiaries overseas and under licence by companies all over the world.
The concept of a factory produced steel window and its emphasis on smaller sightlines allowing much more light and airiness into the building, fitted well with the ideas of the Modern Movement and Crittall steel windows were used on a great many schemes that were later to be recognized as the finest examples of their type in the world. In the UK there was the Finsbury Health Centre designed by Tecton and Lubetkin, whilst Walter Gropius used steel windows from Crittall's subsidiary in Germany Fenestra Crittall in the Bauhaus and Frank Lloyd Wright windows by Crittall's American associates in his Bear Run 'Falling Water' project in Pennsylvania. Manufacturing plants were set up on all five continents and there was scarcely a country in the world that was not using windows designed by Crittall in significant numbers.
Further evidence of the influence of the Modern Movement on Pink Crittall and the Company was to be had in the building of the unique rural village at Silver End, again to accommodate Crittall employees, when a complete village was built by Crittall during the late 20's including infrastructure in the middle of the countryside. In order to give the 500 houses variety, various architects were employed including Thomas Tate and Frederick McManus. One of Tate's house designs was voted in 1928 the most outstanding house to be built in England.

Throughout the 1920's window production became more and more automated and now corners were welded rather than dovetailed and the steel window enjoyed huge popularity not only in the United Kingdom but also overseas. One of the important markets for steel windows in Europa was Holland since 1901 when the Dutch State Architect who was building a new Records Office visited London and was impressed by the steel windows supplied by Crittall to the Chancery Lane Records Office and used Crittall windows on his project as well.

Bauhaus, Dessau; Germany
Architect: Walter Gropius, 1926

House at Silver End, Essex,
Great Britain, 1928

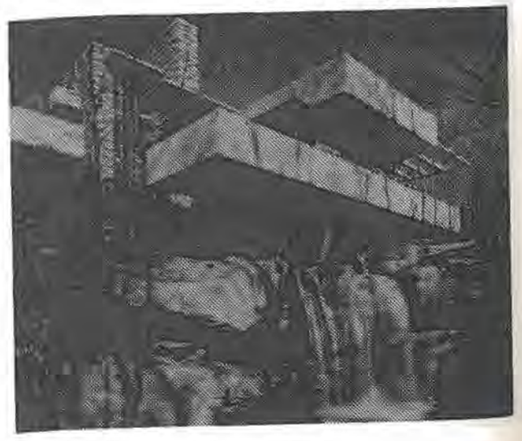
This led to a number of notable orders including the Peace Palace at The Hague, Leiden University and the State Prison at Scheveningen and the Company continued to be very active in this market directly until 1915 when their agent died. Following this tragedy, the Company began what was to be a long lasting relationship with the art metal firm of Braat who had been considering the manufacture of metal windows for some time. An arrangement that was to last until the 1960s, began with Braat manufacturing Crittall windows in Holland in return for royality as well as purchasing special windows direct from Braintree. In Germany too, an arrangement was made for Fenestra to manufacture metal windows and by 1927, Fenestra and Crittall formed a joint stock company based in Dusseldorf and became the largest window company in Germany. In 1913 the company was enlarged still further when they took over another major competitor and Fenestra Crittall was to be an important part of the Crittall organisation right the way through to the mid 1960's, when the company was sold. Through these arrangements and smaller agencies in Italy, Belgium and considerable activity in France, the Universal window and the Standard window range spread right across Europe and were used for some of the most important buildings in the 1920's and 1930's. Nor was the use of windows restricted to Europe, mention has already been made of the American subsidiary and in addition there were manufacturing plants in Canada, as well as Australia, New Zealand, China, India, South Africa and huge shipments of export work was undertaken not only by Crittall but by Hopes as well, the other major manufacturer in the UK, whose facilities were to be taken over by Crittall during the late 60's. During the 1930's, the Company's business expanded to such an extent that a specialist light steel section mill was set up at Darlington in England in partnership with Dorman Long and Crittall's parent company Norcros still jointly owns this company today with the British Steel Corporation. Although manufacture was interrupted by the Second World War, the steel window industry was soon in full production and a major technical breakthrough was the introduction of galvanising which had reached the experitmental stage just prior to the War. Although Zinc Spra had been introduced under licence from the originator in Toulouse during the second half of the 1920's, and offered some improvement it was not really successful in preventing corrosion in more aggressive atmosphere and had a limited lifespan. Early experiments with galvanising had faltered because of the uneven nature of the finish but with improvements galvanising became mandatory on all steel windows produced in the UK after 1947 and since then there has not been one recorded case of rust in galvanised steel windows supplied by members of the British Steel Window Association. The process by which steel is cleaned, pre-treated and etched and then dipped in a bath of molten zinc fuses the two materials together so that on the outside there is a layer of pure zinc which changes to zinc iron alloy and penetrates well into the surface of the steel substrate and positively protects. After the Second World War bauxite became more plentiful and with steel in short supply, aluminium became more and more used as a material for manufacturing metal windows and gradually the steel window market began to decline.

In the early 60's recognising the need for improved thermal performance, weather-stripping was introduced to Standard metal windows and a new design, the fully reversible window was developed for use particularly in high rise flats that were so popular in that era.

Meanwhile the medium Universal range was rationalised and a new range of steel sections were produced which although not substantially different from their predecessors, contained a groove to take a flexible weather-stripping and substantially improved the performance of the window as well as being able to accept double glazing, which was becoming more and more popular as people demanded ever greater levels of comfort.

Nevertheless, steel windows continued to decline as demand increased for maintenance free products that did not require painting every five years or so and building programmes accelerated and the need to paint a steel window to give it colour, although not necessarily to protect it from the corrosion which was done by the galvanising, was seen to slow the building programme down.

Falling Water, Bear Run
Pennsylvania;, USA
Architect: Frank Lloyd Wright, 1936



In the mid 70s a new process was introduced and galvanised steel windows became powder coated. During this process, the galvanising was pre-treated and etched and the frame was electro-statically sprayed with a cloud of polyester powder which was then baked on at temperatures of around 220°, and gave a durable maintenance free finish initially in white but quickly followed by black and brown and now available in almost 50 different colours and accounting for something like 80% of all steel windows sold today.

Although much reduced from its hey day, the steel window industry in the United Kingdom is still buoyant and there are a number of manufacturers producing windows, although by far the largest is my Company as the originators of steel window design. We account for something like 60% of all steel windows sold in the United Kingdom and still carry out export projects in various parts of the world, although on a much reduced scale. During the last couple of years we have provided substantial projects in the United States, the Far East and here in Holland, where during the last year we have completed the windows to the Academy of Arts building in The Hague.

Since those early days when the emphasis was on supplying steel windows things have changed and refurbishment forms an important sector of our business and includes the removal of the old steel windows, installation of the new including a limited amount of making good, so that we are able to offer a complete service. Many of the projects we have carried out in recent years have been on listed buildings where it is important to retain the character and detailing originally employed. This is often done in consultation with English Heritage and we are normally able to reproduce the original sightlines within a few millimetres. The steel window is not however purely an historic remnant used to reproduce details long since forgotten. Although changed little in outward appearance, it is now a sophisticated high performance product from the 1990's and in independent architectural surveys in the UK the galvanised polyester powder coated steel window has been voted best value for money, when measured in life cycle costs year after year. Although the frame is not thermally broken, its slender sightlines ensure that only a minimum of heat loss is transferred through the frame compared to its bulkier alternatives. Flexible weather-stripping eliminates water penetration and reduces air infiltration to a minimum. Today's steel window can accomodate solar control insulated glasses, double windows can be used to provide excellent acoustic insulation. Polyester powder coating provides a durable long life colourful finish which has been shown on accelerated weathering tests to last in most atmospheres for a period of around 25 years and this has been borne out by experience in the field which is now approaching 15 years. Underneath it the galvanised coating ensures a lifetime of protection.

The story of the steel window started in the 16th Century but it really came of age properly in the 20th Century when Pink Crittall designed the Universal range. Its slender strong sightlines and maximum glass area complimented the change of architectural style and the mass production methods employed were very much in keeping with the theme of the Modern Movement, so it is not surprising that their success went hand in hand through the 1920s and 1930s. In fact of course, not only did the steel window fit the concept of the Modern Movement, but through its designer Pink Crittall it was inspired by the Modern Movement. Through the Design and Industries Association he had met the architect C.H.B. Quennell who were both passionate devotees of the Modern Movement. He was commissioned by Crittall to design the Clockhouse Way Estate in Cressing Road, Braintree and these were the first modular flat roofed dwellings built in England under the influence of Tony Garnier's unbuilt residential units in his Industrial City and Le Corbusier. The Company not only commissioned the Estate for its workers but also formed a construction company to build the houses which were a forerunner to the revolutionary Silver End Estate built ten years later. Again Pink Crittall was instrumental in the commissioning of Thomas Tate and his righthand man Frederick McManus to build some of the houses on that village and it is a tribute to the man that today over 80 years on, his designs for the Universal steel window and the Standard metal window still form the basis of such a modern product that is still sold in significant numbers.

The standard steel window began with the Georgian small pane type and when there was a demand for larger glazed areas, moved on to the 'N' type and yet again to the 'H' type so characteristic of the Modern Movement. In 1946 to meet the increasing concerns of corrosion galvanising was introduced and in the 60's weatherstripping and double glazing to improve performance. By the mid 70's powder coating was developed to reduce maintenance and add colour. So the product has changed with the times whilst retaining its original design intent.

So confident are we in the future of the steel window that we have just opened a new headquarters and factory building in Braintree at a cost of £18m and over 150,000 square foot of the space is devoted to the manufacture of steel windows. Included is a new biological pre-treatment plant from Sweden, the latest galvanising technology from France and one of the most modern powder coating facilities anyway in the world.

The modern steel window is a particularly British invention. Originated by Crittall at the turn of the century it found popularity all around the world. I hope this brief history has told you something, not only of the origins of the product but also its close affinity to the Modern Movement as well as helping you realise not only is it still available in its many styles and types but that whilst retaining its origins of design, it has been up-dated to suit the needs of the construction industry today.

We are proud to have been associated with some many fine examples of architecture across the century particularly from the Modern Movement and we hope we may use our knowledge and expertise to help to ensure that these buildings are successfully and sympathetically restored to last at least another 70 years.

Casper van den Thillart
Architect Buro Opten Noort-Blijdenstein, Utrecht; the Netherlands

Renovation of the Bergpolder apartment building in Rotterdam (Van Tijen, Brinkman and Van der Vlugt, 1934)

It is a pleasure for me to give a lecture on the "Bergpolderflat", which is coming into the highlights again, because of the intended restoration next year.

The original design and delivery were in 1933 and 1934. The official recognation as a monument came fifty years later.
Because the flatbuilding is in bad condition a special team for the Bergpolderflat had been formed, that initiated an architects selection which lasted for approximately 2 years.
Finally the planned restoration in 1991, with which our practice ONB has been charged.

Fig. 1: Bergpolderflat
Van Tijen, Brinkman and Van der Vlugt, 1934

Part one

I should like to treat of the following subjects.
First I will give you an introduction: a short explanation on the design and further the specific monumental values of the flatbuilding, which lay mainly in the advanced technological concept.
The second part, "The Bergpolderflat an early high tec building", is a working out of those monumental values.
Finally the third part in which I treat of the question how to deal with monumental values and todays demands.

The Bergpolderflat is a pure functional design of a multi-storey housing block by the architects Van Tijen, Brinkman and Van der Vlugt.
The Bergpolderflat is actually the first Dutch high-rise building for housing. It has been built with a steel frame construction, which is rather unique for Holland.

The monumental values, mentioned in the description are based upon the following items:
. the functional design and architecture
. the use of symbolic architecture
. the attempts of innovation both in techniques as in new forms of housing
. the attempts of industrialisation and prefabrication
Those items I like to discuss in the second part of my lecture.

Picture 1 shows that the design concept is quite clear: a main volume containing the appartments, situated on the galleries; long horizontal lines, linked with a transparent body in a vertical sense and finally a one storey wing, destined for general facilities, perpendicularly attached to the main volume.
This functional concept of simple volumes, continuous horizontal and vertical lines is very characteristic for the Bergpolderflat.

The flatbuilding is situated on a small grass-plot in Rotterdam amidst traditional brick houses, which gives a rather big contrast and underlines the experimental character of the flat.
Level 1 to 9 are indicating the eight 3-room appartments of approximately 50 m².
The appartments are small, but junction of 2 units - as for the new plans - proved to be impossible, because of the

Fig. 2: Interior with 'Bauhaus" furniture

windbraces at each bay.

Picture 2 shows the apartment of one of the occupants after the first delivery. The interior with original 'Bauhaus' furniture, especially recommended by the architect himself.
I will explain the specific design of the house plan later on.

The elevator stops at the half-height landings. The sloping line of the stairs gives a dynamic aspect in the rectangular grid of the building. (fig.3)

The basement is made of reinforced concrete and offers space for storage and general facilities such as a laundry and the central heating services. The plan of the annex buildings shows the main-entrance and three diary food shops. All those general facilities were part of the designer's philosophy of modern housing.

Part two

Speaking of high tec building one thinks of light-weight constructions, prefabricated elements and advanced use of materials and equipment.
All those elements are actually present in the Bergpolderflat.

The three items you see on the slide are typical for the Bergpolderflat: symbolism, prefabrication and a close relationship between construction and design.

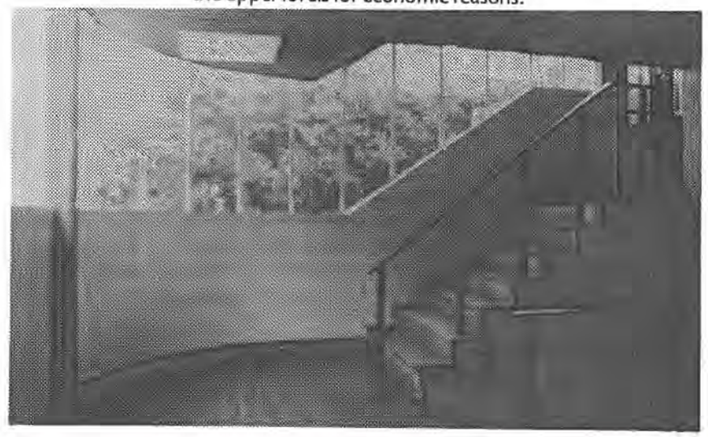
The architectural expression of the building is not strictly functionalism. Functionalism has been made to an image of a housing machine, similar to Le Corbusier's Unité in Marseille and more particular the metaphor of a ship.

This ship metaphor is to be seen in the recessed basement. The main volume comes free from the earth and is - as it were - anchored by the annex building. Also the flagstaffs, the antennas, the hoisting facilities, the refuse duct and the whole outfit of the building with its galvanised plates add to this metaphor idea. Even a remnant of a ship's cabin is to be found on the roofterrace.
The sunblinds can be put out like sails on the posts of the steel construction.

The application of a steel structure is unique in Holland. Main reason for the application of a steel structure was the idea of industrialisation and prefabrication. These first attempts of prefabrication in housing were the beginning of a new development in the building industry and have also a monumental meaning.
The designers mocked at the building companies, which were in their vision 'old fashioned', only locally organised and having a traditional attitude towards new building methods.

Prefabrication could reduce building time and costs so that modern housing facilities were accessible for common people. It also meant better measure - and quality control. Another profit was the light-weight construction, that allowed high-rise buildings to be constructed on a foundation with wooden piles.
Columns and beams are assembled of steel sections for the following reasons. It was easy to assemble three dimensional nodal points with continuous steel sections (fig. 4). Extra advantage of assembled steel sections is the equalizing of axial moments in x and y axis. In that time one could not dispose of simple tubular sections. A further item to mention is the easy reduction of steel sections for the upper levels for economic reasons.

Fig. 3



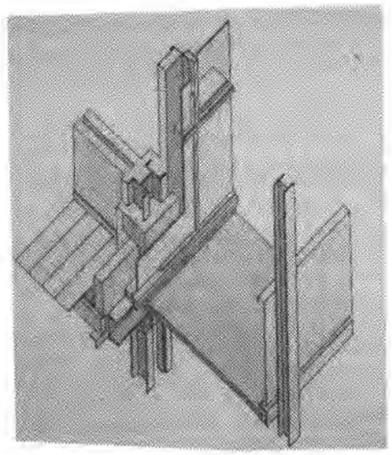


Fig. 4

Fig. 5

The flatbuilding is assembled like a perfect box of bricks. The assembling time of the steel structure was only 3 weeks and it costed 7 1/2 months to finalise the whole building, certainly an impressive performance for that time.

Besides the steel structure other prefabricated elements were applied, as for instance the galvanised plates for gallery fences (fig. 5), the cassette profiled concrete elements, used as permanent shuttering, and even the cupboards in the flats.

The galvanising technology was never used for housing before, just as the cassette plates, that are to be considered as the beginning of production of prefab elements for housing.

The close relation between the steel frame grid and the house plan is purely functional.
The grid has a horizontal zoning as indicated. The vertical zoning is a sub division in a vertical sense, which again rules the modular grouping in the elevation. The original house plan is a perfect translation (fig. 6).
In horizontal sense the two exterior zones of gallery and balcony are of the same size. The interior is split up according to the grid thus creating zones for the living rooms and the utility rooms.
The division of the living room is flexible by the introduction of a sliding wall. The dimensions of the utility rooms are too small for todays requirements. The equipment has also to be renewed.

It proves to be possible to create a new two room appartment within the original units.
This design theory of zoning and flexibility is so fundamental, that the new house plans are designed according to the same principles.

Part three

As we have seen monumental values of the Bergpolderflat are mainly determined by the experimental character and technological innovation of the building, rather than the sheer appearance of the flat.
Obvious is that this character of assemblance, prefabricated and innovative and symbolic elements must be preserved in the new details. However, todays demands of construction and also the upgrading of thermal and acoustic insulation can easily destroy the young historic image.

On these slides one sees the main problems of the flat.
Corrosion of all the exterior elements as for instance the prefabricated slabs of galleries and balconies. Actually the whole exterior steel structure is in such a bad condition that is has to be renewed completely.

The construction of wooden joists and floors have a poor performance in airbore and impact sound, just as the internal walls which consists of two layers of pumice of only 7 cm and a cavity of 2 cm.

The junction of the prefab gallery to the steel joist creates a cold bridge. Also the impact sound insulation is insufficient.
It goes without saying that new detailing in combination with todays demands is a difficult job.

To solve this problem we developped the following method.
At first the various experts, specialized in the different sectors of the building industry as architecture, costs, construction, building physics and building technology give their comments on an original detail, which is to be collected in a matrix.

From this matrix a number of solutions is to be made, but they are reduced by a 'screen' of monumental values to a number of acceptable solutions. This limited number comes into a second matrix with comments of the same sectors. Finally one solution is choosen in consult with the various parties that are involved.

Fig. 7 shows a survey of matrix 1 and matrix 2 of the gallery slab junction to the steel joist. All details of matrix 2 respect the dimension of the steelstructure and the prefab character.

Exterior insulation prevents the thermal expansion and contraction of the steel, but is difficult to place with risks of insufficient insulation for the upper part of the joist.

Eventually we think of prefabrication of the whole slab inclusive the terrazzo finishing, which is an option in the line of original prefab character of the design.

We are convinced that this method of balancing with various experts and screening of not acceptable solutions will contribute to details in which both monumental values as todays demands are to be respected.

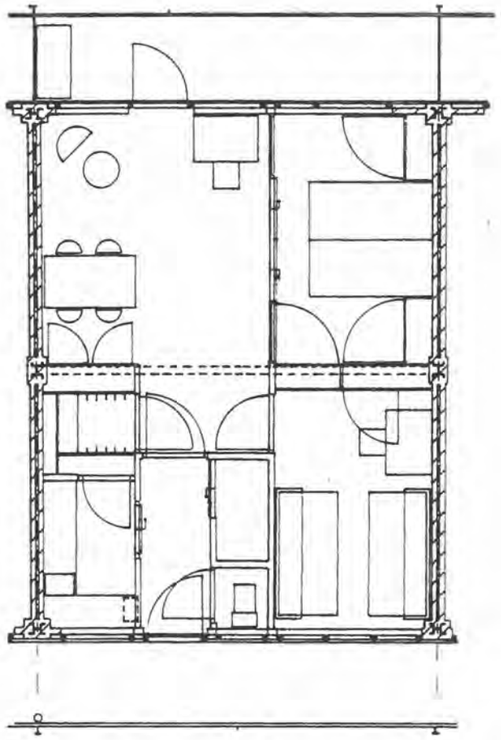
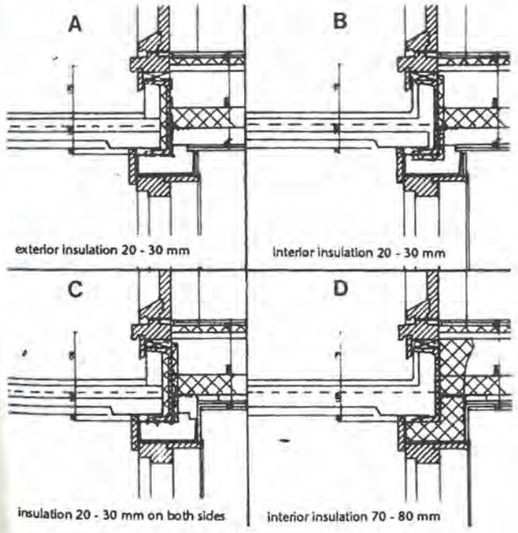


Fig. 6: Original house plan



POSSIBLE APPROACH

Fig. 7

difficult construction A extra prefab creates joints	difficult placing of insulation B	Idem A C	one prefab slab is preferable D
insufficient insulation for the upper part of the steel-section	riscs of condensation in wooden joints	Idem A	insulation and fire protection integrated in one layer of foam
support of 50 mm is sufficient	risc of thermal expansion, small prefab elements are preferable	Idem A	idem B
all the solutions have a similar complexity the use of leight-weight elements proves to be more expensive			
insufficient internal height terrazzo-surface on prefab-concrete?	insufficient internal height	terrazzo-surface on prefab-concrete?	additional approaches related to the energy-concept
for all solutions:	surface of plaster -	cardboard ceilings must be plane !	

EVALUATION

Wessel de Jonge
Eindhoven University of Technology; the Netherlands

Contemporary requirements and the conservation of typical technology of the Modern Movement

The building tradition in Europe underwent great changes in the 19th Century with the onset of industrialization. The development of new uses for materials and new methods of construction had a major impact on architecture. The techniques required for restoring buildings from the period 1850-1940 (the industrial age) are therefore different from those appropriate to older buildings. The process set in motion by these developments led ultimately to the pioneering work and revolutionary ideas produced in the period 1920 to 1940 by Dutch architects such as Duiker, Van Loghem, Van der Vlught and Stam.
Duiker and his collegues established a direct link between the design, the technical lifespan of a building and the user requirements. The translation of these ideas into practice produced a specific movement in architecture, which came to be known in the Netherlands as Het Nieuwe Bouwen (the Modern Movement), the most famous examples being the Van Nelle factories in Rotterdam (Brinkman and Van der Vlugt, 1925-29) and the Zonnestraal Sanatorium in Hilversum (Duiker and Bijvoet, assisted by Wiebenga, 1926-28). Because of the specific ideas underlying this architecture, the restoration of works of the Modern Movement requires a different approach from that used for other examples of industrial age architecture.

Duiker's entire work reflects a desire to create a clearly comprehended structure both in terms of construction and functional/spatial organisations. With the elimination of decorative elements and the often naïve manner in which new materials and constructions were introduced, this led to the specific image of Duikers' architecture. The structure was never dominating yet was always used to control the evolution of the design, the building process and the final product. The forms of his works are mostly based on simple geometrical figures which are organised by the manipulation of axes. Duikers' work does not excel in properly detailed physical construction. Many of his buildings are now either dilapidated, drastically renewed or rebuilt, or even already demolished. This is largely because of his choice of materials and in the way in which they were used. To have considered plaster and mesh as suitable construction for external walls may not simply be attributed to custom or ignorance of the time, nor to slender financial means.

Duiker trusted the notion of progress too much for the good of his own buildings. Nevertheless, we must be grateful to him for summoning up the courage to continually apply new techniques and products. In doing so, and despite the lack of durability of these buildings, Duiker and other architects of the Modern Movement contributed enormously to the development of architecture in the middle of the 20th Century. It is important that some of these buildings should be preserved in order to maintain the historical record and to ensure continuity. But which buildings should be protected and how can this best be achieved? Numerous parties are involved in the decision-making process concerning restoration: owners and users, government authorities and interested outsiders.

The former make practical demands and have mainly economic interests at stake.
The government decides on the future of such buildings, but may fail to make adequate provision for the financial consequences of its decisions. An additional factor is the lack of knowledge about and experience of restoration of 20th Century architecture. The interested outsiders are primarily concerned with cultural and historical aspects. Discussion can only take place between the parties if all the objective aspects can be quantified and the subjective aspects can be identified and verified.

Commisioned by the Netherlands Department for Conservation, prof. Henket and myself, both researchers of the Eindhoven University of Technology, developped a method for preparing technical intervention models and for assessing and weighing up the consequences for the building, in the event of its' being restored using such a model. It can be used to make a choice. This method does not, therefore, yield a specific selection. The data gathered by applying this method provide a basis on which to make a rational and well-informed choice[1].

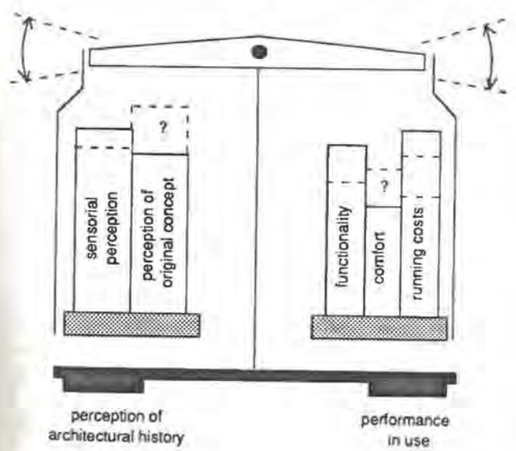
This method is designed to lead to the choice of a restoration model which can serve as a guideline for the restoration plan. A well informed choice can only be made on the basis of prior research, on the one hand into the buildings' history and of the circumstances which led to the present technical state of the building and its technical condition and on the other hand to compare the various restoration options.

The survey of the buildings' history must identify those aspects of the building which are of historical value and therefore deserve to be preserved.
What architectural ideas did the architect subscribe to, and how did these relate to the technical resources at his diposal? Were the materials and methods typical of the period in which the building was constructed or unusual? It is essential in this context to consider the building not only in terms of its form but also for its function.
This is particularly relevant to the architecture of the Modern Movement, where ideas about the way the building was to be used played a greater role in the design process than aesthetic considerations.

The second part of the research involves the preparation of meticulous documentation relating to the building, to give a picture of its current state and its technical condition. On the basis of this survey, together with the results of the research of the buildings history, it is usually possible to reconstruct the original state of the building in theory. This reconstruction provides a frame of reference for assessing the historical and architectural merit of the different restoration options. The analysis of the current technical condition must explain how any damage observed in the building arose.

In order to classify the various restoration options they are reduced to a number of intervention models.
Each intervention has an impact on the balance between perception and use. In the case of buildings where the aspects of architectural history are regarded as highly important, the key problem is to maintain the correct balance between the intangible factors and the practical use (fig. 1). In order to determine this balance the numerous conceivable forms of intervention are classified.

fig.1:
The balance between the perception of architectural history and performance in use is different for each restoration model.



There are various ways of preserving a historic building:
I. Restoring it uncompromisingly to its original state (Model 1) Demolition and rebuilding in the original state and with original details result in reconstruction or building entirely anew.
II. Restoring to the original state but with small, imperceptible technical improvements (Model II), a variant of Model I.
III. Pragmatic restoration: changes in the nature of the building are introduced using contemporary methods. Expression is given to contemporary ideas about perception and use as well as architectural and historical aspects (Model III).
IV. "Ordinary" re use or refurbishment, if aspects of architectural history are not of prime importance. The reason for extending the active life of the building is then primarily economic.
There is no question of restoration (Model IV).

Each intervention model represents one of these restoration principles. Within these models, forms of intervention are outlined for each of the different parts of the building. The final selection of a particular model is based on an assessment of each models' qualities with respect to the factors of practical use, such as acoustics, thermal comfort, energy consumption and running costs, as well as the intangible factors, such as the perception of the original state of the building and the underlying design approach. All these aspects are being referred to as performance factors of the building.

The survey of the buildings' history and the requirements for future use will provide a basis for determining which performance factors are most significant and which are less important. A final evaluation for each model can then be made using this assessment. This provisional outcome shows the relations between the performance factors for each intervention model. By weighing up the final assessment of the various intervention models in the light of the objectives of restoration and the resources available, it is possible to arrive at a verifiable choice of a model as a guideline for the actual restoration plan.

The extend to which the original design concept can be detected in the restored building is a performance factor which cannot be objectively assessed. I believe that the ability to detect the original design concept in the restored building should be an important aspect in any assessment. It are precisely these aspects which seem to be neglected when the problem of restoring Modern Movement architecture is approached using the prevailing philosophy of restoration. In many cases the historical and architectural value of a building is taken to mean nothing more than its visible and perceptible impact, or even simply its appearance. If restoration does justice only to those aspects of the building which can be directly perceived, historical continuity will not be adequately guaranteed. The restored building should also remain an important source of information for architects and students, because contemporary architecture is still deeply rooted in the concepts of the Modern Movement.

While designing, an architect will have to match a buildings' expected performance in use with aspects of

perception, the most important one being its appearance. The designers' approach will stipulate if and how the balance will dip in either direction. This leads to decisions being made in the designing process, that will determine both the performance and the perception of a building to a great extent. As other speakers pointed out already, the transitoriness of Modern Movement architecture should be understood as being largely defined by the philosophy of its designers.
Therefore, it is important that also these performance factors which cannot be objectively assessed, nevertheless will be indentified and varified while using the method.
Thus, when comparing the pros and cons of various restoration options with respect to architectural history, attention should be given not only to the "sensorial perception" of a historic building. Also the original designers' approach and how this related to contemporary knowledge of techniques, materials and building physics are to be taken into account.

As an editor of "De 8 en Opbouw", leading periodical on modern architecture in the Netherlands between 1932-43, Duiker introduced the notion "spiritual economy". He departed from the idea, that every part of a building should be as "monofunctional" as possible, thus leaving the possibility for optimal attuning to its proper function. Doing so, he developed a tailor-made suit, fit for its function and coming up to the functional requirements to a maximum extent.
"This spiritual economy" he wrote in 1932, "leads to the ultimate construction, depending on the appplied material, and develops towards the immaterial, the spiritual".[2]

Of course Duiker sported the idea, that the "art" of architecture was not in ornamentation and the like, but in technique itself. The search for the optimum in materials and dimensious was considered a process combining the artists' inspiration and the engineers' knowledge, thus creating an "engineers-art".

By taking advantage of material qualities, buildings were designed with an extreme sensitiveness concerning building physics, notably with respect to thermal aspects and condensation.
On the other hand, or may be better therefore, building physics were studied seriously by Duiker, Wiebenga, Van Loghem and some other architects and engineers of the Modern Movement.
Although identified as "a great triumph in building construction" Van Loghem warned his collegues in 1936 "that the elemination of the load bearing function (concerning partitious and elevations, W.J.) true eliminated one problem, but that the requirements of the Nieuwe Bouwen on the other hand created at least ten new problems...".[3]

Concerning buildings of the Modern Movement it might be essential to draw an outline of the designers' knowledge of building physics when preparing restoration of such a building.
There has often, too often, been assumed that constructions applied by Duiker and his collegues, but that do not satisfy nowadays standards, arose from professional ignorance of the designers. However, from careful survey of the applied constructions can be learned that these designers have been quite well aware of what they were doing. Obviously, other motives were in it as well, such as the acceptance of a limited technical lifespan as an answer to limited financial means, especially when also the functional lifespan was expected to be limited, as will have been case with the Zonnestraal Sanatorium. The issue of transitoriness might become more clear if historic literature on building physics and techniques were more seriously studied and understood.

As Van Loghems' text already indicates, Modern Movement architects were very much concerned with the design of facades and partition-walls. In the Netherlands there was a great interest in constructions as they were used in the United States. In America, the load bearing structure of many buildings was already reduced to a skeleton of concrete or steel, or of course a simple timber frame when private houses were concerned.

Wiebenga, structural engineer of the Van Nelle factory as well as Zonnestraal and many other culminating points of the Modern Movement in the Netherlands, lived in the USA for some years. He was very much engaged in making construction more efficient and was an enthusiastic supporter of the scientific research of Taylor and Gilbreth to rationalize manual labour.After his return from New York in 1926 Wiebenga published a number of articles in several periodicals for engineers and architects to report on "American construction methods", that he considered the main reason for the economic success of construction in the US.[4] His publications cover a wide variety of subjects. Most interesting concerning Modern Movement architecture in the Netherlands are doubtless his texts on the construction of partitions, in which he advises against the traditional brick cavity wall as inappropriate for non load-bearing facades: "It is just as good and lighter to leave the brickwork out, but to maintain the two layers of plaster on either side and to choose a more appropriate material for support.
Metal lath, plastered on both sides, will satisfy requirements just as well. Strict scientific research, Taylorisation and -more and more being used- the pneumatic application of stucco result in almost absolute waterproof plasters that justify the last step: the wall constructed of plaster on metal lath supported by wooden or metal studs."[5] Wiebenga wrote this in 1926 (fig.2). Almost exactly according to this subscription the first parts of the Sanatorium Zonnestraal have been constructed one year later. Not only were they cheaper and more appropriate to their function, also the flexibility of the building improved with the application of light, composed constructions.

With the standardisation and prefabrication the facades could be constructed by mounting parts like steel framed windows and parapet panels. Thus, parts with a limited technical lifespan could be replaced without damage being done to other parts. Semi-prefabricated panels of plastered metal mesh and laths, welded to steel studs have been applied in Zonnestraal in 1927.

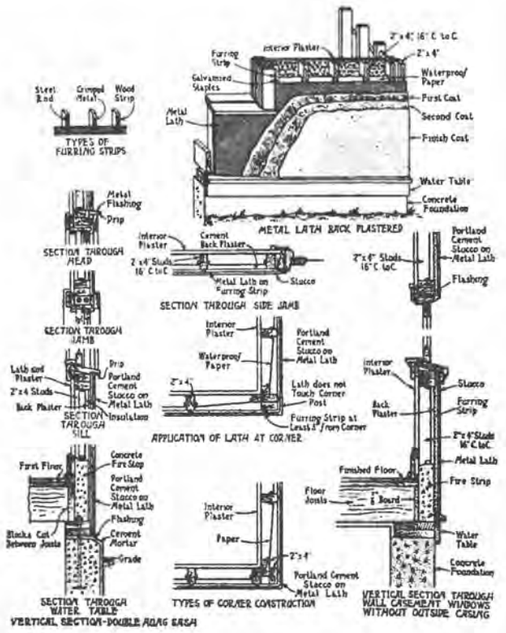
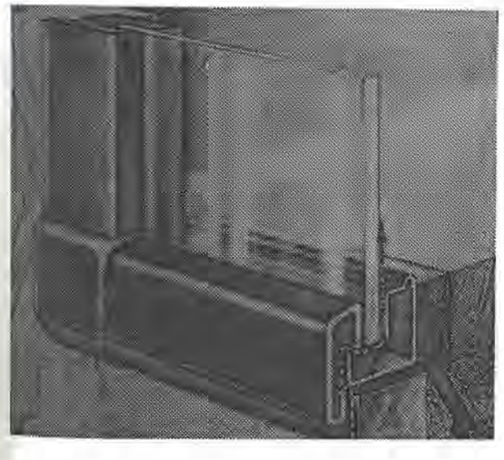


fig.2:
The illustration to Wiebengas' article of 1926. Sanatorium Zonnestraal has been constructed largely according to this model.

fig.3:
A steel framed window with a ventilation supply around the glass. Wiebenga published this in 1926 in the Netherlands.



Another interesting article that Wiebenga published in 1926 dealt with condensation on single glazed steel framed windows.[6] To his discourse on the saturation point of vapour in relation to temperature, little could be added by a contemporary expert on building physics.
The article was illustrated with an example of a steelframed window with a ventilation supply around the glass (fig. 3). By the way, Crittall Windows Ltd. produced double glazed steel windows at least as early as 1912.

Meanwhile Van Loghem worked in Siberia where he executed a number of experiments with respect to building physics and construction methods. One of these was a small dwelling with stone cavity walls, each facade with a different filling for thermal insulation, thus surveying the performance of slag and other basic materials that were available in the USSR at that time. In 1936 Van Loghem published the first standard work on building physics in the Netherlands, giving an overview of the than existing knowledge of the subject, which is surprisingly in line with contemporary standards. However, also Van Loghem admits that the main reason to publish the book is the lack of know how among Modern Movement designers, that were therefore not able to cope with the technical problems that had been introduced by the "Nieuwe Bouwen".

Although it is obvious that a survey on the knowledge of building physics might prove to be very interesting with respect to our appreciation of Modern Movement architecture and its restoration, it is clear that this survey is only yet to begin. I would like to make this a main subject of my work in the years to come.

The results of our research sofar however, proved to be valuable when assessing the proper performance factors in the intervention models for Zonnestraal and, later, for the Gooiland Hotel in Hilversum (fig. 4). The extremely basic detailing of the Zonnestraal facades appeared to represent a designing philosophy to a great extent and could certainly not simply be attributed to poor knowledge of the designers, one of them being Wiebenga himself.

Contemporary double glazed fenestrations, that were outlined within the intervention models III that departed from the original, could therefore not be appreciated positively for neither of the two buildings. Of course these windows had not been selected for their quality concerning architectural history. They were expected to improve thermal comfort, to reduce condensation and, most important, to cut down running costs.
But at the level of detailed features, the attempt to balance subjective perception and functional performance necessitates so many individual solutions that the costs of intervention and the integral annual costs turn out considerably higher.

If the historical and architectural significance of a building is to be balanced with performance in use, as in Model III, thermal insulation will generally have a negative effect on the running costs over a fifty- year period. Concerning Zonnestraal this is largely because of the parts of the

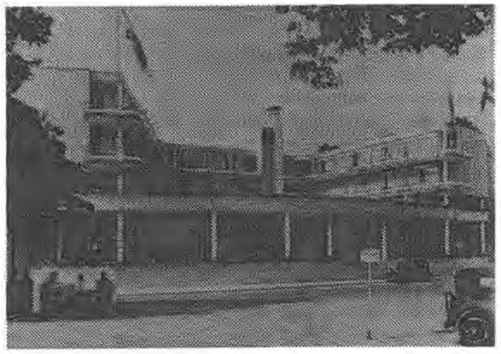


Fig. 4:
The Gooiland Hotel (Duiker, 1934) in Hilversum in the original state in 1936
photo: Eva Besnyö

superstructure which extend beyond the line of the elevation. But also in the case of the Gooiland Hotel the building appeared to be extremely sensitive with respect to intervention to improve building physics. If two weather strips are applied to increase comfort, mechanical ventilation will be required to avoid a condensation surplus. If double glazing is used extra maintenance will be required, largely due to the limited technical lifespan of this product (about 18 years). Both interventions will push up running costs considerably.

It should therefore be clear that thermal isolation will improve comfort, but in the case of Modern Movement buildings the effect on running costs will certainly not be necessarily positive.

If the choice falls on a restoration plan in which the aspects of architectural history are preserved to the greatest possible extent and yet running costs should be reduced, it proves most advantageous to retain the original design virtually intact, in accordance with Model II. In such a case the annual running costs over a fifty-year period are little higher than the costs entailed in simply reusing the building without paying any attention to its architectural significance (Model IV). Given that the level of comfort is not very high under Model II, a use must be found which is appropriate to its characteristics. However comfort might easily be improved by adding service systems.

When developing the intervention models for the Zonnestraal Sanatorium and the Gooiland Hotel, it became clear that there was a snowball effect if the restoration departed from the original design. Intervention in one part of the building often meant it was necessary to take other steps elsewhere. If it is decided that the building should serve a different purpose, but at the same time great importance is attached to the aspects of architectural history, it is only sensible to select a function which is as compatible as possible with the original design. This is a characteristic feature for the restoration of Modern Movement architecture.

Interventions in the case of extremely important examples of Modern Movement architecture would only be appropriate if it results in the almost complete restoration of the building to its original state. The Zonnestraal Sanatorium in Hilversum qualifies as such an example. Less important buildings should first be examined using the method outlined, whereupon a decision to carry out a pragmatic restoration might be made. In the case of buildings in the third category, consideration might be given to reuse or to changing the function altogether, once the building has been documented.

The present physical state of the sanatorium limits the choice of an intervention model to serve as a guideline for the restoration plan. By way of exeption, therefore, and without having any information yet about the purpose of the building after restoration and the resources available, it is recommended in advance to be restored according to Model I or II. In this way historical continuity will best be guaranteed, while the annual running costs stay relatively low.

The main advantage of using our method is, that such conclusions can be drawn before restoration plans are actually developed.
This way, a plan for exterior restoration of the Gooiland Hotel could be executed, that is in harmony with both its' historic character and the performance requirements of the owner.[7]
In the near future we hope to achieve the same positive results with respect to Duikers' masterpiece Zonnestraal.

Fig. 5:
The east facade of Hotel Gooiland during restoration works last year
photo: Eindhoven University of Technology

Notes

1. The method is explained in detail in our publication "Het Nieuwe Bouwen en restaureren ...", which includes an extended English summary; see Literature.

2. J. Duiker, "Dr. Berlage en de Nieuwe Zakelijkheid", De 8 en Opbouw 1932, pp. 43 - 51.

3. J.B. van Loghem, "Acoustisch en thermisch bouwen", Amsterdam 1936, pp. 136 - 137.

4. A bibliography can be found in "Jan Gerko Wiebenga, apostel van het Nieuwe Bouwen"; see Literature.

5. J.G. Wiebenga, "Amerikaansche bouwmethoden een economisch succes", Gewapend Beton 1926, pp. 32 - 35.

6. J.G. Wiebenga, Het Bouwbedrijf 1926, pp. 300 - 301.

7. The Gooiland Hotel exterior has been recently restored by architect Jacq van Klooster, who renovated the Gooiland Theater and parts of the hotel exterior in 1976. The hotel interior has been renovated by architect Koen van Velsen. Wessel de Jonge has been consultant for the buildings historic aspects and restoration techniques on the basis of prior research; see note 1 and literature.
First part of restorationworks has been completed September 1990.

Literature

- P. Bak a.o. (ed.), "J. Duiker bouwkundig ingenieur". Rotterdam 1982.
- P. Bak, J. Molema (ed.), "Jan Gerko Wiebenga, Apostel van het Nieuwe Bouwen". Rotterdam, 1987.
- H.A.J. Henket and W. de Jonge, "Het Nieuwe Bouwen en restaureren". Den Haag, 1990.
- E.J. Jelles and C.A. Alberts, "Duiker 1890-1935". Reprint of Forum 22, 5 and 6.
- W. de Jonge, "Bouwhistorisch onderzoek Hotel Gooiland". Report TUE, Eindhoven 1987.
- W. de Jonge, "Bouwhistorisch onderzoek buitenhuid Gooiland". Report TUE, Eindhoven 1988.
- W. de Jonge, "Onderzoek ingreepkeuzen buitenhuid Gooiland". Report TUE, Eindhoven 1988.
- J.B. van Loghem, " Acoustisch en thermisch bouwen". Amsterdam 1936.
- J. Molema, "Ir. J. Duiker". Rotterdam 1989.
- M. Casciato and W. de Jonge, "Johannes Duiker e il costruire funzionalista/ Johannes Duiker and the functionalistic building". Casabella 53 (1989) nr. 562, pp. 40 - 58.
- W. de Jonge, " Sanatorium Zonnestraal - Probleme der Wiederherstellung und Umnutzung eines 'jungen' Baudenkmals". Bauwelt 78 (1987) 17/18, Berlin, pp. 656 - 660.
- W. de Jonge and J. Molema, "Duiker". Space Design 20, 8, Tokyo, pp. 20 - 25.
- W. de Jonge and J. Molema, " Johannes Duiker". Architectural Review vol. 177, 1055, pp. 49 - 55.

Fig.6:
The tea room and (downstairs) dining room of the Hotel Gooiland during restoration
photo: Eindhoven University of Technology

Luc Verpoest
Catholic University Leuven; Belgium

Moderate modernism: the conservation of an architectural concept versus the restoration of its technology

This First DOCOMOMO Conference deals with the specific problems of conservation and restoration of a special type of monuments: those historic buildings of recent architectural history whose significance and qualities are very much related to the advanced technology involved, and whose conservation and restoration, and even their future as monuments as such, became very problematic, exactly and primarily because of these technological characteristics. The main causes of their degradation are the type of materials and building technologies which are used intentionally for their realisation "with a relatively short functional as well as technical life expectancy in mind". If we want to safeguard buildings conceived functionally and technically for a short life, what do we then have to do? To keep or to change their original function is, at least in my rationalization of the problem here and today, off the point: function follows form. My question is only related to their technical characteristics: if we want to safeguard buildings conceived technically for a short life, what do we then have to do? If we want to safeguard this type of monuments, with their undeniable qualities of form and space (their emotional, aesthetic qualities), do we have then to preserve the original materials and techniques or could we achieve this by replacing the intentionally unsuitable technology (I mean, intentionally as to their duration), replacing these by a more durable technology. This question is as old as restoration and conservation are. The answer to this question is still not obvious, but some examples - historical examples of the 30's and 40's - show that even then, after the avant-garde, a positive answer was conceivable. There were in fact two alternative material and technical solutions in architectural practice for the formal and spatial propositions of the avant-garde: one - the "new objectivity" - being aware of the risk and uncertainties (or the certainty of a short life expectancy) of advanced, high technology of that time, versus one using new but also traditional materials and crafts, developed over time and by this quaranteeing duration, allowing even buildings to become monuments of the Modern Movement.

The development of new building materials and construction technologies and their introduction into the building practice has always been very influential - even if not exclusively - on the establishment of new formal and spatial concepts in architecture. In "Les 5 points d'une architecture nouvelle" (five points of a new architecture) (1927), Le Corbusier and Pierre Jeanneret emphasized the formal and spatial potentials of a reinforced-concrete construction as already visualized schematically by Charles-Edouard Jeanneret in his "Domino System" of 1914-1915.

Amédée Ozenfant wrote in an article in L'Esprit Nouveau in March 1921 about the villa Anatole Schwob in La Chaux de Fonds, built by Le Corbusier, that "the house is a reasonable house (in the sense of not extravagant), but certainly one of the first solutions of the modern and particular problem of reinforced concrete (in fact using the Domino-System). Probably for the first time there is no affectation (artificiality) in the use of technology... There is a remarkable agreement between practical, constructional and artistic necessities (and his conclusion is that) this house is a beacon for architectural aesthetics of our time". We find the same attitude towards technology in a text by Le Corbusier himself, namely in "Esthétique de l'ingénieur" ("The aesthetics of the engineer"), first published in 1921 in L'Esprit Nouveau, and two years later, in 1923, included in Vers une architecture (I quote): "Architecture is an artistic fact, an emotional phenomenon, outside of, beyond questions of construction ("L'architecture est un fait d'art, un phénomene d'emotion, en dehors des questions de construction, au-dela"). Even in his 5 points he stressed that behind them there are not only material reasons of comfort or technique, as the recurrent emphasis on concrete seems to suggest, but also "sentimental reasons". His final conclusion seems to be that - of course - technology is only a means for reaching in the end the final essence of architecture: form, space, poetry.

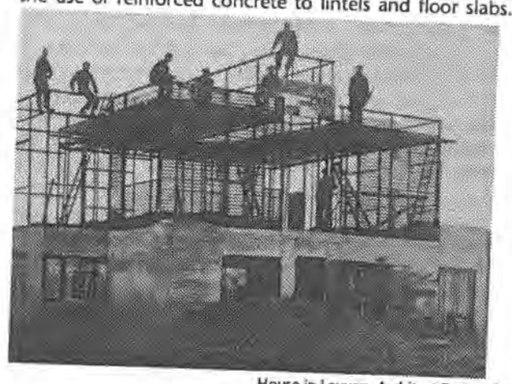
In his essay "Romanticism, Rationalism, and the Domino System" Paul Turner argued that "...the only truly distinctive (and unprecedented) characteristic of the Domino System is not structural but formal: its columns and slabs are completely smooth... the result of a purely formal or aesthetic decision - made in spite of, rather than because of, structural or practical considerations...."

In Le Corbusier's development of a new architectural language the material and technology of concrete play of course a formative role, but primarily on the ideological level of aesthetics, the term concrete becoming - as "the machine" - a key word of an aesthetic ideology.

After the avant-garde, after the necessary ideological discourse - when the ideological, aesthetic role of advanced techniques lost its necessity - modern architecture, in its moderate form, could even ignore these new technologies and materials, or at least reduce their function objectively, to their original factuality as available constructional opportunities, on the same level as traditional techniques and traditional materials.

A comparison between two contemporary modern houses, built in 1931 by E. Bertrand and in 1932 by J. Franssen, both in Heverlee (Leuven/Belgium), can exemplify the early post-avant-garde development, and more specifically the theoretical uncertainty versus correct apprehension of the avant-garde positions on advanced technologies. Bertrand applied the English Dorlonco-system, also used by architect D. Roosenburg for 4 houses at Betondorp (Amsterdam) in 1923-1925, (a system of fluid concrete projected onto rebar nets kept in place by a metal frame, while the insulating panels forming the inside part of the wall are used as shuttering). As to its plan and spatial characteristics, the Bertrand house is obviously traditional, not taking any advantage from its advanced construction technology: the front facade is monumentalized by a symmetrical disposition of volumes and window openings, rooms are functionally and spatially separated, as is, a strictly utilitarian and inclosed staircase. Nothing is left of modern concepts of form and space. Concrete - the only modern characteristic of the Bertrand house - is ultimately invalidated as a means towards modernity.

The construction of the Franssen house, on the other hand, is technically a fairly conventional building, using traditional loadbearing brickwork for walls, and restricting the use of reinforced concrete to lintels and floor slabs.

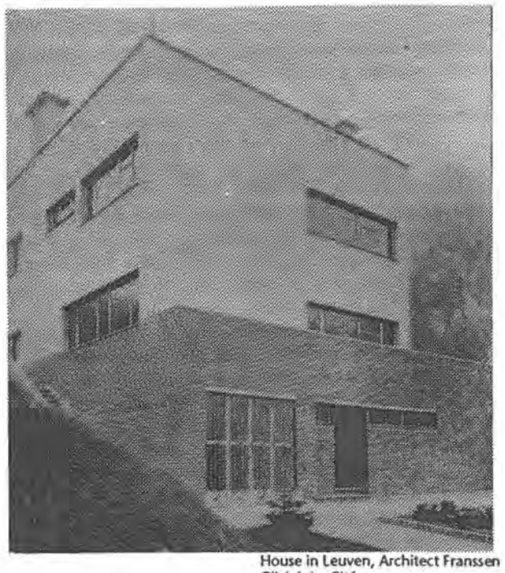


House in Leuven, Architect Bertrand
Clichés: L'Ossaturée Metalique.

From this objectivity or traditional rationality in the application of available (traditional or newly developed) construction technologies nevertheless ensues a house of a completely different type, by comparison with the technologically advanced but architecturally rather conservative Bertrand house. Behind the severity of its volume (a grey-white stucco cubic box on a dark brickwork base), the house shows a spatial organisation which is only made visible by the somewhat irregular position of the window openings: the house has a dynamic interior space, around the staircase, obviously restrained, but at the same time reinforced by the extremely rigid external form.

The Franssen house is representative for the development of a "moderate modernism", in the late 1920's in Belgium, first as an assimilation of the avant-garde propositions (Le Corbusier, De Stijl, the Russian constructivists,...) by an older generation (the late work of Henry van de Velde, "La Maison Nouvelle" in Tervuren of 1927 or the Wolfers house in Brussel of 1930, or the work of Huib Hoste in the period 1927-1931) and than widely diffused by a younger generation of architects. Their arguments for the use of traditional materials and techniques are various: a.o. aesthetic arguments of course; the restoration of traditional craftmanship; the introduction of regional characteristics; influences also from a.o. Willem Dudok and Le Corbusier himself (after the Errazuriz house in Chili and the weekend house for Madame de Mandrot near Toulon, both in 1930); and finally the return to real rationality, in consequence of the growing awareness of the limitations of the new technologies. One could even interpret the renewed interest in brick (and stone) masonry as an attitude understanding brick - and stonework as a conditio sine que non for architecture and for the function of the architect, if we follow at least the fascinating line of thought developed by the French scholar Alain Guiheux, in L'ordre de la brique (the order of the brick): "One of the functions of the brick is that it permits to define what an architect is and what not". (7) Modern building had to introduce brick and stone masonry as to become architecture again.

I take as second example of this "moderate modernism" a complex of four and two individual houses built in 1932 by architect Eduard Van Steenbergen in Antwerp. In a radio-conference on the modern house in 1931 Van Steenbergen uses a very Le Corbusier-like language (about the general economy of the house, housing hygiene, rationalisation of the household, sun and light... and he even uses the metaphors of the machine, the airplane, the oceanliner...) he seems to be a firm propagator of new building materials and techniques (prefabrication, industrialisation) even if almost all of his work before then and after has been built in bricks and stone. The use of reinforced concrete is restricted to very specific constructional elements of the building: lintels and floorslabs. The brick masonry itself is rich and extremely well done. With this traditional material and technique Van Steenbergen finally succeeds in giving this housing complex its very modern character of form, volume and space. To strenghten the horizontality Van Steenbergen uses rather thin bricks, horizontal joints are raked to a much greater depth than the vertical ones, which are almost kept at the level of the brick surface. Van



House in Leuven, Architect Franssen
Cliché: La Cité

Steenbergen also used different colours of bricks, to adapt to the specific position of the wall. The lower part - almost a socle to the building - is built in a dark red brick in a stretching bond (halfsteens verband), as to stress its massive and very closed character. A string of black glazed bricks separates the socle from the upper volume: the black, brilliant colour and the texture of the masonry bond make the upper volume almost floating over its socle. The lightness of the upper volume is strenghtened by the large window panes (more than half the surface of the principal facade) and by the precise choice of the colour and of the masonry bond: yellow bricks in a closer bond (klezoorverband), that gives the surface of the wall almost a character similar to Berlage's brick masonry of the Gemeentemuseum in The Hague. It is very clear that Van Steenbergen is, as many of his contemporary Belgian architects, looking for a combination of modern form, space, volume of the house with the restoration of a highly skilled traditional craftmanship in masonry. A third example at the very end of his career, in 1948-1949, Gaston Eysselinck replaced the plastered and white-painted facades of his own modern house of 1931 in Ghent by a new revetment / facing in stone of a very carefull detailing. In his paper Marc Dubois intended to but was unable to do so, he speaks, in relation to this transformation, about "a restoration". In the same period Eysselinck used the same technology of stone revetment for the Post Office in Ostend, for which he received the commision immediately after the end of the War, in July 1945, and which was finished in 1953.
The adoptation of traditional materials and techniques for the restoration of his own house and for the construction of the Ostend Post Office was related by the architect (as by other moderate modernists) to rationality, constructional logic, craftmanship, tradition... but also, as stressed by Marc Dubois in his monograph on the work of Eysselinck to durability (the Vitruvian Firmitas, as he develops in his paper) and, most important for our discussion, to "the recovery of monumental expression". Dubois is therefore referring to Siegfried Giedion's Nine Points on Monumentality published in 1943 and written in collaboration with José Luis Sert and Fernand Léger. Monumentality is not associated by them, as one could expect in the early forties, to political power and the ideology of the state. The first of the nine points on monumentality said that "monuments are human landmarks which man have created as symbols for their ideals, for their aims, for their actions. They are intended to outlive the period which originated them, and constitute a heritage for future generations. As such they form a link between the past and the future". It is also in that sense that Eysselincks Post Office is monumental, the ultimate monument of modernism in Belgium. As Marc Dubois wrote "Eysselinck wanted to proof, by building the Post Office, that building with "classical materials" (as Eysselinck himself called them) can be suitable for a modern functional building and that the architect has to take into account the lifetime of his creation, certainly (as he ads) in the case of a public building".
Are modern buildings like Eysselincks Post Office, Van de Velde's Wolfers house or Van Steenbergen's housing group in Antwerp better monuments to the Modern Movement than the villa Savoye, Zonnestraal, the Kiefhoek... Probably yes, because they are good modern buildings and because they are more durable. They are conceived as modern buildings, but they are also conceived for duration, as, one could say unintentionally, potential monuments. They guaranteed thus the conservation of modernist concepts of architectural form and space, even whithout the modern concepts of technique, which were at some times somewhere behind the constitution of these modern forms and spaces, but which in the end became the fundamental problem of those buildings of the Modern Movement designed "with a relatively short functional as well as technical life expectancy in mind". I do not, of course, propose as a general rule for these monuments of the Modern Movement, a restoration like Eysselinck restored his own house, their rebuilding in the moderate modernist way. One could conclude by saying that even as regards the architecture of the Modern Movement the controversy between John Ruskin and Eugene Emmanuel Viollet-le-Duc on restoration and ruins retains its topicality or is at least still very instructive.

Housing complex Antwerpen
Architect Van Steenbergen
Archives E. van Steenbergen

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Translated from German

Architectural conservation, traditionalism and the Modern Movement.

History and topicality of a conflict; examples from a German province.

In Germany the attitude toward the Modern Movement is still influenced by the differences in opinion between the conservative and progressive elements in the period between the two world wars. Irreconcilable contradictions which developed then make it extremely difficult today to analyse the buildings of the Modern Movement, unencumbered by aesthetic preferences and ideological fixations, in order to obtain a clear idea of their importance as historical records of the period in which they were erected.

The avant-garde architects, committed to radical innovation in the 1920's, regarded the often personalised and institutionalised link between national heritage and architectural conservation as the province of reactionary aesthetes, who were not prepared to recognize the demands of modern life.(1)

The conflict which arose from the contradictory positions between the basic principles and purpose of the new architecture and the requirements of national heritage and architectural conservation for new buildings, is understandable in a historical context. The industrialization of building was considered by many progressive architects to be an absolute necessity. The international aspects of style and collectivity as dominant expressions of the new architecture could not be reconciled with the specific objectives of architectural conservation and preservation of national heritage. In order to preserve the old provincial styles indigenous to the region, they wanted to erect new buildings applying the continuity of artisan traditions. Their poetic vision of an idyllic, tried and true, provincial style stood in stark contrast to that of the new architecture with its spartan, rigidly geometric, rationally attainable form.

The way in which these then opposing styles of architecture were expressed within the still existing old town and in close proximity to a truly remarkable architectural monument can be seen from the examples of two designs which were submitted in 1925 in a new building competition for the Münsterplatz [Cathedral Square] in Ulm.(2)

Following the design by the Karlsruhe professor, Gisbert von Teuffel, which took the first prize, new buildings would thereafter be built most certainly within a historical context but without the steep gables of the secular buildings of the old town or the Gothic ornaments of the cathedral.

Hans Sharoun's design, on the other hand, projected new buildings, the gradations of which were intended to enhance the spacial effect of the cathedral within the city. The wide, winding curves of the alignment, the horizontal dominance created by window ledges and moldings, the contrast between sharply structured and smoothly enclosed surfaces and, by no means the least, the flat roofs -- were clearly intended, in uncompromising contrast to the traditional buildings of the old town and the outline of the cathedral, to produce shock waves. It is certainly not surprising that this aesthetic of dissonance provoked outright resistance on the part of historic building and national heritage conservators. It is even easier to understand when one looks at Sharoun's schematic plan: the new building complex was intended to abut directly upon the west facade of the cathedral.

In fairness to the conservatives and progressives, the opposition was not just a matter of individual aesthetic preferences. A good example is the discussion concerning the "Old Town and New Times", part of the "Historic Building and National Heritage Preservation Day" in 1928. The backdrop to this was a vociferous dispute surrounding the Weissenhof housing estate in Stuttgart in 1927. The Deputy Chairman of the German National Heritage Society emphasized that the differences were due to a "philosophical struggle between the opposing doctrines of materialism and rationalism on the one hand, and that of idealism on the other. The underlying philosophy of national heritage and architectural conservation proclaims that not the mind or the rational faculty but rather the soul, the heart - is capable of the highest expression".

Spiritual values only provide people with "home and heart when they blend in with the landscape and with the historic beauties of the nation by the continued development of an indigenous architectural style ... In my opinion, there is no way to reconcile the preservation of national heritage with a philosophy and culture which sees salvation in a barren, international sameness. They must oppose the concept of national heritage as the bearer of idealism and tradition ... there are no compacts

to be made, no watered-down compromises, there is only struggle. If we do not want this then the portals of national heritage, as well as those of architectural conservation, will be closed".(3)

During the period of the Third Reich, conservative criticism of avant-garde architecture took on a new dimension. The pioneers of modern architecture were forced to emigrate from Nazi Germany, forbidden to practice their professions or forced to conform.

In 1939, a publication of the national heritage movement called for the atonement of the sins of "Bolshevik-American architecture" in every locality and landscape throughout the nation. "Deviations from the new realism" were to be corrected by rebuilding.(4)

Such demands proved to be nothing more than empty slogans, as the example of the evangelical Brenzkirche in Stuttgart shows. Close to the Weissenhof estate, it was erected in 1932 - 1933, a modest example of the new architecture by Alfred Daiber. In 1939 it was altered according to a plan by Rudolf Lempp by the addition of saddle roofs and new window styles and by straightening the rounded corners. The rebuilding was done to commemorate the opening of the Reich garden exhibition, the main entrance of which was directly opposite the church. Its "unartistic" and "Bolshevik-American architecture" must have been particularly dismaying to the guardians of German culture.

As far as appreciation of the new architecture was concerned, no immediate changes took place after 1945. "Indigenous" and "blending with the landscape", buildings continued to be built in the traditional, conservative architectural style of the 1920's and 1930's in Federal Germany until the late 1950's.

The continuity of conservative architecture in its various forms also focused on individual efforts to obtain historic building documents for the Modern Movement. Indicative of this is the rebuilding of the August-Bebel-Hof in Brunswick in 1956 -1957. The estate was erected in 1929 - 1930 from a design by the Hamburg architect, Friedrich R. Ostermeyer, as a sample project of social democratic public housing. Opposing efforts to maintain an authentic profile during reconstruction in 1956 - 1957, old prejudices which had haunted the moderns since the 1920's reappeared: thus, e.g., the criticism, no longer taken seriously, that flat roofs might have been a good solution for buildings in North Africa or the Near East but that in central Europe they were an affront to all accepted architectural principles.

Since the 1950's, the architectural style pioneered in the 1920's has become an established aesthetic canon.(5) Vast numbers of architectural monuments were torn down in the name of progress, or distorted by radical, thoughtless renovations. With new buildings in historic town centres or in narrower surrounding areas with architectural monuments, careless contrast was the guiding principle. The confrontation which took place at the time with the avantgarde of the 1920's (which had become the Old Guard) and, especially, with their pupils and heirs, made it extremely difficult for the architectural conservators to analyse without prejudice the works of the Modern Movement as historical records of the time.

Indicative of this is the following pronouncement by Walter Bader, published in 1956 as a statement of principle on the situation concerning architectural conservation in Federal North Rhine Westphalia. "There is no doubt that the new technological aspect of art in its unemotional mass (steel, cement, glass are the materials they prefer) corresponds most nearly to the new global image of the natural sciences, which has been set in motion by the monster within mankind".(6) It must be pointed out that this is not the opinion of an outsider. From 1947 to 1969 Walter Bader was active as State Conservator of the Federal Ministry of Culture where, more than anyone else, he was identified with architectural conservation in North Rhine Westphalia after the war.(7)

The wide-ranging publications on architecture and

Soest, Villa Sternberg
Architect Bruno Paul, 1925-27
photo: Department of Conservation Westfalia (E. Grunsky)

Soest, Villa Jahn
Architect Bruno Paul, 1929-30
photo: Department of Conservation Westfalia (E. Grunsky)

architects in the 1920's no longer contribute significantly to a balanced historical assessment. The victory of the Modern Movement since the late 1950's has resulted in the history of architecture in the 1920's and 1930's being reduced to an account of the progressive architects. Attention was given only to those buildings which could be interpreted as being forerunners of contemporary aesthetic doctrines. The field of vision was therefore restricted to the works of a few well-known representatives of the avant-garde. A comprehensive historiography of architecture in the period between wars is still a long way off.(8) If the object of the history of architecture and architectural monuments of this period is only to present examples of progressive architecture, the result will be, by making one-sided selections, arbitrarily to reduce and thereby to falsify the whole spectrum of this era. For an appreciation of the Weimar Republic, formed by opposing factions and torn by conflict, documents regarding conservative architecture are no less historically valid or indicative than those representing the work of the avant-garde.

In order to show clearly the conflicts, three private residences, built around the same time, will be described.

The Heutelbeck villa in Iserlohn, 1925, designed by the architects, C.G. Bensel and Johannes Kamps (9), belongs to the earliest and most impressive examples of modern architecture in Westphalia.

The villa in Rhein, dated 1925 - 1926, designed by the Cologne architect, Hans Bluhme, represents a style common around 1910. Axiality, symmetry and traditionally dignified styling give the house a pronouncedly noble character. The villa exemplifies the fact that the architectural tradition from Imperial Germany continued to survive without interruption after the First World War. More expressive than the outer structure is the interior. The entrance hall with its structured "Cologne" (timber) ceiling in the tradition of the 18th century and the staircase with its carved banisters - can be cited as representative of the multi-faceted details.

The multi-family house, built in 1926 by Gustav Wolf in Munster, with its four apartments for teachers from the university, is one of the best examples of the style preferred by the national heritage movement.(10) The enclosed building block consisting of unpolished tiled masonry, the dominating hip roof and the sash windows painted white, flush with the wall surfaces - give the house a consistent, indigenous character. The return to the middle class, modest, artisan traditions of the age of Goethe provides an antithesis to the often provocatively radical modernity of avant-garde architecture.

Two distinctive, parallel movements is not a problem arising from provincial backwardness. Whole series of similar examples can be found, as it were, for the German centres of progressive architecture, such as Berlin.(11) In the 1920's the Modern Movement was not the standard. On the contrary, it represented a serious, if small opposition to the otherwise dominant conservatism.

The fixation of architectural historiography for the "great masters", the representation of development as being directly descended from formal innovative, individualistic architectural examples has led to a situation in which, in a cartographic representation of a much publicized, scientifically compiled list of buildings from the 1920's in Germany, whole areas of the country are shown as white dots on the map. Several examples should serve to explain why, for instance, Westphalia has remained, quite without justification, a terra incognita in the history of modern architecture in the period between the wars. For this purpose, only single-family houses were chosen. This choice is not based on the fact that there are such exquisite examples in our area, but rather can be justified by the fact that single-family houses are more appropriate for a limited survey than, for example, whole housing estates and other building complexes, whose style and structure must first be presented by a far larger number of examples. Extraordinary examples of housing estate architecture were covered in the presentations by Christoph Mohr and Helge Pitz.

Bruno Paul, one of the best known German architects in the 1920's, built three villas for industrialists in the Westphalian provincial town of Soest, which have gone unnoticed until now. Unlike Bruno Paul's Berlin work, the villas in Soest have not received a detailed architectural examination.(12)

Work on the Sternberg villa was started in 1925 - 1927 and completed in 1928. Around the same time the Plange villa was built (preparation 1926, execution 1927 - 1928). Bruno Paul's third project in Soest, the Jahn villa, was launched in 1928 and completed during 1929 - 1930.

A more detailed description or characterization cannot be undertaken here. A quick glance makes it clear that we are not talking about a revolutionary new approach to modern architecture, but rather about a very noble variant, a kind of mean average of the new architecture, carried out with exceptionally good taste.

There are certain aspects of Bruno Paul's work which can be found in Frank Lloyd Wright's philosophy, that in the first instance a house should represent "interior space under a good shelter", that "the horizontal line is the essence of the home", the accentuation of which makes the building one with its natural environment. As was the case with Wright's "prairie" houses, Paul employed wide, overhanging roofs with brightly painted eaves: "This tended to double the effect of everything else: the preservation and maintenance of the walls of the house, as well as the diffusion of the reflected light" (Wright) in the enclosed space above. Also the specific (architectural) role played by the large fireplace as the pivotal element in the house ties the villas in Soest to the architecture of Wright, who attached special significance to the fact that the fireplace was not merely an ornament ("an insult to the concept of comfort"), but rather "a place for a real fire, one which would penetrate the very marrow of the house".(13)

The expansive, middle class villas in Soest take on a special

Iserlohn, one family house
Architect Manfred Faber, 1929-30
photo: Department of Conservation
Westfalia (E. Grunsky)

Stemwede-Levern (Kreis Minden-
Lübbecke), small house
Architect Richard Moelle, 1931-32
photo: Department of Conservation
Westfalia (E. Grunsky)

historical significance as examples of the 1920's, since Bruno Paul's concept of interior space has been widely followed. An example of this can be found in the fireplaces with carved wooden reliefs by the sculpture, W. Wolf, in the Sternberg and Jahn villas. The inscription on the mantel in the Jahn villa with a quotation from Lao Tse is intended as a formal reference to modern architecture. The text reads: "The house is comprised of windows and doors. But the space in between evokes its essence". In addition, in the Sternberg and Jahn villas, much of the original furnishings, which were also designed by Bruno Paul, have been preserved.

Besides the little known works of the "great masters", two examples will be given from the ranks of totally unnoticed architecture from past, unknown architects.

The single-family house in Iserlohn, built in 1929 - 1930 according to a design by an architect from Cologne, Manfred Farber, belongs to the category of buildings which demonstrates in an almost provocative manner the retreat of the new wave architecture from the traditional idea of a house in a respectable middle class area. With its vast dominating terrace the structure of the building is given an impressive appearance, the architectural design of which is clearly determined by the basic principles of the new architecture, formulated by Richard Döcker in 1929 in his book "Model Terraces", which was typical of the reforming zeal of the era. "Our times demand a hygienic style of life at all levels of human society ... the break with the old, traditional blocks inhabited within a closed building structure is complete, the enclosed world within the house is gone, it now reaches for the sunlight, seeks unity with nature and the countryside ... the outside world will be called in through the open window, veranda or terrace, life and living demand open spaces - freedom! (14)

This last example concerned a very modest, enclosed single-family house that was built in 1931 -1932 in a small village in eastern Westphalia (Stemwede-Levern, Minden-Lubbecke crossroads). The design came from a local architect named Richard Moelle from Minden. A veranda runs across the simple, rectangular structure of the building which gives direct access to the garden and a garage which were added as lower-level annexes. The wide, projecting edges of the flat roof accentuate the staggering of the cubes.

At first sight, the house appears to be rather modest. If it is regarded from the standpoint of formal innovation, it is indeed only of limited interest. As one of the fine remaining examples of the many traditional designs and ideas for building inexpensive small houses (of which there were many experiments carried out at the time of the economic recession at the beginning of the 1930's), the house is a valuable source of interest for the final phase of the Weimar Republic.

As an example of the intense efforts under extremely difficult economic conditions to develop single-family houses at very low prices, there was, for example, a competition in 1931 entitled "The Emerging House". There were more than a thousand entries. In 1932 in Berlin, within the framework of the exhibition "Sun, Air and House for everyone" a large number of projects for the "emerging house" were built. The participation in this exhibition of Otto Bartning, Walter Gropius, Hugo Häring, Ludwig Hilberseimer, Erich Mendelsohn, Hans Poelzig, Hans Scharoun and the brothers Taut showed that leading members of the architectural avantgarde regarded the inexpensive small house as an important undertaking.(15)

In this connection housing development in Stemwede-Levern does not appear to have been provincial and backwards. When compared with, for example, Walter Gropius' presentation at the Berlin exhibition(16) or with the 1933 design by the Bauhaus pupil, Ernst Louis Beck, for a small house in the Berlin-Weissensee(17), the solutions offered by the Westphalian "provincial architects" would seem to have been up to date. This becomes even more evident when one compares the architecture with the then habitual, very conventional models of small estate houses.(18)

With the few examples given here, it should be clear that the available architectural records which record the

history of the Weimar Republic are much more comprehensive and varied than current descriptions of architectural history suppose. A wider material awareness and extended research into individual projects and project categories needs to be undertaken. At the same time it must be established to which extent in their specific formal training the social, economic, political and cultural demands and original intentions of the architects and builders found a responsive expression. The insufficient research available for our work encompasses the unavoidable risk that important examples of architectural work may be destroyed or damaged as a result of ignorance of its historic importance.

The work of historical research in the field of architecture and the conservation of architecture must be free from the compulsions of the 1920's and early 1930's, and of present-day confrontations. A straight-forward rehabilitation of the early moderns - perhaps in reaction to the "post moderns" - would only encourage another variant of the non-historical appreciation of the new architecture. Historiography and architectural conservation must work together to make possible a critical acceptance, one which prevents both a mindless rejection as well as the canonization of the new architecture as the only true architecture of the 20th Century.

Notes:

1. See, e.g., Cornelis van Eesteren 1927 in the Anniversary issue of the periodical "De Stijl": The modern urban builder has a virtue that, in his opinion, is superior to what has gone before. "That which is old has to be put aside once it is used up. By taking this viewpoint, he comes into conflict with the conservators, who would like nothing better than to see their fellow citizens in future living in ruins (in original, hand-me-down clothing), because such emotional images appeal to their sense of beauty" (quoted from: Hans L.C. Jaffe, Mondrian und De Stijl, Cologne 1967, p. 226). The Frankfurt architect, Ferdinand Kramer, wrote in 1929 in the periodical of the German Guild that, besides public housing, renovation of the old town should be the second architectural priority of the community; this section of old town has been preserved "up until now as a result of an aesthetic, sentimentally misleading attachment to national heritage societies and similar groups, erroneously opposed to all sensible discussions" (quoted from: Ferdinand Kramer. Architektur und Design, Exhibition Catalogue of the Bauhaus archives, Berlin 1983, p. 100).

2. In this connection, see: Hubert Krins, Die Freilegung des Ulmer Münsters und ihre Folgen. Zur Geschichte und Gestalt des Münsterplatzes [The Excavation of the Cathedral of Ulm and its Consequences. In the History and Development of Münsterplatz]; in: Denkmalpflege in Baden-Württemberg [Architectural Conservation in Baden-Württemberg] 15, 1986, p. 49-57.

3. Tage für Denkmalpflege und Heimatschutz Würzburg und Nürnberg [Architectural Conservation and National Heritage Day, Würzburg and Nürnberg], Berlin 1929, p. 114-115. A very clear presentation of the conflict was also published in the periodical of the Rheinland Society for Historic Building and National Heritage, 1928: Herein the architects of the Weissenhof housing estate were deprecated as "international peoples' representatives of the New Architecture", their work ridiculed as "Soviet egalitarianism" (Richard Klapheck, Neue Baukunst in den Rheinlanden [New Art of Building in the Rheinland], Düsseldorf 1928, p. 203). A detailed philosophical and political motivational discussion of the struggle against the new architecture: Barbara Miller Lane, Architecture and Politics in Germany 1918-1945, Cambridge/Mass. 1968.

4. Felix Schuster, Wiedergutmachung von Bausünden [Atonement for Architectural Sins]; in: Schwäbisches Heimatbuch 1939, p. 133-137. Similary, the then head of the Department of Historic Buildings: in the "link with international approaches to building" he saw "a tragic going astray"; he demanded that "the worst examples ... one fine day had to be torn down or at least rebuilt to blend in with the countryside (see above, p. 18).

5. Dennis Sharp fittingly characterized this development: "in a manner of speaking the Modern Movement has become the class struggle" (D. Sharp, Architektur im 20. Jahrhundert [Architecture in the 20th Century], Munich 1973, p. 178).

6. Walter Bader, zur Denkmalpflege in Nordrheinland [On Architectural Conservation in North Rheinland]; in: Jahrbuch der Rheinischen Denkmalpflege 20 [Year Book of 20th Century Architectural Conservation in Rheinland], 1956, p. 24.

7. Concerning Walter Bader and his substantial contributions to the preservation and conservation of monuments in North Rhein Westphalia: Paul Artur Memmesheimer, Walter Bader (1901-1986; in : Deutsche Kunst und Denkmalpflege [German Art and Architectural Conservation] 44, 1986, p. 236-238.

8. Norbert Huse in the preface to this book "Neues Bauen" [The New Architecture] 1918 to 1933. Modern architecture in the Weimar Republic, Munich 1975. Although since that time many substantial works have been published, Huse's observations in 1975 are still valid.

9. Walter Müller-Wulckow, Architektur der zwanziger Jahre in Deutschland [Architecture in Germany in the 1920's] (a new edition of the four Blue Books) Königstein 1975, Wohnbauten und Siedlungen [Residential Buildings and Housing Estates] p. 46.

10. For Gustav Wolf, see: Martin Neitzke, Soziale Aspekte traditioneller Raummuster in Wohnungsbau der Weimarer Republik [Social Aspects of Traditional Model Rooms in Public Housing during the Weimar Republic], Aachen 1987. To the house in Münster: Niels Gutschow and Gunnar Pick, Bauen in Münster, ein

Architeckturführer [The buildings of Münster, Leading the Way in Architecture], Münster 1983, p. 38.

11. An especially impressive example is the atypical neighbourhood of Erich Mendelsohn's more famous Doppelvilla built on the Karolinger Platz in Berlin-Charlottenburg, 1921/22, at the same time as the Alemannenallee Villa No.6 with its attractive styling from the repertoire of German Renaissance.

12. In the pioneering work on Bruno Paul by Sonja Günther (Das Werk des Karikaturisten, Möbelentwerfers und Architekten Bruno Paul (1874-1968) [The Work of Bruno Paul (1874-1968), Caricaturist, Designer of Furniture, Architect]; in: Die Stadt 29, 1982, No. 10, p. 18-45) the villas in Soest are only mentioned briefly. In the collection of building plans also compiled by Sonja Günther, the houses are shown without exact dating records (see above, p.58).

13. Quoted from Frank Lloyd Wright in: Frank Lloyd Wright, Bauten und Schriften [Buildings and Writings], edited and re-issued by Edgar Kaufmann and Ben Räburn, Munich and Vienna 1963, p. 38-40 and p. 108. Zum Einfluss von Wright auf die europaeische Architektur [Wright's Influence in European Architecture]: Heidemarie Kief, Der Einfluss Frank Lloyd Wrights auf die mitteleuropäische Einzelhausarchitektur [Frank Lloyd Wright's Influence on Central European Architecture] Darmstadt 1978; on page 189 mention is made of the Bruno Paul's Sternberg Villa in Soest.

14. Richard Döcker, Terrassentyp [Model Terraces], Stuttgart 1929, p. 7.

15. The competition and exhibition were covered extensively in 1932 in professional journals, including Bauwelt [Architectural World], Deutsche Bauzeitung [German Architectural Newspaper], Zentralblatt der Bauverwaltung [Central News Organ of the Architectural Administration Board]. Also see: Martin Wagner, Das wachsende Haus [The Emerging House], Berlin 1932; Gilbert Herbert, The Dream of the Factory-Made House, Cambridge/Mass. and London 1984, p. 138-.

16. See: Hartmut Probst and Christian Schädlich, Walter Gropius, Bd. 1 Der Architekt und Theoretiker, Werkverzeichnis Teil 1 [No. 1 Architecture, Practice and Theory, Blueprint Section 1], Berling (GDR) 1986, p. 155-157.

17. See: Der Vorbildliche Architekt [The Exemplary Architect]. Mies van der Rohes Architekturunterricht [The Architectural Teachings of Mies van der Rohe] 1930-1958 at the Bauhaus and in Chicago, Exhibition Catalogue in Bauhaus Archives, Berlin 13.11.1986-18.1.1987, p. 63.

18. In this connection, see, e.g., Tilman Harlander, Katrin Hater, Franz Meiers, Siedeln in der Not. Umbruch von Wohnungspolitik und Siedlungsbau am Ende der Weimarer Republik (Stadt, Planung, Geschichte Bd. 10) [Building Sites in Trouble. Cultivation of Public Housing and Housing Estates at the end of the Weimarer Republic (City, Planning, History No. 10], Hamburg 1988.

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The new school buildings in Greece, 1930-38

The architecture of the Modern Movement in Greece constitutes one of the less known chapters of European modernism between the two world wars. Even if we can't complain today the lack of a certain number of studies concerning some aspects of this important period of modern Greek architecture, however the knowledge in Europe of Greek modernism is extremely restricted. The development of rationalist architecture in Greece has been all but indifferent and, through a convinced minority of some rather young architects, works have been produced which express contents analogous to those proper of the cultural renewal that characterised the thirties in Greece, particularly until the accession of Metaxàs' dictatorship (1936). The greatest part of committed architectural research of the period moved between two poles: that of the recovery of popular building tradition and of its transcription in actual forms, and that of an approach to the European linguistic koinè of the modern movement. But even in the latter case, which is the one that interests us mainly, options were not univocal: on the one hand there was an aspiration to a homologation of the architectural language expressed by the most important European masters (particularly Gropius, Mies, Le Corbusier, Perret); on the other, the ideal of a recovery of the great Greek architectural tradition was pursued, the ancient one and the Byzantine one, a tradition that was to combine with the formal demands of the "new architecture" and of new materials.

The history of Greek modernism between the wars is the history of a further effort for the social and cultural renewal of the nation, which during the thirties registered some very significant conquests. The first attempt for a renewal of architectural language dates from the period 1909-21, with the enhancement of the value of Byzantine architecture and of popular constructive tradition, while the most productive stage of the Modern Movement coincides with the first half of the thirties. This experience aspired to assimilate principally the formal messages of European paradigm and gave, for a short period, skin and bones to its' utopia. Besides, this experience deservedly achieved a unique deed in the ambit of modern Greek culture, i.e. an alignment with a cultural movement beyond its' frontiers. This alignment has been greatly confirmed, during the thirties, even by specialistic international press. The Greek CIAM group has warmly welcomed the IV Athen's Congress, even for a confirmation and an almost moral justification of its own researches. In fact, the realization of this Congress constituted a unique moment in the utmost contact between native architectural culture and the European one.

In this context there is an area considerated as the principal one of the "new architecture" in Greece: the school building. The foundation, in 1930, of the Project Office of new school buildings, by the Ministry of Education, started off one of the most brilliant chapters of Greek architecture between the wars. Cultural phenomena such as Scandinavian classicism and empiricism never took place in Greece, nor were there any echoes of European historical avant-garde movements. Moreover, in the same period (1905-1925), an architectural movement in Greece able to suggest a different design perspective did not exist. All sorts of eclectics proposed formal exercises available in the European countries where they had studied, keeping a kind of aesthetics that closed a whole period, while architects like Aristotèlis Zàchos (1972-1939) and Emmanuìl Kriezìs (1880-1967) were fatally the spokesmen of a period of transition and their historical role consists in the fact that they started the terms of the problem, without however being able to formulate a complete and convincing response. Finally, as early as the twenties, a personality such as Dimìtris Pikiònis (1887-1968), -not so much with the works he had built but by virtue of his teaching and his spiritual presence, - starts to underline the importance of tradition, not only as regards ancient, Byzantine and Macedonian architecture, but also as far as insular architecture is concerned, underlining at the same time the ecumenical value of popular culture as universal model for a new attitude towards life. At the end of the thirties, therefore, and just before the start of the school building programme passed by the then minister Gheòrghios Papandrèu, the research done by the most committed architects was expressed by few but significant works, spanning the whole range of researches of the period, from the enhancement of the value of ancient and Byzantine architecture and of popular building tradition, to the promising introduction of modernism, even if it sometimes was laden with "Mediterranean" or "traditionalist" references. The second half of the twenties is an utterly interesting period, not only because of the buildings constructed but also for

Primary School, Piraeus
Architect P. Karantinòs, 1932

Greek architects' ideological ripening. At this delicate and transitory stage, the formulation of the school building programme played a decisive role, because it has organised in a creative way and translated into real works the young architects' intentions and principles. Such principles aimed at a renewed transparence of buildings, both by a formal and typological organization, and by a happy adoption of new materials. Considering the par excellence classical architectural tradition, the academic education of young architects, and a context permeated with a strong crisis of values and courses, the way to modernism suggested a revealing perspective, a way leading to a creative and ideologically justified liberation.

It is of use to underline that in the Ministry of Education some young architects were hired in 1930, who were representatives of the rising Greek Modern Movement, under the direction of an important personality such as Nìkos Mitsàkis (1899-1941). The aim was to built about 4000 school buildings, which were really built within 1939. In this way, school buildings constituted the main experimental and application field of new architecture. To this result contributed the very data of the programme, presuposing a saving of money and building time, and imposed a rational policy which end up by influencing the very language of architecture. According to the Ministry's instructions, formulated on the basis of suggestions given by another important personality, i.e. the French architect and urbanist Ernest Hébrard, who had worked at the reconstruction of Salonica plan after the 1917 fire, and who had later been hired as a professor in the just instituted faculty of Architecture at the Athens Polytechnic School, the new school buildings were adjusted to the local climate conditions and have a reinforced concrete loadbearing structure and walls of bricks or local stone. The most widespread typology foresees six classrooms on two floors. In those schools that a celebration hall is not contemplated, three classrooms of a floor can be connected, by means of sliding panels, to meet these requirements: this is the principle of the "flexible plan" already adopted by European rationalist culture. As regards orientation, in cold and windy areas, classrooms must look south, and corridors, closed by glazed surfaces, must look north. In areas with a temperate climate, classrooms look north, while open and covered corridors look south, so that the latter may also serve as brise-soleil for the lower floor. Besides, the construction of a concrete roof to be used as playing ground, the adoption of horizontal windows that allow a uniform illumination, and finally the adoption of colour which enriches the expression of architectural elements, were highly recomended.

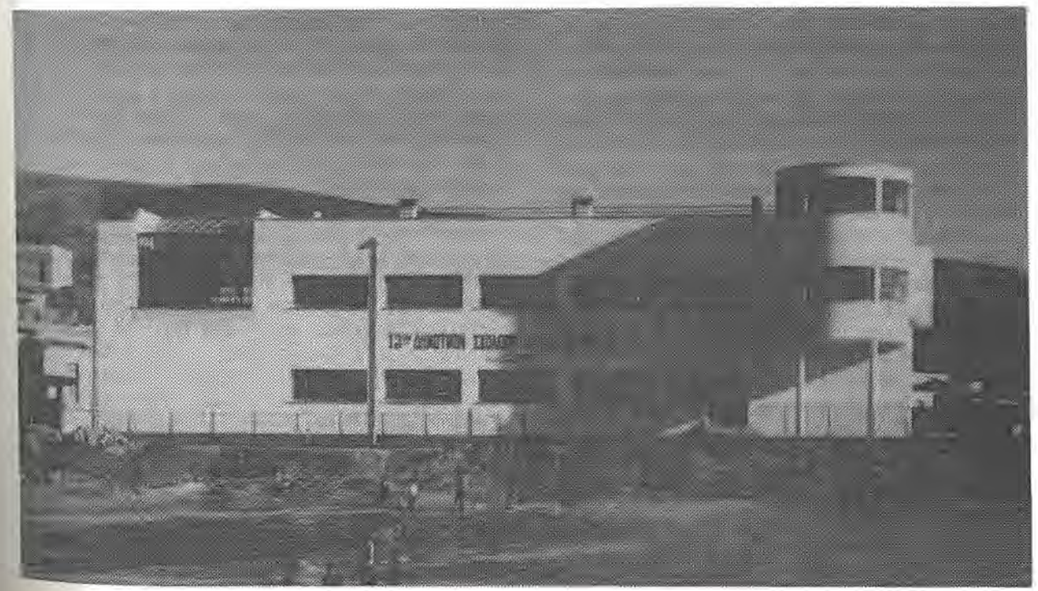
From a building viewpoint, the particular conditions in which this programme is being carried out, in certain cases gave unsatisfying results, because the low cost of construction had not consented materials and a building technology and details of higher quality. From a typological viewpoint, two fundamental choices seem to be quite questionable: the first one has been the generalization of corridors in schools, indipendently from the building's dimensions and from each school's peculiarity. Different solutions regarding the organization of interiors were not accepted. The "corridor system" constituted a rule which could not be infranged. The second one, regarded the conception of the dimension of the schools indipendently from the needs of the areas where the schools were to be built, mistaking the concept of a small school for the concept of a limited number of pupils in each class. So it has been observed that while classrooms had been planned for a maximum number of 30-40 pupils, they ended by giving hospitality to twice as many.

Nevertheless, besides programming errors, some faults due to inadequate technical means, and failings in taking into consideration children's psychology, the vastness of the enterprise and the building speed undoubtlessly constitute a success both of the Venizèlos government (1928-1932) and of new Greek architecture, a success which was also recognised internationally. In some architectural magazins of the epoque such as Bâtir, Actividad Contemporanea, Architecture d'Aujourd'hui, Building, Cahiers d'art, Architettura, Quadrante, Die Form, Bauwelt, Rassegna di Architettura, Baumeister, "L'architettura Italiana, Wasmuths Monatshefte für Baukunst und Städtebau, La Arquitectura de Hoy, The Architects' Journal, the attention of international critique was turned to precisely this sector of Greek architects' activity. Even if in important publications such as Alberto Sartoris' (1932-1935), Gaetano Minnucci's (1936) and Agnoldomenico Pica's(1938), and also some histories of modern architecture, the Greek contribution to the "movement" ended up by being identified with school buildings. An indicative confirmation of this orientation of critique consisted in the full accord of positive comments expressed by the partecipants in the Athens' CIAM, particularly by J. Neurath, Pierre Chareau, Pier Maria Bardi and Le Corbusier, after they visited school buildings, comments that, among the other things, enjoyed a vast aknowledgment especially in the Greek daily press.

The most complete publication as regards school buildings, is to be found in a most elegant volume published in 1938 by the Technical Chamber of Greece, and edited by a most significant rationalist architect, Pàtroklos Karantinòs (1903-1976). It is noteworthy that the only existing volume published in Greece between the two world wars and concerning modern architecture had schools as its' main object. In this book, however, Karantinòs presents 134 works, i.e. only about 3% of all those which were accomplished, with an evident intention to show the most important modern school buildings. This particular "option" has an apologetic character, because it was intended to demonstrate the prevailing importance of rationalist contribution both as regards aesthetics and social demands.

The present circumstances do not allow me to offer a complete presentation of the school buildings of the period at hand. Therefore I shall quote only few examples, such as the new wing of the neoclassic "Maràslio" school (1930) by Nìkos Mitsàkis, a work orientated to a kind of metahistorical classicism based on the adoption of "regulating lines" typical of French experiments like those of August Perret (maison Cassandre) and Le Corbusier (villa a Garches, and villa a Vaucresson, which constitutes the main point of reference of Mitsàkis' work). Besides, the Salonica high school for girls (1933), also built by Mitsàkis, which gives the right dimension of a refined assimilation of rationalist language and where Lecorbusean references coexist with the definition of

Primary School, Athens
Architect K. Panayotàkos, 1933



architectural form as a direct result of the constructive fact, and with a functional analysis near to the poetics of Neue Sachlichkeit.

Dimìtris Pikiònis' school in Athens (1931-32), constitutes a unique episode as far as school building is concerned. It is an architecture of courses linking the "private" spaces of classrooms with the "public" ones of the main building and the courtyards situated on different levels. This building, which presents affinities with the school at the Siedlung Bornheimer Hang in Frankfurt, built by Ernst May (1928), can be also considered as a very illuminating example of a design process dear to Pikiònis. This process tends to translate the sense and the rhytm of environment by means of an architecture which reproduces artificially an eloquent interpretation of natural space.

Moreover school buildings designed by Pàtroklos Karantinòs, the most orthodoxe Greek rationalist architect: for example, the "school under the Akropolis" (1932), characterised by an extreme transparency and visual permeability; the Iràklio Academy for the training of primary teachers (1933-38) which reinterpretes neoclassic poetics through the coexistence of the De Stijl's lesson with Mies van der Rohe's early one; finally the new ring of Lamìa high school for girls (1937), a unique example of such a radical identification between architectural form and constructive system.

Today's situation

Today, almost all buildings of the thirties are extant. Only in few cases a building has been pulled down to built a new one in its' place, or for a different use. Greece's necessity of classrooms is such that these buildings do not run the risk of demolition. Nonetheless problems concerning these architectures are numerous and serious:

First, the important modifications and changes school buildings undergo. Most school buildings underwent, in various periods, more or less important modifications, which as a rule aim at multiplying the possibility to give hospitality to pupils as much as possible. At the same time such modifications took place among general indifference for architectural value of these buildings, and without any historical knowledge. The morphology of such buildings is significantly altered by the differentiation of open spaces to closed ones, by the differentiation of open balconies to extended inner spaces, by various interventions of a technical nature, such as, for example, the unhappy substitution of wooden frames by iron ones, and by the neglecting the use of roof-terraces, precisely because of functional modifications and of dreadful conservation. However the main problem is represented by enlargements: for example, to Mitsàkis' school building on Kolètti street, a whole floor was added in 1960 and the length of the balconies on the main facade has been doubled, for the sake of their dubious functional improvement. Equally, the Piraeus high school by Spìros Lèngheris became several floors higher. When in the thirties these schools became part of the urban structure, characterised by a lower density and smaller buildings,

High School, Piraeus
Architect S. Lèngheris, 1934

the aesthetic effect and the environmental relationships were extremely different from today's, in cities like, for example, Athens, which today faces awful urbanistic problems that seem to have no solution. These buildings had a dialogue with the environment that sometimes was a very fortunate one, even thanks to interventions in the surrounding areas. In the Pàtroklos Karantinòs' school at Kallithèa (1930), the access to the main school building was given by a series of staircases harmoniously fit into a particularly steep surrounding. This solution does not exists any more because where those external staircases stood, a several storey school building has been constructed today, without paying the least attention to a formal relationship with the existent one and with the environment. Generally, these extensions not only demolish a part of the original building, but are made on such a scale and occupy so vast a surface, that the relationship between the original building and the open space is totally altered as regards the previous situation. Besides, in some cases extensions have no morphological relationship with the original construction, nor similar materials are used. The lack of attention for the buildings of the thirties derives also from the fact that today the construction of new school buildings is supervised by a state organisation (OSK), which adopts prefabrication systems, formal and constructive solutions indipendently from the position of the school and its relationship with the environment.

Second, if the degree of conservation of the buildings is insufficient, it is inexistent. The carelessness for the conservation of buildings in Greece certainly is a general phenomenon, but in this case the situation is often unacceptable, since the indifference of the State contributes to it. Broken windowpanes, falling plaster, malfunctioning frames, the loadbearing structure in full sight, are the most recurring cases. If we moreover take into consideration the elementary construction tecnique adopted for their realization, and the limitation of economical means, it becomes even clearer that a conservation through time is necessary. Sometimes, bad conservation is such that buildings lose their formal characteristics and become ruins. But even conservation interventions themselves are often carried out erroneously

and incoherently, while different solutions are adopted with each single case. The use of colours is very significant: as the use of colours has been adopted for the external surfaces of buildings constructed today, for pedagogical reasons, it seems to be appropriate to apply the same tactics also to buildings of the thirties, which did adopt colours but almost exlusively inside, and in a completely different manner, while the exterior was usually white. Besides, interventions for structural conservation do not take into consideration the exact nature of the materials of the thirties, while banisters, frames, doors and windows are substituted without taking into consideration the character of the original ones. The main source of knowledge for these buildings is the archive of the Ministry of Education, where only in recent years the composition of a relative catalogue has started, for historians and, we hope, for technicians who feel responsable for conservation.

A total reconnaisance of the question of the school buildings of the thirties, a unitary intervention strategy founded upon historical data and the saveguarding of at least the most important specimen would be urgent, but today such a perspective just does not exist. Even the present legislation and relative procedures are insufficient, since a culture for the saveguarding of the architecture of the Modern Movement is not yet developed, especially in the case of buildings with such an utilitarian character. It is generally believed in Greece that building conservation regards buildings up to 19th Century; at least the most important experiences and relative technical knowledge concern this field.

There are several oganisations in Greece which are competent for the saveguarding of buildings: the Ministry of Culture and the Ministry of Urban Areas (since 1973), but also the National Tourist Organisation. This certainly gives rise to antagonisms, confusion as far as competences are concerned, different methodologies and intervention criteria, and finally it appears to be insufficient for the final purpose of the preservation of buildings. The main legislative instruments are law 5351/1932, the so-called "archeological", and a complementary law 1969/1950, laws the Ministry of Culture turns to. It is noteworthy that the 1932 law refers only to architecture realised before 1830 or to buildings later than 1830 that are considerated works of art! This obsolete law is also been used to classify 20th Century buildings as deserving conservation. Moreover, after 1975 and during the 1980's some complementary laws have been passed, which however do not offer a strong and complete enough protective system, whence the Constitutional Court's opinion becomes more and more necessary to solve dubious cases or to interprete laws. Single buildings and building complexes are declared worthy of conservation through Presidential decrees (a procedure adopted by the Ministry of Urban Areas) or through simple ministerial decisions (a procedure adopted by the Ministry of Culture). In this sector burocratic difficulties, inefficiences and insufficiences of the organisations in charge take place, so as the tendency to annul, no matter how, legal orders both from private citizens' side and even from politicians' side, for obvious reasons.

It becomes therefore evident that for the saveguarding of public modern buildings, like schools of the thirties, an appropriate legislative system is necessary, a social consent and a cultural sensibility not yet developed enough in 1990 Greece.

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Translated from German

Functionalist office- and shopfronts in Brno

In recent years the Brno architecture which came into being between the two World Wars has become known to foreign architects and historians. Much of the credit for this is due to Valdimir Slapeta, who is taking part in this conference. The Brno functionalist buildings are now included in the lecture courses of several European universities. In my opinion, the significance of this architecture lies not only in the individual buildings but, more importantly, in the general building quality of projects carried out by architects who are today unknown and by construction firms building without the services of an architect. This quality is also evident in small-scale projects, such as tram stations or office entrance halls. These fittings of officefronts provide evidence of the former cultural situation, since, they combine on the one hands, the need for practical functionalism in terms of maintenance and durability with, on the other hand, the desire to produce a complete artistic conception which is adhered to by the designer.

By studying photos from the period as well as existing evidence it can be demonstrated that after 1933, with the receding economic crisis, a significant revival in terms of design-approaches with respect to officefronts can be seen and that, in the latter part of the 1930's in the old city centre, office buildings were to a large extent a "shopfront" for the modern style of building. It can also be demonstrated that, in the design of officefronts by functionalist architects, to a large extent often German or Jewish designers took part, who are no longer known today.

Today we are probably no longer able to determine the significance of the fact that Brno became a multinational city in the period between the two World Wars. Contacts between the Czech, German and Jewish populations took place at the time not only in terms of scientific, social and political matters, but also cultural affairs. The coexistence of various cultures in the same city had a mutually strong and enriching influence, also providing a certain shield against undesired extreme and dogmatic elements. For this reason modern Brno architecture is admired today for its consistently high quality, for its functional qualities and because, instead of manifestos, buildings were produced to house the existing population

Also in terms of office entrance halls, in the course of the 1930's, various aspects became standardised, resulting in their being repeatedly used. This concerned, in particular, the showroom displays and undivided glass walls which often formed part of office entrance halls. The showroom window frames and the entrance doors were as a rule made of steel, covered with a polished, non-corrosive copper or, occasionally, bronze. Entrance halls were often decorated with white or black imitation marble or with real pink, gray or brown Italian marble. The advertising displays were made of chromium-plated copper, enhanced with colours such as red, pink or blue. The officefronts were frequently fitted with rolling-shutters which, in the summer, also served as awnings.

All industrial work performed was of the highest quality. For example, there were specialised companies which took care of the locksmith work, gradually producing working methods which, when applied, virtually did away with errors and maintained a high-quality of workmanship. Most of the officefronts constructed with such workmanship managed to survive the War and have been maintained to this day in relatively good condition.

The changed conditions of ownership during the communist rule brought about a certain deterioration in maintenance of office buildings and declining cultural understanding had an influence on the appearance of the entrance halls. Paradoxically, the rebuilding of these offices, widely seen in the 1980's, was not undertaken as a result of problems caused by wear or defects or as a result of the physical appearance of the old officefronts. The complete opposite was true. Those recently rebuilt showrooms are less beautiful and less practical, when compared to their predecessors from the 1930's. On more than one occasion an original bronze door was replaced with a new aluminium one. For this reason it is obvious that the total destruction of the functionalist officefronts resulted from a lower cultural understanding of those who used them, as well as from a need for change - even though it was a change for the worse.

Unfortunately, the historical building society contributed to this trend in a certain sense by trying to do away with functionalist officefronts and to return ground floor architecture of buildings to a style in vogue in 1900.
This is a questionable image, since Brno is not a historic city in the sense that Prague or Olmütz are, rather it has always been a business metropolis whose spirit could be found in the fur-trading district. Although various functionalist office entrance-halls have been registered under the protection of historic buildings, such protection does not seem to be sufficient, especially in the present situation in which our country has been engulfed by the free market. The only way to save the functionalist officefronts is by registration and rigid protection on the part of the historic building society.

Restoration of functionalist officefronts has been required in only one instance: for a 1933 design by the well-known modern Brno architect, Arnost Wiesner. The reconstruction was undertaken at the behest of two young architects who came up with a new solution for the problem of officefronts. In spite of a series of obstacles and difficulties (e.g. curved glass walls of the size required are no longer being made, which meant that existing cracks had to be sealed and fastened with special copper frames), it was nevertheless possible to restore this officefront to its original condition - at the cost of having the architects on site every day and, as a result, with practically no profit going to those who undertook the project.

To conclude my contribution, in which I have tried to shed some light on the deterioration of functionalist architecture relating to officefronts, I would like to ask you for your moral support for this cause: the struggle that is going on in Brno to preserve these valuable functionalist officefronts.

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Conservation of historic buildings from the new architecture of the 1920's

The theoretical discussion concerning modern architecture from the 1920's - or the "new architecture" - has lost much of its controversial social, ideological and aesthetic character in terms of contemporary architectural criticism. As recently as the 1960's a new, more serious quality has emerged as a result of a necessary historic revision, one which is not merely recognized as a passing phenomenon or as some subjective quirk within the various loosely-connected movements of architectural teaching theory of recent architectural history, but as a result of a far-reaching, objective, historic presentation of the true facts. [1] One thing which resulted from an often superficial or incorrect analysis of social tensions in the period between the two World Wars was the increasingly slanderous and tumultuous polemic of a historic interpretation of the facts which, certainly in the beginning - the view of the architecturally poor efforts following the Second World War - was encumbered on the one hand by attacking the "new architecture", and on the other hand by uneasy attempts at rectification by evoking the early Modern Movement. [2] Finally, since the 1970's as a result of the post-modern school discussion with reference to the actual results of a misshapen and degenerative modern philosophical view, there has been a significant synthesis of vision and objectivity. [3]

In the meantime, however, the serious historiographer of the new architecture has reached a stage of research which, to the extent that most of the important personal representatives, the "key witnesses", have died - with growing emphasis on specific historic problems - poses some very basic questions with respect to an elementary understanding of architectural conservation. The polemics surrounding the evaluation of the "new architecture" and the rigorous development of far-reaching socio-historic obligations relating to architectural design (with certain exceptions; e.g., where more stringent preservation of historic buildings is called for) confuses or hinders the historiographer's view of the heritage of the Modern Movement's actual architectural design. In practice it [the new architecture] was treated or maltreated just like any other disposable feature of the architectural environment. It also was adapted to meet new requirements, converted or destroyed according to the standards of a transient pragmatism of the time - worse, when it went hand in hand with a desire for destruction. First, in a wider context, the confirmed realisation that the Modern Movement represented an important and not merely a passing factor in the spiritual and materialistic culture of the early 1920's. As a total view it represented as it were, in terms of architecturally concrete proposals, the foundation of recent artistic history. It supported any kind of conservation, from a desire for more original declarations in favour of historic research as well as for the short-term interests dictated by an superficial view of history. And the question whether the surviving architectural examples represent a particular historic period, irrespective of whether they have been "closed" - is a question to be decided by the conservators.

Public conservation of monuments has been practiced since the 19th century. As a result of the broadening of the subject and its sphere of competence, hesitantly at first, but today with increasing emphasis, contemporary history is becoming receptive to the architectural conservation of recent history. Originally restricted to "classical monuments" (a high point in interesting utterances by the representatives of cultural history) - churches, citadels and castles, feeling a sense of obligation, had from time immemorial engaged in heated discussions about the development of the Modern Movement in order to exalt the obviousness of their own opinions in public life, a pretention with respect to the cultural-historic heritage in their collective realms - from individual monuments to whole cities, or the village statue, from "traditional" to modern representative examples of all cultural strata. [4] Increasing, as a result of efforts to establish continuity of architectural accomplishments, "creations" which were never intended as monuments - mausoleums, so-called monument architecture such as statues, stelae, etc. - were characterised under the plural noun, "monuments", in serious German architectural terminology.[5] This led to an increasing interest in conservation of historic buildings, especially the architecturally avant-garde creations of the 1920's and early 1930's - as well as those which had been built as ideological testimonials or were sucked out of the swamps of historic ideas with their inherited traditions, and with it a kind of "monumental awareness" in contemporary thinking which, rooted in memories and mausoleums, had little to do with the events of their own time. A bitter controversy arose between the traditionalists and the moderns, a battle which covered a

period right up to the very threshold of their own times as to the historic relevance of monuments or "monsterments". When the avant-garde efforts were finally accepted as it were as part of the official public inheritance, the protagonists of which were not only indifferent or saw it as being absurd, but rather held this as a firm conviction - but with reference to the moderns this was firmly denied. A "real" awareness of monuments - i.e. not a fashionable or nostalgic "notion" of such - will encompass the whole historic, aesthetic and monumentally valuable heritage of the past and the present; the contemporary perception of monuments can only reject the excellent efforts of the moderns as did traditional opponents of historic building protection by accepting all the consequences - those of conservation (not conservatism) and those of restoration (not restorationism) - a statement that must be made in the face of the existing architectural situation as well as formally in the form of a register of the monumental heritage of the new architecture. If this were not so, attending this conference would be a waste of time.

If one renounces the controversial ideas of the early Modern Movement, whose representative works were sometimes obstructed from an unconditional admittance as monuments, then there remains only one argument that raises resentment against them: the limited historic value as measured by the traditional influence of monuments. The many traditional duties which monuments serve appear to be still too "recent" for a serious interest in conservation of historic buildings. An age limit of 100 years, which sometimes played a role in older monument thinking as a yardstick in time for measuring the value of monuments, has long since been abolished both legally and in practice as it relates to monuments. The present time with its changing environmental views is moving faster than those interested in monuments once emphatically called to our attention. And this haste makes it necessary to register and document the remaining original inheritance from the new architecture, to decide upon a careful conservation approach and to have this carried out in part. Until recently much was left to chance. Where practical examples of modern monuments were found, the necessary meticulous care was not always taken - in the sense of techniques of long established monumental care to preserve historic buildings (conservation), to return them to their original status (restoration), if feasible to duplicate them or even to transpose them. Only by exception would they thus be of interest to a museum. (It is possible to make a museum piece out of every monument). The mummification of monuments in museums lies outside the realm of conservation of historic buildings. Only when the principle of tolerance has been reintroduced and when, in exceptional cases, the demands and possibilities exist to recreate a building with its original inventory (or near-original), will the museum be looked upon as the ultimate solution.

A more important condition for not accepting the new architecture are the costs of preserving its architectural heritage, the reasons for which can be found in the specifications of preservation materials themselves. Besides their limited historic value there is another factor that should not be underestimated. As a measure of support for those who favoured the often ill-accepted "functionalism" - i.e. the use of buildings for social ends - the efforts of the new architecture were used without limit for social dynamic, social "conditioning" and "re-conditioning" purposes before they were assigned to the antiquarian status of a museum. There remained serious underlying questions which were potentially provocative; social action which often reduced the original value beyond recognition. The hidden value or loss of value which restoration, replicas or "reconstruction" attempted to accomplish was frequently hindered, if not made impossible, by the social process itself, supported and delayed by the fixed layers of possessiveness which can be found in front of, inside and near every building structure. Contrary to emerging circumstances, the will to protest against the traditionalists, the recognition of the modernists in terms of the unusual or the exceptional remained untried among the efforts of the protagonists of the new architecture, often experimental, provisional, often seemingly from moment to moment with no long-term view that, the necessity to use inadequate available technology (functional) and architectural methods, resulted in a similar necessity for the withdrawal of the demand in terms of historic buildings of need for conservation and restoration for the present and possibly for the foreseeable future. The resulting contradiction is perhaps most profoundly painful in terms of historic buildings: functional and architectural defects, born of momentary improvisations dare not be abandoned; the valuation of original historic, aesthetic or monumental value requires this. One is aided in this more or less by the fate of a straw man: pseudo originality; the dialectic of the protection of substance and of structure permits many an objective justification insofar as after professional judgments of historic buildings which revise existing or original confidence or a substance capable of being copied, as well as those dictated by a geometric limitation or being encircled by the principle of conservation.

Often - but certainly not always - the new architecture made use of architecturally untried materials as well as using traditional building materials in new ways, thereby preprogramming defects which would pave the way for unsolvable difficulties. The all-encompassing outer surfaces of the cubic-shaped buildings covered with plaster are, for example, so susceptible to shifting, shrinking and source cracking that, at least in terms of conservation of historic buildings, in an unusually short period repair work to the outer finish will be required in order to reduce the impression of nonchalance and negligence. This factual situation was blamed on the efforts of the new architecture. They could not age with dignity nor die a beautiful death - an argument which, considering the diminished demands of the longevity of ancient and more recent buildings, present-day modern buildings notwithstanding, is of fundamental significance from the standpoint of historic buildings: contemporary conservation of historic buildings takes refuge in the subject of preservation, not to be able to "succumb to a beautiful death" (something the heritage of the new

architecture in fact in most cases is incapable of doing), rather in order to assure them a permanent place as historic monuments - as they say in rather course architectural terms - "before the roof caves in". For this purpose the demanding techniques of preservation and substitute materials (e.g. the end of cracking, the advent of high quality elastic plaster and roofing) concerning which, proudly, all long-term predictions were bound to fail, something that is appropriate vis-à-vis the scepticism surrounding the conservation of historic buildings. The conservation emergency, however, suffering from an acute desperation and the threat of destruction, is faced with a decision: show a readiness to compromise or, even better, to synthesise the divergences of demands and witnesses.
The successful examples of the numerous preservation treatments of historic buildings of the architectural heritage of the early new architecture, tendencies which can be found of the acceptable, generalised critical methodologies - make the objective inconsistency more shiningly clear than if it were capable of being polished.

The Bauhaus buildings in Dessau, 1926, constructed with their closed flat roofs, standing as a beacon of a new architectural attitude, controversial to the point of a petition for demolition, with massive, friendly wooden roof seen from the perspective of the workshop wing, which was also in the days of the fascists for training purposes, damaged in the War and since 1948 restored with no regard for its original architectural demands, in 1964 - after the strict aversion on the part of the controlling powers of the DDR started to wane with respect to the new architecture - was accepted as a monument, was architecturally restored starting in 1975 and - when the DDR government saw the Bauhaus heritage for propaganda purposes - consecrated it a State ceremony. The restoration of the workshop wing, e.g. a totally new glass wall using a substitute material, a light metal alloy; to get rid of the defects in the roof a somewhat higher increase in the height of the building, adorned with an equally unoriginal inscription.
The house in the Horn in Weimar, the area housing institutional buildings, was built in 1923 as an experimental exhibition piece in order to be made habitable, by immediately building an extension; without the considered addition of a slanting roof. Registered since 1980 on the district Erfurt list of monuments, the building has been restored by its tenants according to the principles of preservation of historic buildings, so that the extension, even though the original concept contradicts the idea of an autonomous "all round" architecture, was intended from the beginning not for demolition in the sense of a "back house" in favour of the original building - but as an historic building concession to the demands of the tenants. The original central room, conceived as the living room, is now a museum piece.

The Bauhaus buildings designed in 1928 in Dessau and inaugurated in 1930's as a trade union school near Bernau, not far from Berlin, the utilization of which was disrupted during the days of the fascists, were architecturally expanded in the 1950's. The remaining construction cores have been under the strictest monument protection (the Central Monuments List of the DDR) since 1979. In 1988 a half-hearted attempt at restoration went wrong due to architectural faults, functional requirements of a "rear building" which were too demanding and could not support the extension, causing the collapse of the "Free German Federal Trade Unions" of the DDR.

The Weimarhalle in the city of the same name, which came about as a result of the Weimar school of design in 1932 - following the path forged by the Bauhaus - in the form of "moderate new architecture", gradually evolved and since 1980 has been registered a historic building, having survived the turmoil of the War, when it was "in use" as Officers Headquarters of the Soviet Army and afterwards, under observation as a historic building, was so sloppily restored that repeated restoration has been required since - one of the many problems areas which are symptomatic of the state of affairs.

Notes

1. In the second edition of his Das Bauhaus (1919-1933) L. Lang, (Idee und Wirklichkeit - Fantasy and Fiction, Berlin 1966) issued a warning about the lack of objectivity in the interpretation of historic facts, which the idea of the new architecture in Europe aptly represented: "The Bauhaus has become an established artistic concept, the interpretation of which is certainly not always treated with the necessary objectivity" (p. 13).

2. With the terse sentence: "The position taken (with respect to the legacy of the Bauhaus in an advanced Socialist society) was not always a positive one" K.A. Fuchs, die Stellung des Bauhauses in der Geschichte und die Bedeutung seines Erbes für die entwickelte sozialistische Gesellschaft (in the Historic Position of the Bauhaus and the Significance of its Legacy for an Advanced Socialist Society) - published in Wissenshaftl. Zeitschr. (the Scientific Newspaper) of the College of Education for Architecture under Weimar architecture, Numbers 5/6 1976, p. 450 - played down the Communist propaganda unleased against the new architecture in the 1950's and, with the inane term "Bauhaus Pedagogics" for "training Socialist architects in the DDR", had implored J. Stahr, a representative of the new architecture, for reasons of environmental aesthetics, to accept this position.

3. See Ch. Schädlich, Der Postmodernismus, eine alternative Architektur? (Post-modernism, an alternative architecture?), published in Architektur der DDR, Number 6 1982, p. 340 opp., with an apologetic, totally worthless declaration that the new architecture was in fact "Socialist architecture", despite an existing albeit invisible post-modern movement in the DDR and other socialist states.

4. See M. Wohlleben, Konservieren oder restaurieren? Zur Diskussion über Aufgaben, Ziele und Probleme der Denkmalpflege um die Jahrhundertwende (Conservation or Restoration? A Discussion of the Responsibility,

Objectives and Problems of Preservation of Historic Buildings from the Turn of the Century) published by the Eidgenössisch Historic Building Society, Technical College of Education, Zurich, p. 7), Zurich 1989.

5. A. Riegl was one of the first to distinguish between "desirable" and "undesirable" monuments in this context in Der moderne Denkmalskultus, sein Wesen und seine Entstehung (The Nature and Origin of the Modern Cult of Monuments) published in 1903, collected letters, Augsburg/Vienna 1929, p. 144 - 193).

6. For example the paintings made by the mentioned events of Walter Gropius (Schrifttafel zur Erinnerung an die Weimarer Nationalversammlung am Deutschen Nationaltheater in Weimar, 1920; Denkmal für die Märzgefallenen daselbst, 1920/22; Grabmäler Reis, Mendel und Dienert in Weimar bzw. Dresden, 1923/24, 1930/31 - Nerdinger, W., Walter Gropius, Berlin 1985, S.46, 301-303).

7. The value of antiquity is in the axiology for the care of monuments explained by Alois Riegl in the text mentioned in note 5, with a partial accepted claim in relation with the publics' value compared with the real value of the monument.(S. dazu und zur Begriffskritik: Wirth, H., Werte und Bewertung baulich-räumlicher Strukturen. Axiologie der baulich-räumlichen Umwelt (HAB Dissertationen, H.2), Weimar o. J. (1986).

8. The danger that structural care for monuments will replace the individual care, instead of amplify, is ironically described by Hoffmann-Axthelm, D., How is history going into design ?, in: Aufsätze zu Architektur und Stadt (Bauwelt Fundamente, 78), Braunschweig/ Wiesbaden 1987, p. 187., rightly warning: "Die Denkmalpflege wird strukturell. Schutzwürdig sind bestimmte Characterzüge des historisch Gebauten - Stukturmerkmale, die von konkreten Einzelobject jeweils ablösbar und auf Ersatzträger übertragbar sind. So können z.B. Blocklinien, Traufhöhen, Erker, abgeschrägte Ecken usw. als charakteristische historische Erkennungsmerkmale festgehalten werden, ohne dass man sich über den Abriss des gesamten Blocks weiter zu bekümmern braucht....".

9. A winged word that refers to John Ruskin and implies the consistent care for monuments, when every permanent change will be omitted, with an orthodox respect for the original design.

10. Berger, H., Bauhausbuildings as object for care of monuments, in: Wissenschaftl. Zeitschr. d. Hochschule f. Architektur u. Bauwesen Weimar, H. 5/6, 1976, p. 556 - 559.

11. "50 Jahe Bauhaus", a.a.O., p. 438.

Zonnestraal as a ruin, drawn by Hermann Wirth

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Bata - a maecenas of modern architecture

Before the Second World War there was in Czechoslovakia - in addition to Prague and Brno - a third important centre of modern architecture: Zlin, the seat of Bata Shoemaking Company.

When Thomas Bata (3 April 1876 - 13 July 1932) opened his shoemaking shop in 1894, there were only 2834 inhabitants in Zlin. Until 1935, their number rose to 40.000 and the number of houses increased from 499 to 2.676. The little factory, which was mostly producing slippers, had in 1894 some 50 workers and manufactured 50.000 pairs of shoes a year. In 1904, Thomas Bata went to the United States together with some of his managing workers and he spent one year in Lynn, Minnesota, where he got acquainted with the industrial methods of production. When he returned, he introduced the new methods in his factory. A new three-storey production shop was constructed, 80 m long and 20 m wide, where 500 workers could be employed. The company started manufacturing light shoes made of a combination of leather and paper that were replacing the old heavy footwear and were also cheaper. Thus, Bata could increase the production which in 1910 reached 3.000 pairs a day. Another boom came during the First World War when Bata managed to get a Government contract and supplied shoes to the Imperial and Royal Army of Austria; by this, in addition, he prevented his workers from being mobilized. When he was allowed to employ prisoners of war, he was able, with 4.000 workers, to further increase the production which reached 10.000 pairs of shoes a day.

The greatest boom, however, came after the First World War. In 1922, Alois Rasin, the Czechoslovak Minister of Finance, succeeded in increasing the exchange rate of the Czechoslovak crown. Thomas Bata, whose factory was then manufacturing about 8.000 pairs of shoes a day, decided to cut down the prices of his shoes by 50 per cent as of 1 September and the salary of his workers by 40 per cent; at the same time, he ensured that his workers could have all the basic needs, such as meals, clothes and accomodation, at half the price. The decision was followed by a reorganisation of the factory and by the introduction of the so-called Bata System which was based on a strong personal motivation and an autonomy of the particular departments which were in fact trading with each other. Thus, Bata could create an atmosphere of competition inside the factory and increase productivity. As a result, the output could increase from 8.000 pairs of shoes with 1.800 workers in 1922 to 75.000 pairs with 12.000 workers in 1928, and even to 144.000 pairs with 18.700 workers in 1932. By the end of the 1930's the Company was making almost 200.000 paire of shoes a day. At the turn of the 1920's Bata started constructing branches of his Company in other European and even overseas countries. The rapid development of the Company brought about the necessity of a new organization of building and town-planning activity at Zlin as well as in the other industrial towns of the Company. As a result, a Construction Department was established at Bata Company.

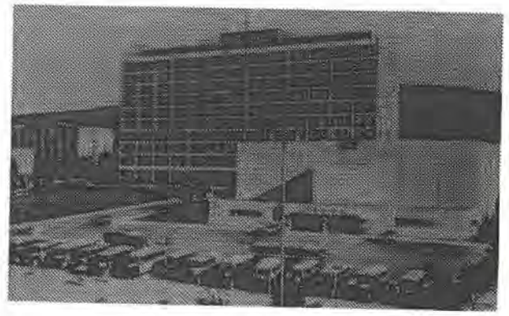
Thomas Bata was not informed about the principles of modern architecture. Nevertheless, following the example of English garden cities he wished to have his factories and towns amidst gardens. In 1911, when he was building a new villa of his own, he asked Jan Kotera, professor at Prague's Academy of Fine Arts, to alter the plan of the house. By the end of the First World War he invited Kotera to prepare a regulation plan of Zlin's centre and a plan of the first garden city, a fragment of which was then realized. Until his death in 1923, Kotera was Bata's adviser in architecture matters, being followed by professor Gocar.

In 1923, architect Frantisek Lydie Gahura returned to Zlin after graduation from the Academy. He was appointed Municipal Architect here and he designed the first housing estates scattered in a chessboard layout on the slopes around the town, the first simple detached and semidetached houses, Zlin's centre with Masaryk Schools, hostels for single men and women. All the structures were situated along a green lateral axis and completed with Bata Memorial, Hotel Society House and a big cinema. Gahura's plans materialized Bata's idea of garden cities with factories where the workers would be "working collectively and living separately". Gahura, as well as his collaborator Arnost Sehnal, contributed to the standard construction system of Bata Company which was based on a reinforced concrete skeleton with a 6.15 m module, with circular columns made by means of sliding forms, and filled with brickwork. As of 1928, the system was applied to all industrial and public buildings constructed by the company. At the turn of the 1920's, a Construction Department was established at the Company. Among its workers, there were Janak's student Antonin Vitek, who then mostly designed and developed several types of houses and prepared regulation plans for some industrial towns (Best, the Netherlands), Miroslav Drofa, who specialized in single-family houses, and also Vladimir Karfík who, due to his international horizon and experience gained in Le Corbusier's and Frank Lloyd Wright's studios, was a leading personality in Bata's team and designed the most important structures, such as the Social House Hotels at Zlin and Batov, department stores with glass walls in Bratislava, Brno, Liberec and Amsterdam, as well as, shortly before the Second World War, the first skyscraper in Czechoslovakia, with 16 storeys, for the new Company Headquarters. After Thomas Bata's tragic death in his airplane that crashed after take-off at the Batov airfield on 13 July 1932, the Company was taken over by the step-brother Jan A. Bata, who in the late 1930's widely developed town-planning by employing some outstanding young architects, such as Jiri Vozenilek, Hubert R. Podzemny and Vladimir Kubecka, and regional planning by inviting in some cases external architects to cooperate, particularly Bohuslav Fuchs and Jindrich Kumpost of Brno who prepared plans for regions in southern Moravia in which Bata was interested. In 1935, Jan A. Bata invited Le Corbusier to Zlin for consultations. Le Corbusier's visit resulted in his regulation plans for Zlin, Hellocourt, plans of department stores for France and of the Bata Pavilion for the World Exhibition in Paris. These projects, however, could not be realized, as the author's architecture was too individualistic and the plans were also too expensive for Bata. The story has therefore been known in the history of architecture as one of the episodes in Le Corbusier's vain search for a generous and strong client. The most interesting event in the field of architecture during the war was a competition of invited architects in 1940 for a Catolic Church and Bata Memorial with interesting plans entered by Jan Sokol, Kamil Roskot, Josef Stepanek, Josef Gocar, and some other architects.

Bata Company was nationalized after the war in 1945 and Vladimir Karfík as the head of Construction Department was replaced by Jiri Vozenilek in this position. The main task in the first post-war years was a reconstruction of the factory which had been partly destroyed, and a development of the town eastward where - according to a new regulation plan - new housing estates were to be situated which, however, did no more include single-family houses, but blocks of flats and collective houses designed by Vladimir Karfík, Miroslav Drofa and Jiri Vozenilek. Bata's Standard System was then for the first time applied to the construction of dwelling houses.

In 1948, Zlin was renamed Gottwaldov, after the first Communist president. However, people continued bringing flowers to Thomas Bata's tomb in Forest Cemetery designed by F.L. Gahura. Thomas Bata's spirit seems to have been present in the town during the last forty years, the spirit of the man that gave the town and its architecture a special style of his own. Stalinist historism almost did not touch the town. On 14 December 1989, on the eve of Thomas Bata Junior's return to his native town, the town was renamed again and got back its traditional name: Zlin. The broken traditions of the town, both in industry and in architecture, will be certainly further developed in the new free Czechoslovakia.

Vladimír Slapetas' contribution was concluded by a film of Le Corbusiers' visit to Zlin in 1935.



The centre of the city of Zlín in 1936
right- the big cinema of Frantisek Lydie Gahura, 1932
left- the Hotel Society House of Vladimír Karfík, 1932-33

Vladimír Karfík: shop BATA, Amsterdam, Kalverstraat, 1937

Olgierd Czerner
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Some remarks about the Modern Movement in Poland

After nearly 150 years of subjugation Poland regained independence in 1918. Since the country was economically ruined and functionally divided it became necessary to rebuild towns and work establishments, to link the (former) three provinces with a sensible transport network and to transform Warsaw into the capital of an independent state.
The first post-war realizations represented a continuation of pre-war experiences.
The "cottage" style was continued. The most renowned representatives of this trend included: Romuald Gutt, Tadeusz Tolwinski, Rudolf Swierczynski and Aleksander Bojemski.
The relatively small number of public buildings constructed after 1922 was designed in the spirit of academic classicism by architects who graduated at the Academy of Fine Arts in Petersburg. Of this group Adolf Szyszko-Bohusz in Cracow, Marian Lalewicz and Kazimierz Skorewicz in Warsaw, deserve attention.
A certain improvement in the economic situation occured in 1926 when a decision was taken to construct a new port (harbour) on the Baltic Sea and to develop the nearby town of Gdynia. Any blame for missed urbanistic opportunities must be put largely on the shortage of archtitects in Gdynia (out of 600 projects accepted in Gdynia in 1932 only 8% was submutted by architects).
The stylistic-decorative trend, which originated before the First World War and was continuated in Cracow, has often been expressed in crystall forms, bearing likenes to expressionism. The Polish pavilion at the Arts Decoratifs Exposition in Paris in 1925, designed by Jozef Czajkowski, was the most outstanding example of this architectural style. Examples of such expressive architecture may, of course, also be found in Cracow.
In 1924, Mieczyslaw Szczuka, a plastic artist, began to organize the group "Blok" and to publish a periodical "BLOK". Other artists of the left grouped around him, like Wladyslaw Strzeminski, Katarzyna Kobro, Henryk Berlewi, Henryk Stazewski. In December 1924 architect Szymon Syrkus returned to Poland from Paris and became a member of Blok.
Texts written by foreing artists were also published in the journal BLOK. In No. 1, L. Mies van der Rohe's "Building", in No. 5, van Doesburg's "Renovation of Architecture" f.e. In No. 6-7 (September 1924) M. Szczuka published his credo titled "What is constructivism?".
A new artistic group, which now included more architects, was established on the initiativ of Szymon Syrkus at the end of 1925 and the beginning of 1926. This group began to publish a periodical "Praesens", which endeavoured to propagate new trends in art and architecture.
Henceforth, the Polish environment of progressive architects became equal to similar circles abroad and entered into closer relations with them.
Five Polish groups took part in the international competition for the Palace of the League of Nations in 1927. After it, progressive architects from various countries established the CIAM organization, which included Polish architects too.
Particularly active there were Szymon Syrkus, Helena Syrkus and Jozef Szanajca, partner to Bohdan Lachert.
In Poland, besides propaganda and program activities architects began to realize modern conceptions. As a result of their authors' progressive thinking most of the realized works involved inexpensive but functional residential quarters (the Rakowiec and ZUS districts in Warsaw).
In Upper Silesia, where the provincial authorities could dispose of both more capital and independence, the construction of workers colonies made up of row houses in Piekary, Makoszowy and Pawlow was begun in 1927. The designer was Jan Bienkowski. In general, the architects in this region of Poland wrote seldom or not at all. On the other hand, they took suitable advantage of the financial possibilities there and built in a contempory style. Perhaps the Silesian architectonic avant-garde was not, in the sense of form, very imposing, but it embraced a wide scope architecture.
Some architects from the group Praesens and the others too, designed some pavilions on the National Exhibition which was held in the middle of 1929 in Poznan. Although the modern pavilions formed a very small part of the whole, it was, however, probably this exhibition which launched the avant-garde direction in Poland.
After the year 1933 was a period of continual innovative experiences, also in the sphere of realizing non-residential objects. Poland's economic development and the growing richness of a part of the society caused architecture to become more elaborate and conditioned carefully executed work. Among the young architects fascination with Le Corbusier was manifested. This is undoubtedly why the house in Przyjaciol avenue in Warsaw erected according to J. Zorawski's design was the best embodiment of Le Corbusier's five principles in Polish Modern Movement.
A little different was the situation in the South Poland, in this area called till 1918 Galicja, occupated by Austria.
In Lvov, the Faculty of Architecture of the Polytechnical High School was older than the one in Warsaw. The professors there were connected with Vienna and Austrian traditions and the works of Adolf Loos. Therefore the avant-garde architecture in Lvov and its surroundings, in Cracow too, was different. Less effective, but more honest. Some stylistic forms in it were different.
The development of the Modern Movement was interrupted by the Second World War.

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The modern house in Rome: an exemplary quarter for the 12th International Congress on Housing and Town-planning.

Introduction

I think that the nearly-forgotten houses that were built in Rome in parcel no. 24 of Garbatella quarter, for the 1929 12th International Congress on Housing and Town-planning, deserve more attention and care. In fact, from the architectural point of view they are a unique sort of homogeneous example of the particular kind of transition towards modern that architecture underwent in Rome during that period. Roman history is strongly represented and characterized by the continuity of architecture and building, far from the declarations and prophecies that are peculiar to the pioneers of the international Modern Movement: the "Roman way" in rational architecture goes towards the gradual simplification of its eclectic language, where the stylistic repertories fade out naturally, especially in the case of low-cost housing.
The social contents of modern Roman housing is still connected to the 19th Century philanthropic idea of the "educator house" which suggests the idea that a healthy and decent house can redeem the lower classes. Even during the facist period, with its cultural uncertainty and its tolerance towards new architecture, mostly due to an implemental approach, some experiments and research projects were carried out fostered by international cultural contacts.
The architects who in the 20's called themselves "Roman rationalists" were in fact very different from the rest of Europe: they were aware that changes could not be avoided, but they tried to avoid going off the deep end by connecting the new and the ancient.
Formal simplicity can be achieved by deliberately keeping alive the main traditional rules in the art of buildings. Thanks to this connection between old and new languages, until the Second World War in Rome modern architecture adapted itself to the historical city and the ancient suburbs, with very few traumatic episodes.
An interesting example of this phenomenon can be found in the differing opinions about the facing of the outer walls in modern buildings. Following the renaissance and baroque examples, the Roman rationalists were mainly concerned with making their buildings long-lasting, and with protecting their structures adequately without making the static mechanisms evident.
Aschieri, one of the protagonists of modern Roman architecture, and the designer of some of the houses in parcel 24, was accused of not following the rules of international rationalism in the use of materials. He answered that any external facing (either stone, brick or plaster) is as rational as it was in St. Peters' dome and in the Colosseum since in all cases it was used to preserve the bearing structures from the weather outside and not to "embellish the building"(1). His attitude - peculiar to, but not isolated from different European tendencies - was due to all but a conservative interpretation of tradition.
In the second half of 1929, when the "model houses" began to be built, Rome housing was still strictly influenced by the "Barocchetto" (little baroque: a re-interpretation of the minor architecture of the 17th and 18th Centuries) and by the "Viennese" (a Roman version of the secession, which was very popular before the First World War and left some traces on the buildings).
The Italian Institute for Council Houses (ICP: Istituto Case Popolari), in particular, built a number of low-cost and

General plan of council houses at parcel 24 in La Garbatella quarter, Rome

high-quality blocks of flats in which the facades were designed in imitation of the decor of the upper-class houses.
Some symptoms of the renewal were already evident in the second half of the 1920's. Some representatives of this renewal belonged to a group of young architects (including Aschieri, De Renzi and Marchi, who worked on parcel 24 at Garbatella) who won the 1925 Competition for the Quartiere dell'Artigianato in Viale Aventino in Rome. They took part in the 1926 Competition for the Palazzo delle Corporazioni, submitting two projects totally different from the historical repertory. Between 1927 and 1928 Innocenzo Sabbatini designed the "Suburban Hotels", which were built in the Garbatella itself, with innovative typological and formal solutions.
The changes became more evident in the projects that some Roman architects sent to the first Italian Exhibition of Rational Architecture in 1928. In fact, more than half out of the 43 exhibitors had their office in Rome.
In 1929, in the Rome Palazzo delle Esposizioni, a "model village" was built, according to criteria of economy by transforming into pure volumes the "rural" requests and the historical suggestions of the domus romana - with Pellizzari and La Padula as designers - with an eye to Italo Gismondi's archeological remakes.
I am quoting these new research projects among many that were carried out in Rome in those years, because they are closer to the subject we are dealing with, and because they show the originality of the roman architects, in comparison with both the international modern context and the trends of northern Italy.
The interpretation itself of these changes was different from the "evolution" of other cultural environments. Piacentini, who was one of the most famous and contradictory representatives of the roman architectural policy during fascism, was one of the first who very clearly interpreted the movement towards modernity as a "return": a return to the building history of the place, to the essential simplicity of ancient buildings and to traditional materials.
In that case modernity was seen neither as progress nor as evolution: "the wall surfaces become smooth again, the whole composition goes back to elementarity, and decoration is confined to where attention must be drawn. It is nothing more than the ancient laws of the past which return to condemn all that was perpetrated in the last century, to censure forever the chaotic, pompous, and plebeian architecture that mixed together pieces from any country, any time and any trival style such as Art Nouveau"(2).
Piacentini was convinced that experimentation is useful, provided that it is performed out of Italy, and in this he agreed with many other representatives of Roman culture: he was convinced that our cities are too important not to be protected against the dangers of too radical innovations. However, as far as "suburban areas" are concerned, the thought that some experiments can be performed, provided that they can slowly be absorbed by and adapted to the historical city (3).
In this light, and because of the simplicity of their volumes and the "realism" of their design, the houses of parcel 24 are a good example of this prudent and anti-ideological approach.

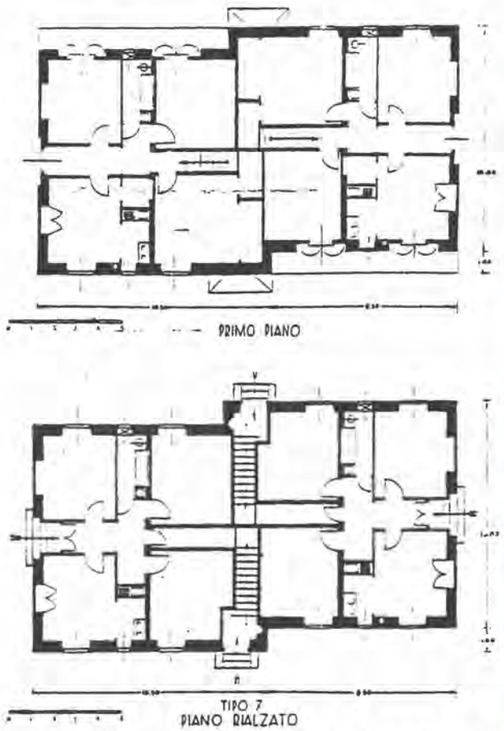
Buildings and architects

In the first months of 1929, for the 12th International Congress on Housing and Town-planning to be held in Rome - after a previous choice of Milan - five main subjects were chosen for the lectures: namely, the development of Rome's town-plan; the "modern" design of the historical city; the multi-family houses in big cities; how to build new suburbs around historical cities; funds for medium-level and council houses (4).
The two latter subjects, in particular, had a special relevance because that kind of housing was undergoing a period of crisis and the government was trying to convey private money to that enterprise - even restrictions on renting would be eliminated by 1930. Therefore great attention was drawn to the architecture of council houses. Experiments "from life" were decided to foster attention on the subject.
The first suggestion was to build a model house in via Nazionale, to be exhibited during the Congress on Housing and Town-planning. It was meant to show "ways, tendencies and progress" of the Italian council-housing. In May 1929, on the initiative of Calza Bini, the president of ICP and the chairman of the Congress Executive Committee, it was decided to build a whole small quarter of council houses in which the new ideas and proposals of the young "rational" architects could be illustrated.
Therefore, five of the main Rome building enterprises (Gra, Tudini e Talenti, C.E.S.A.R., Federici and Rosa) teamed up with five young architects who in that period were concerned with renewing Rome architecture: Pietro Aschieri, Mario De Renzi, Mario Marchi, Gino Cancellotti and Luigi Vietti. Each of them was given the task of designing two or three blocks of flats in a 8.372 sq.m. triangular area in the garden-borough of Garbatella, which had been allotted to council-housing (parcel 24).
Both the choice of the area and the kind of low-density buildings show the "anti-urban" character of the fascist building policy, which in that very period was trying to enhance the "ruralization" of the Italian territory. Mussolini himself had dealt with this subject in the famous speech before the Chamber of Deputies on May 26th, 1927 - the Discorso dell'Ascensione - and he also wrote about it in the following year, in an article in "Il Popolo d'Italia" entitled Sfollare la citta (Forcing Cities to be Less Crowded).
The enterprise was financed by ICP, and the control and organization of the works was given to architect Plinio Marconi, one of the designers in the institute. He was given also the non-competitive task of designing a "main-corner-building" on the main vertex of the triangular area.
The planned density was 40 sq.m. of total area per dwelling to be built, with a total covered area of 2.340 sq.m. more or less one quarter of the whole available area. Common rules were established according to the ICP's previous experience. Each area was to be designed with a given number of two or three-room flats, either on one floor ("simplex" flats, one on each floor) or two-story flats ("duplex"), each with seperate independent entrance. Marconi's planimetry established even the place of the entrances around which the flats had to be arranged.

Suggestions included a kitchen-breakfast-room with an alcove for the kitchen table and the sink. In order to keep prices lower and to foster new economical building solutions, the builders were limited to a maximum cost of Lit. 8.000 per room.
In spite of the innovative character of the experiment, rather unusual for Rome, some "conservative" technical restrictions were imposed: the height of the rooms was not to be lower than 3.25 m., and some traditional techniques were to be adopted, such as mixed "Roman style" or brick walls, and iron-beam and hollow-flat-tile floors. New experimental building solutions were to be avoided because of the negative results of previous experiments - such as the "quick-built-houses" in Garbatella itself - and because they were considered unnecessary for two-story buildings.
The buildings were completed within four months, of which one month was taken by the construction of the projects. The whole realization cost Lit. 2.700.000. On the opening date of the exhibition, on September 12th, the buildings were finished, but the quarter and its roads were completed in 1930.
There were 13 buildings, with 52 flats in all, for a total volume of 19.000 cu.m., and ten rooms and two laundry-rooms in the basement.
The general plan is designed as a curtain of two-story houses along the perimeter of the parcel, and a central area containing another three blocks of flats and some common areas: namely, a recreation area at the centre with a fountain designed by Cancellotti, a corner area for a playground, another corner area next to the laundry-rooms, in buildings no.5 and 9, with geometrical wires for hanging out clothes.
Around and among the buildings, the pavement are in concrete pavement stones, and the edges in cast concrete. The boundary walls are made of bricks in the lower part and of metal alternated with brick pillars in the upper part.
And now a brief description of the designers' personalities and the characteristics of their buildings.

Types 6, 7 and 10. (designer : Architect Gino Cancellotti; builders: C.E.S.A.R.).

Arch. Cancellotti, born in Livorno in 1896, was a member of MIAR (the Italian Movement for Rational Architecture) and of GUR (Group of Roman Town-planning Architects). This was his second important work in the field of housing, after his realization of the INCIS houses in viale Romania in Rome (1926). In the 1928 Exhibition of Italian Rational Architecture, he exhibited the projects for a block of flats and an industrial building, where he anticipated some of the solutions for Garbatella (5).
Arch. Cancellotti also designed the three central buildings and the surrounding area.
The type 6 building is made of three duplex three-room flats, with a very clear planimetry that follows criteria of evident rationalism.
Type 7 has four simplex three-room flats, more or less similar to the previous ones.
Type 10 has four three-room flats, one above the other, in two different buildings separated by the entrance



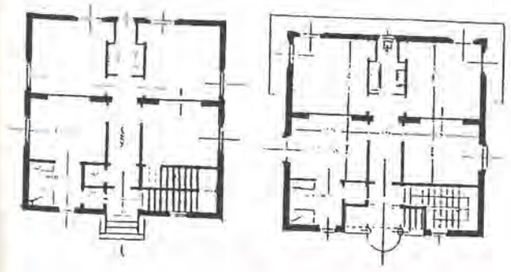
Gino Cancellotti, plans of house type 7 at parcel 24 in la Garbatella quarter, Rome

staircase to the first floor.
Cancellotti's projects, which were awarded the first prize (ex-aequo along with De Renzi) were particularly successful because they were the best realization of the spirit of the enterprise. They were certainly conceived according to modern criteria, if compared to ICP's usual building criteria. The geometry of design is absolutely elementary (see for example the full sills of the terraces), and in fact, with some exaggeration, some contemporary critics defined it "dadaist"(6). Tradition is kept up by some "realistic" housing elements such as roofs underlined by wide overhangs, visible drain-pipes and Tuscan-like roof-tops. The front walls are in simple plaster with brick basements and door-posts.
The rural rationality that characterizes the buildings shows not only the anti-urban intention of the area but also the modern Italian architects' admiration for country housing as a product of functional necessity: a subject which many Mediterranean rationalist architects, from Mercadal to Pagano, were very fond of.
Architect Cancellotti exhibited this project in the second Italian Exhibition of Rational Architecture, organized by MIAR in Rome in 1931, and, together with Architect Montuori, Piccinato and Scaplelli, he also designed the urban centre of Sabaudia, where the clean simplicity anticipated in the design of parcel 24 became so pure as to remind De Chirico's "metaphisical" pictures.

Types 1, 5 and 9 (designer: architect Mario De Renzi; builders: Tudini e Talenti)

Architect De Renzi (born in Rome 1897) is one of the major personalities in Roman architecture of the 1930's.
His design for Garbatella is almost the embodiment of the passage to modern architecture that took place among the young Roman architects. In the same year, 1929, De Renzi designed the Villino Cappellini in via Mecenate, a very refined example of local "Barocchetto" style with a "Viennese" influence. His design for the building type 1 in parcel 24 shows an almost Palladian rationality obtained by simplification and a strict coherence between the plan and the prospect, where some classical elements (the columns and the front gable) remind us of some Scandinavian proto-rationalists, in other words of an attitude according to which modern architecture is never connected to the "ideology of machine", and on the contrary classicism is reduced to its elementary and rational forms. As Saverio Muratori wrote some years later, it "totally follows the course of its natural evolution" (7).
The plan of the two type-1 flats, one above the other, is organized on a central axis that includes the access area to the rooms, halls and toilets, the small ground-floor entrance and the little terrace on the first floor. The staircase, unlike the ones the international rationalists would have designed, follows the symmetry of the prospect. Type 5 and 9 buildings are organized as row of two-story houses.
The prospects of De Renzi's buildings are divided into: a cement plaster basement that imitates striped concrete slabs and arrives at the window-sill in peperino from Marino; a second fillet in Tor-di-Quinto brick up to the first floor, and a third fillet in white Roman stucco framed with striped cement.
The corners of the walls in the internal rooms, which could be bumped into, were rounded to avoid damage and a great care was put in the internal decoration, not in line with the north-European council-housing idea of existenzminimum.
Although in the rounded balconies the painted metallic sills follow the fashion of international rationalism, generally speaking, De Renzi's design has a linear and original development. This realization in particular marked the passage from the Villino Cappellini to the multi-family houses in via XXI Aprile (1931), which are an outstanding example of modern housing in Rome, where any historical influences have disappeared.

Mario De Renzi, House type 1 at parcel 24 in La Garbatella quarter, Rome



Types 4, 8 and 9 (designer: architect Pietro Aschieri; builder: Elia Federici)

Aschieri, (born in Rome in 1889) is an outstanding figure of Roman modern architecture. Although, in 1929, he had designed a famous block of flats in piazza Trento 9, in the case of Garbatella his project went back to rural picturesque solutions, such as the external staircase and the connection of brick pillars and the overhanging wooden beams between the two "main-corner-houses". Out of the three buildings that he designed, namely types 4 and 8 with row flats each one above the other, and type 9 with six row flats, the latter is the most interesting one because it has a very complex structure: four flats, one above the other, with independent entrances, and two duplex flats at the centre of the building.

Types 2 and 3 (designer: Mario Marchi; builders H. Gra)

Architect Marchi (Rome, 1900) as a designer is an example of the experimental and transitional culture that developed in Rome in the 20's. In 1929 he designed some buildings in the most typical Roman "Barocchetto" style in piazza Fiorelli, a gaudy block of flats in via Anco Marzio at Ostia (the seaside resort near Rome) and two buildings in parcel 24.
Marchi's buildings are situated along via delle Sette Chiese, the shorter side of the area, and they stand as its main etrance. Each of them include eight three-room flats and they are divided by an arched gate with a tower on top, which is not completely in line with the arrangement of the flats.
The mouldings, the heavy window-sills and the way the facades are composed do not fit the rational type of the buildings, and the general effect is a sort of passage from the typical I.C.P.'s "Barocchetto" style to Roman rationalism.
The facades are in smooth tuff in the lower part under the first-floor window-sill, in ashlar-tuff between the first and second floor, and in Roman stucco in the upper part.

Types 11 and 12 (designer: architect Luigi Vietti; builder: Oreste Rosa)

Mr. Luigi Vietti (Novara, 1903) was 25 years old and had just graduated from university, when he became a member of M.I.A.R. and took part in the first Italian Exhibition of Rational Architecture. There he exhibited the project of a theatre that resembles some contemporary projects designed by Ridolfi, Capponi and Marozzo della Rocca, and developed from the simplification of Roman baroque forms with a personal expressionist tension.
His type 11 and 12 buildings have a perfectly identical design and are symmetrical to the parcel bisecting line, which originates from Marconi's building. They contain a number of flats, one above the other, with an external

staircase, in a shape that reminds us of the Roman countryside houses.

Type 13 (designer: architect Plinio Marconi; builder: Oreste Rosa)

Architect Plinio Marconi worked for the Istituto Case Popolari. He was born in 1893 and, since the realization of his first work in piazza Brin in 1921, he designed and directed the realization of many buildings in "Barocchetto" style, even at Garbatella.
His parcel 24 building was designed according to the typical and traditional practice of the best I.C.P.'s realization in the 20's.
The complexity of this project of four two-room flats arose from the location of the building inside the geometry of the parcel boundary lines, along via Cristofaro Borri and via Giustino de Jacobis.
The building has a picturesque look that makes it different from Roman rationalism and is due to its obvious resemblance to Roman countryside architecture. The external staircases and the shape of the external wall surfaces are designed in order to create some foreshortened views in imitation of the spontaneous rural architecture. The arches, the brick cornices, the ruff plaster, the tapering of the ground-floor walls, which gives the whole building an idea of solidity, and the planimetry that follows the fundamental "scenery" of the area seem an almost controversial episode in the context of this quarter built for the 12th Congress.

The value of parcel 24 and its restoration

The interest that contemporary Italian and foreign critics showed in their comments on this episode shows how evident was the originality of the so-called Garbatella "model-houses".
They were built in a transitional moment in the culture of the city: as far as the language of architecture was concerned, the young Roman architects were looking for new simplicity and rationality, as far as town-planning, a new model of development seemed necessary in order to relieve the tension due to uncontrolled urbanization, which facism strongly opposed; and as far as building methods, they needed new ideas to keep prices competitive without losing the traditional approach. Therefore simplification got an ethical significance in line with criteria of economy.
In "Domus"(8), Luigi Piccinato, an outstanding representative of Italian modern architecture, wrote some of his ideas about the whole episode and summed up its specific qualities: whether the houses are beautiful of ugly is unessential, what is important is the balance of the general choices and criteria, the idea of the plan itself as a coordination between form and types, and not simply based on values and destinations. This attitude, then, was widely followed in the 30's (see for example the Foro Mussolini, the E 42 and the Città Universitaria) but it was completely lost after the War, owing to the artificial separation between town-planning and architecture.

According to Piccinato, the council house should become "simple and naked". And it was not a case that the experiment of Garbatella was widely noticed even abroad. In particular, foreign commentators tended to point out that in Rome the normal tendency was to "nobilitating" low-cost housing, with the result that some council houses seemed, "built by Borromini for some cardinal". I'm quoting J. Gartner's article in "Frankfurter Zeitung", where he also appreciated the simplicity achieved by the young architects who designed parcel 24. Even D. Wild in "Neue Zurcher Zeitung" defined the Garbatella experiment as "a ray of sunlight in the general monotony", and some commentators in "Die Baugilde" and "Deutsche Bauzeitung" agreed in appreciating the episode and called it "a striking example of rational and modern housing with a typically Italian character". In particular it was also noticed that in Italian architecture the typically-German "personalism" was almost unknown, whereas it is the strength of tradition the "main feature of the urban landscape"(9).
Even Raymond Unwin, in his quality of President of the International Federation of town-planning, in the Congress opening speech pointed out the particular character of modern Roman housing, where the protagonism of architects is made less heavy by their very civil awareness of pursuing the same purposes (10).
This is why it is so important to preserve these buildings, and this can be done only through the correct legislative ways (namely the law no. 1089 of June 1st, 1939). The whole area should be put under protection guarantied by the law restrictions for "buildings of historical interest". This would avoid arbitrary and uncontrolled interventions which could create irreparable damage. The Italian Ministero dei Beni Culturali e Ambientali (Ministry of Culture and Environment) can impose restrictions on changes of destination and use, modifications and demolitions of the buildings, which are passed on to the Conservatoria delle Ipoteche.
At present the state of the area is of medium-low quality because of lack of upkeeping. The parts that are in worse condition are the external fixtures, the draining pipes that have caused seepage and the external paints. However, paradoxically enough, the lack of upkeeping avoided improper interventions. Some minor unauthorized works included the substitution of some old windows with new aluminium ones, a verandah to close an entrance staircase to De Renzi's row house type 5, some tuff wall breakings closed with cement in Marchi's houses types 2 and 3, and several repairs. The common areas (laundry-rooms, recreation area and playground) are completely abandoned and destroyed, but neither rebuildings nor demolitions were performed to change the original shapes. A correct recovery programme can solve most of the problems.
The repair and restoration of such recent buildings (which is by no means a difficult task) should be performed according to the same methods that are used in the cases of historical buildings: namely, an immediate intervention on the major damages followed by a close examn of the situation in order to find out the original materials and the techniques fit for restoring the previous quality of the whole area.

Notes:

1. Pietro Aschieri, La polemica sull'architettura, in "Il Lavoro Fascista" May 16th, 1931.
2. Marcello Piacentini, Il momento architettonico all'estero, in "Architettura e Arti Decorative" Sept. 1921.
   On the passage to modern architecture in Rome, see also Tradizione e innovazione nell'architettura di Roma capitale (1870-1930) ed. by Giuseppe Strappa.
3. Marcello Piacentini, Delle ultime invenzioni architettoniche e dell'antiurbanisimo, in "Il Giornale d'Italia" Oct. 9th, 1929.
4. In that period the newspapers wrote widely about the congress and the problem of low-cost housing. As an example, see the enclosed short bibliography:
   - Il convegno internazionale dell'abitazione e dei piani regolatori, (N.d.r.), in "La casa", February, 1929, pp. 137-141.
   - Giulio Tian, La crisi delle abitazioni e l'opera dell'Istituto per le case popolari di Roma, in "L'Ingegnere", April, 1929, pp. 208-213.
   - Il Congresso delle abitazioni e dei piani regolatori, in "Il Tevere", Sept. 12th, 1929.
   - Il Congresso internazionale delle abitazioni e dei piani regolatori, in "Il Giornale d'Italia", Sept. 13th 1929.
   - Il XII Congresso delle abitazioni e dei piani regolatori, (N.d.R.), in "La Casa", October 1929, pp. 821-826.
   - Casette modello alla Garbatella, in "Capitolium", October, 1929.
   - Gustavo Giovanoni, Il recente Congresso internazionale delle abitazioni e dei piani regolatori, in "L'Ingegnere", November 1929, pp. 666-671.
   - Raffaele Vespignani, Case, palazzine, lottizzazioni nel Il Congresso delle abitazioni e dei piani regolatori, in "L'Ingegnere", December 1929, pp. 750-763.
   - Dopo il Congresso delle abitazioni e dei piani regolatori, (N.d.R.), in "La casa", January 1930, pp. 41-44.
   - Casette modello costruite dall'Istituto per le Case Popolari di Roma alla borgata giardino "Garbatella", (N.d.R.), in "Architettura e Arti decorative", January-February 1930, pp. 254-275.
   - Il concorso per casette popolari modello, in "Il lavoro fascista", Febr. 18th 1930.
5. these are the projects for "block of flats on the Gelsomino hill" in Rome and the "bromo factory" in Salina Margherita di Savoia. See Materiali per l'analisi dell'architettura moderna - La prima esposizione italiana di architettura razionale, ed by Michele Cennamo, Naples, 1973.
6. See: Casette modello costruite dall'istituto per le case popolari di Roma alla borgata giardino "Garbatella", in "Architettura e Arti Decorative", Vol I, Jan. Feb. 1930, p. 266.
7. See: Saverio Muratori, Il movimento architettonico moderno in Svezia, in "Architettura", February, 1938.
8. Luigi Piccinato, Il nuovo quartiere della Garbatella in Roma, dell'Istituto delle case Popolari di Roma, in "Domus", January 1930.
9. Many of these comments from foreign newspaper and magazines were published also in "La Casa", January and March 1930.
10. About the discussion on rational architecture in the period when the "model quarter" was built, see: Materiali per l'analisi dell'architettura moderna, ed. by Michele Cennamo, collected in: La prima esposizione italiana di architettura razionale, Naples, 1973; and Il MIAR, Naples, 1976.

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Modern Movement in the city of classicist' traditions

The protection of architectural monuments in Leningrad: 1920-30's

In 1967-70 for the first time in Leningrad some of the 20th Century constructions were taken under state protection, a fact that reflected a somewhat belated reappraisal of the cultural heritage of the not too distant past. Formerly, the state protection was given only to the best examples of architecture dating back to the 18th-early 19th Century, i.e. to the periodes of baroque and clasicism. The subsequent period of the town-planning development in Petersburg - Petrograd - Leningrad, being not too distant, has not yet been comprehended as making a part of the historical heritage. Besides, the general attitude to the Modern Movement, as well as to eclectism (historism) and modern (Art Nouveau), remained until 1960's extremely negative. Such a stand was the outcome of the rigid orientation of the Soviet architecture in 1930's-50's on assimilating the classical traditions. Another explanation is offered by the prevailing in the long years idea of the city owing its peculair character and artistic significance predominantly, if not exclusively, to its classicist ensembles and monuments. Everything that could not be confined within the limits of the idealized, monistic model of the regular, stylistically integral ensemble-city, was condemned as a manifestation of decline in the town-planning culture, and as foreign intrusions into an integral image of the city, that was formed by the beginning of the 19th Century.

The priority of the classicist values has deeply rooted in the professional and public consciousness. This pattern of thinking remained intact until 1950's-60's. It was only when the Soviet architecture turned to the modern trends that it became possible to overcome the inertia of the negative attitude to modern (Art Nouveau) and constructivism (functionalism). However the rehabilitation of the Modern Movement was not complete, being rather a compromise. This became apparent especially when the constructions of the intra-war period were put under the state protection. The "historical monument" status was extended to 10 such constructions ("objects"), representing the Leningrad version of the Modern Movement of the 1920's-30's, which makes less than 1% of the total number of the architectural monuments in Leningrad - these are, as before, the constructions of the 18th - early 19th Centuries. True, this small group however is quite representative as it reflects a wide spectrum of the functional and compositional solutions. A complex of the new social types of buildings making the public centre in the Kirovsky District clearly stands out in this group. It includes the apartment buildings in the Tractornaya street (1925-27, A.I. Gegello, A.S. Nikolsky, G.A. Simonov), Palace of Culture named for A.M. Gorky (1925-27, A.I. Gegello, D.L. Krichevsky), "10th anniversary of the Revolution" school (1925-27, A.S. Nikolsky), a department store and a kitchen-factory (1929-31, A.K. Barutchev, I.A. Gilter, I.A. Meerzon, Y.O. Rubanchik), the headquarters of Kirokovsky District Soviet (1930-34, N.A. Trotsky). The state protection status is also given to the buildings accomodating the fire stations on Moskovsky ave. (1925-26, D.P. Buryshkin) and Zagorodny ave. (1930-31, I.G. Kaptsug), the NKVD Administrative building (1931-32, A.I. Gegello, A.A.Ol', N.A. Trotsky) and the Lensoviet housing building (1931-35, E.A. Levinson, I.I. Fomin).

This small and arbitrary selected group of buildings is unadequate concerning the share of constructivism in the urban housing structure and with the contribution of this school to the Soviet and European architecture. At the same time, one has to admit that the traces left by constructivism in Leningrad are not so significant as those of modern (Art Nouveau) and neo-classicism. The intense creative searchings in the early post-revolutionary period resulted mainly in so-called "paper architecture". The scope of the actual construction in 1920's-1930's was much less than in the previous (pre-revolutionary) epoch or the later years. This was due to the economic dislocation, produced by social cataclysms and the fact that the city was deprived of its status of the capital and became a regional centre (retraining in a symbolic sense only its image of the second capital). The new housing construction was executed in the city. The Modern Movement in Leningrad did not have enough time for taking deep root and spreading widely due to the reduced, artificially arrested cycle of its evolution which, in addition, was taking place at the background of the undying pro-classical tendencies.

The adherence of many architects in Leningrad to the neo-classical tradition can be traced back to the beginning of the 20th Century. The critical perception of the city, current in the second half of the last century was replaced in the 1900's by an apologetic approach to Petersburg of baroque and empire. By the efforts of Aleksandr Benois and Ivan Fomin the architectural beauty of the capital's antiquity was in a way discovered anew. As

an alternative to the new, moderne style, an idea of the successive development of the city from its own classical heritage, was suggested.

The retrospective tendency in neo-classicism went through a rapid development and reached its climax on the eve of the World War I. It offered a wide range of compositional and stylistic solutions - from Palladianism to Russian baroque and empire, and from the illusion of antiquity to the free modernization of the prototypes. Despite the different modifications it was the architecture of the historic contextualism, oriented on the interaction with the idealized classicist conception of the northern capital. "The Petersburgian Renaissance" emerged from its own traditions of town-planning, while partaking of the common European cultural values, although very selectively: the admiration for the classicism was accompanied with the virgorous rejection of electism and modern (Art Nouveau).

In the meantime, within the frame of modern (Art Nouveau), that became a part of the urban environment since late 1890s, a rationalistic and protofunctional movement was gaining strenght, which in many ways anticipated the architecture of constructivism. Among the examples of this movement are the Tenishev school (1899-1900, R.A. Berzen), the Institute of Orthopaedy (1902-06, R.F. Meltser), the Schaffe gymnasia (1907, K.K. Shmidt), the apartment houses designed by architects, `G.V. Baranovsky and A.F. Bubyr, the mansion house of Chaev (1906-07), V.P. Apyshkov), the cottage of painter P.E. Shcherbov in Gatchino (1910-11, S.S.Krichinsky). The new principles of the complex composition of the housing estates and creating the economy-type dwellings for workers with the sphere of consumer services were put to life in the "Gavansky workers settlement" (1904-06, N.V. Dmitriev,
V.A. Fyodorov). A special place holds a group of constructions on the metallic or ferro-concrete frames, having an active, form-building function: the house of Singer and Co jointstock company (1902-04, P.Y. Suzor). Esders and Sheifals trading houses (1905-07,
K.N. de Roshefor and V.A. Lipsky), the premises of the Guards Economic Society (1908-09, E.F. Virrih and al.), "New Arcade" (1912, N.V. Vasiliev), the first multi-storied garage (1913, A.V. Bolotnikov) etc. However with the triumph of retrospectivism, the innovatory trend in the Petersburgian architecture went into the background, and in the nationalistic atmosphere prevalant during World War I modern (Art Nouveau) was recognized as a foreign phenomenon of the German origin. To this day, none of the listed structures, unlike the many examples of neo-classicism, has been placed under state protection. Moreover, such an unusual construction as the diningrooms at the Baltyisky plant (1907, I.G. Trotsky), made of ferro-concrete, has been pulled down recently.

In some cases the neo-classical forms entered in a sort of symbiosis union with the rationalistic structure. In the Mertens trading house (1911-12, M.S. Lyalevich) and the Sheremetev Arcades(1914, M.V. Krasovsky) the frame foundation was camouflaged while at the same time accentuated by the Palladian order. Works of this type combining the novelty of the constructive and the compositional elements with the historical allusions and the decorative elements from the traditional context of the urban environment are typologically to the latest searching of post-modernism.

The revolution of 1917 did not break the evolutionary cycle of neo-classicism. The concept of the succesive development of the city that grew out of the stylistical uniformity of its ensembles was upheld by the First State Architectural Workshop in Petrograd. "The designers should abstain from imitating the modern commercial and industrial structures, rising high on the busy corners of Berlin and other big European cities. The state structures should reveal the markedly expressed monumentality. Examples can be found in the works executed by Quarenghi, Tomon, Rossi (the most eminent architects in Petersburg in the late 18th - early 19th Century - B.K.).

In the first years after the revolution such artists as K.S. Malevich, V.E. Tatlin, M.V. Matyushin, creators of the new nonobjective art and method of artistic design, worked in Petrograd. In Moscow the Soviet innovatory architecture was rapidly forming, that came to be known in its two major schools: the ASNOVA aesthetic rationalism and the OSA functional method. The first adherent of these trends in Leningrad was A.S. Nikolsky. In his work the principles of both the ASNOVA and the OSA were employed, and the findings of suprematism enterpreted. However the majority of architects in Petrograd was trying to make use of the classical heritage by applying it to the new epoch. The leaders of retrospectivism who became distinguished in the pre-revolutionary period, such as I.A. Fomin, V.A. Shchuko, L.A. Ilyin, A.E. Belogrud, were joined by the young and talented N.A. Trotsky, D.P. Buryshkin, V.G. Gelfreih, I.G. Langbard and others.

The Petrograd neo-classicism of 1918-1925 absorbed the moods of the "revolutionary romanticism" and to some degree reflected the influence of cubofuturism and suprematism. Its imagery had the new features of archized symbolism, heavy expressiveness, hypertrophied dimensions, vigour and lapidarity. The applicability of the traditional methods to the new ideological and social needs was grounded in the perception of classicism as of the absolute, extrahistorical phenomenon. I.A. Fomin and his followers have developed and realized the concept of the "proletarian classicism". It implied the preservation of the order language to maintain "strict disciplin and order" and at the same time its transformation on the line of schematizing and generalizing of the forms.

Neo-classicism was considered as simultaneously representing the cultural Europeism and embodying the special character of the town-planning evolution in Petersburg-Leningrad. Hence the Leningrad architects, while expressing sympathy with the new trends, the sources of which they ascribed primarily to Germany, objected to their immediate transference to "our soil" (V.S. Karpovich). In this respect, the views of A.I. Dmitriev are quite typical as he saw the remedy for "healing architecture" not in the acute constructivist methods (in particular, in its obsession with glass, not always justified), but in taking into consideration of the "actual, up-to-date climatic and technical requirements". According to the left-wing constructivists in Moscow (I.N. Sobolev and others), Dmitriev expressed "the Leningrad opposition to the modern architecture".

Nonetheless, in 1925-26 under the influence of the

surrounding architectural atmosphere, Leningrad turned to the Modern Movement. True, unlike Moscow, the local school of architecture on the whole did not take the road of successive innovation. The position of the Leningrad architects was not in "denying the modern principles but in approaching them causiously" (N.V. Markovnikov). The slowed down adaptation of the constructivist principles has generated a more reserved, compromising version of the style, which is to be regarded not as palliative to the Modern Movement, but as a kind of its special interpretation. The examples of the Leningrad constructivism often have a tendency toward symmetry and regularity, balance and monumentality of the composition. One can perceive in these the touches of expressionism or the classicist reminiscenses. In spite of the fact that the capital and the center of creative activities was transferred to Moscow, the Leningrad school retained its leadership in architecture. The representatives of that school worked in many other cities, for example, S.S. Serafimov and A.I. Dmitriev did some considerable works of the programme character in the new architectural style in Kharkov: the ensemble of the administrative buildings in the Dzerjhinsky Square and Palace for a Worker. The opposition of traditionalism to innovation was not only external (Leningrad-Moscow), but also an internal one. The two poles of the Leningrad architecture were personified by I.A. Fomin, the leading architect of the modernized classicism, and A.S. Nikolsky, the leader of the constructivist trend. In his open letter to Fomin (1929), Nikolsky reffered to neo-classicism as to "an architectural masquerade" and urged to adequately unfold the functional and the formal aspects of modern architecture, which should give a clear expression to the modern epoch.

The few existent constructions designed by Nikolsky - 2 bath - houses (1926-28), a school in Lesnoi District (1929, together with V.M. Galperin) and the stadium named for S.M. Kirov (1932-50) should in the first place be taken under state protection. One of the most remarkable monuments of the new architecture in Leningrad is the Red Banner knitted-goods factory, erected after a design by a German architect E. Mendelson (1926-30). This complex combines the features of functionalism and expressionism and exemplifies the author's "function plus dynamics" postulate. This construction made a strong impression on the Leningrad architects, especially on N.A. Trotsky. The meat processing and packing factory (1931-35) and Palace of Culture named for S.M. Kirov (1931-34), designed by him, also deserve to be given the state protection status.

In the period of constructivism some large housing and industrial complexes, different public structures of the cultural and consumer purposes were built in the city. All of these embody the new principles of the social organization of environment as well as stylistic and compositional methods typical of the local Modern Movement architecture. The list of the protected monuments of this period should be enlarged considerably (by some 50 single houses and housing complexes instead of the listed 10). The criteria for the selection are the artistic qualities, functional and engineering innovations, town-planning interests, local peculiar features.

Among the monuments of industrial architecture mentioning should also be made of the substations, a part of the Volhov Hydro-power station complex (1926-27, O.R. Munts, V.A. Shchuko, V.G. Gelfreih), and of the bread-baking plant on the Pionerskaya street (1927). Unusual as regards the functional and planning aspects and the volume-space structure are some of the workers housing areas - Palevsky (1925-28, A.I. Zazersky, N.F. Rybin), Bateninsky, Baburin and Kondratievsky (1927-31, G.A. Simonov, T.D. Katsenelenbogen), Krestovsky (1931, V.A. Latinin, B.V. Dmitrievsky, N.N.Nosov). The dwelling house on the Kirovsky ave. (1929-30, E.A. Levinson, A.M. Sokolov), the communal house of the former political deportees (1931-33, G.A. Simoniv, P.V. Abrosimov, A.F. Khryakov), the Svirstroi house (1930, I.G. Iavein) should be attributed to the best examples of the residential dwellings. Impressive with their clear-cut constructivist detailing are the school on the Tkachei street (1927-28, G.A. Simonov), buildings of the Botkin Hospital (1927-29, A.I. Gegello, D.L.Krichevsky), kitchen-factories in the Vyborgsky and Vassili-Ostrovsky districts (1928-31, A.K. Barutchev, I.A. Gilter, I.A. Meerzon, Y.O. Rubanchik), Houses of Culture on Moscow avenue (1930-31, M.S. Reizman, N.F. Demkov), "Dinamo" stadium (1930-34, O.L. Lyalin, Y.O. Svirsky), the Academy of Signalling and Communication (1932, G.A. Simonov, P.V. Abrosimov, A.F. Khryakov). The buildings executed in the later period reflect the neo-classic impact on architecture, such as the Lensoviet Palace of Culture (1930-38, E.A. Levinson, V.O. Munts). Headquarters of the Moscow District Soviet (1931-35, I.I. Fomin, V.G. Daugul).

The beginning of 1930's however witnessed a radical change in the attitude toward the assimilation of the classical heritage, approved in the party and state decrees. The monumental traditionalism in architecture was assigned the task of embodying the greatness of the Stalin epoch and the power of the new social system. Constructivism was ostracized as a manifestation of the bourgeous culture. It was accused of the "unprincipled formalism" and "artistic ascetism", the new social requirements being the imposing apearance, solemnity and pomposity in construction, so much impressing the taste of the masses. In the conditions of the Stalin's regime constructivism had no alternative for survival.

Such was the tragic destiny of the Modern Movement in the Soviet Union. But a tragedy it was for the principle advocates of the new architecture, whereas for the majority of the Leningrad architects the return to the classicist tradition was quite natural and even desirable. In the new historic reality, the experience of the 1910's was repeating itself. Again the principle of the succesive development of the city, in the spirit of the old classicist ensembles, was reiterated. The rapid changes at the architectural market led to the external monumentalization and decorative embellishment of the buildings, designed in the constructivist manner.

In the 1930's a somewhat ponderous and oversimplified type of the modernized neo-classics became widely spread in Leningrad. It was grounded in the ideas of I.A. Fomin and, at the same time, rather unexpectedley reflected the influence of the Petersburgian construction

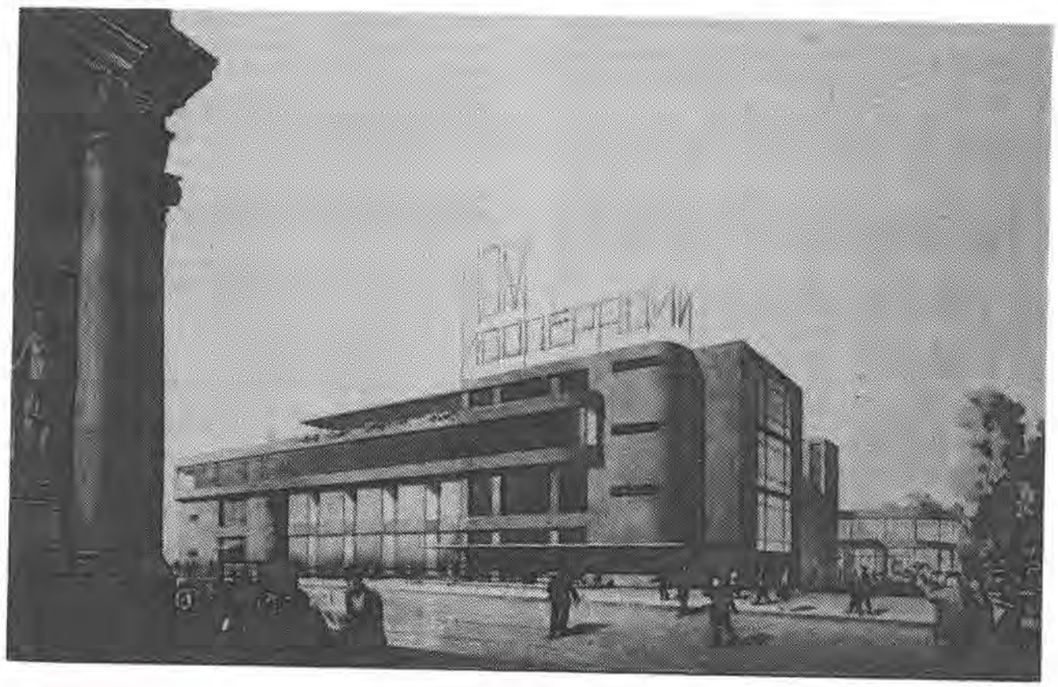
of P. Behrens - the building of the German Embassy (1991-13). The features of this style appeared boldly in the works of D.P. Buryshkin, N.A. Trotsky, A.P. Velikanov, E.A. Katonin and others, partly in the works of E.A. Levinson and I.I. Fomin. The simplified neo-classicism was a traditional stage from the new architecture to the pompous and monumental pseudo-classicism of the late 1930's - mid 1950's.

The heritage of the Modern Movement became topical in the 1960's. The architectural practice of those years deserted the classicist tradition and hailed the "Forward to the 20's!" slogan. However the industrial construction on a mass scale led to the continuous reproduction of the compositional patterns and the profanation of everything that was achieved by the new architecture in the prewar period. The dissatisfaction with the primitive and monotonous modern construction, followed by the critical reappraisal of the entire post-revolutionary history that became common in the years of Perestroika gave rise to a new type of the traditional opposition - the apologetic perception of Old Petersburg and rejection of New Leningrad.

Today for the first time was recognized the unique character of the architectural environment of pre-revolutionary Petersburg, that took shape in the historic past, including the historism and modern periods, even with its ordinary housing construction. A new conception of the monuments protection, aimed at preservation of the historical centre in Leningrad, being an integral organism, a single monument in itself was advanced (there are plans to put it on the UNESCO world cultural heritage list). However the period of constructivism has not yet been generally appreciated in Leningrad. Many interesting examples of the new architecture have not been given yet the protection status, that allows to subject them to any type of merciless reconstruction and poor maintenance. This status would certainly help to preserve them from any gross alterations and would also enlarge their prestige of the historical monuments. It should be emphasized here that the state protection must be extended not only to the structures executed in the strictly innovatory manner, but also to those, representing the modernized classics. Being very typical of the Leningrad school of architecture, they provoke a special interest now from a point of view of the development of post-modernism.

I would like to acknowledge my gratitude to Dr. Catherine Cook (Cambridge) for the joint actions in the survey of the architectural monuments in Leningrad of the 1900-1930's.

Barutchev, Gilter, Meerson and Rubanchik:
Complex comprising cooperative department store, factory kitchen and public eating facilities,
Stachek Square, Leningrad
perspective drawing c. 1929; construction 1929-31



András Hadik
Museum for Hungarian Architecture, Budapest; Hungary

The architecture of Kozma (1884-1948)

A way from jugendstil to functionalism

Since Lajos Kozma worked in several fields of art: architecture, graphic and applied arts, his work gives us a cross section of the first half of the 20th century Hungarian architecture and applied arts. His activity as an architect was dominant in the last period of his career, that is the 1930's, but it is also important to introduce his preliminary activity and his achievements in other fields of art.

He was born in a small village in Western Hungary, in Kiskorpàd in 1884. His father was a well off tenant. That rural background of Kozma's upbringing had a strong influence on his artistic activity. In his fragmentary memories (all in manuscript) he lovingly recollected his experiences of the traditional village-life, the peasants' relationship to nature, folk art, etc.

After his secondary school studies in Gyór, he applied for the Budapest Technical University in 1902. In that year, at the opening ceremony of the academic year the new Chancellor, Alajos Hauszmann (1847-1929) one of the most important figures of late-eclecticism made a point against Ödön Lechner and his followers for their attempt to create a Hungarian national style. At one and the same time the so called Young Ones started their studies: Károly Kós (1882-1977), Dezso Zrumeczky (1884-1917), Béla Jánszky (1884-1945), Valér Mende (1886-1918), Dénes Györgi (1886-1961). They learned the English (Shaw, Baillis-Scott), Finnish (Sonck, Saarinen) and Hungarian folk architecture. They had a vision of Hungarian architecture in the spirit of Ödön Lechner but on a new bases. They did not consider the stylized ornaments of folklore as set of forms but the structure, which they wanted to apply to the new needs. They studied first of all the architecture of the Transylvanian villages. Lajos Kozma joined their group.

The influence of this movement is discernible on Kozma's project for Lapis Refugii in 1908 (Bachelors' House). It was designed at a high level. At that time he made mainly graphics. His first graphics were published in the Megfagyott Muzsikus (The Frozen Musician, a comic paper of the architecture students). In 1908 he made another series of drawings with the title: Last Fantasies. Two pieces of that series illustrate well this early period. On a page under the title Man with Roseleaf we can see a village church in Transylvania in the centre and the sky in the background is embellished resembling to wood-carving. "The Autumn calls Back" page gives us the decadent atmosphere of the turn of the century. In 1909-10 Kozma made a study tour to Paris, then he worked at Bela Lajta's office (1875-1920). Lajta was widely travelled. He worked for a while at the offices of Alfred Messel and Norman Shaw. Then Lajta worked for some years under the influence of Ödön Lechner and he even planned together with the master. He worked in the

House for a scholar in a garden city for 7 persons

1. Hall
2. Living room
3. Dining room
4. Kitchen
5. Store-room
6. Forecourt
7. Landing
8. Bedroom
9. Maid's bedroom

Korma Lajos: Villa in Budapest
II Herman Otto Str. 10, 1934

manner of the Young Ones at that time. Later Lajta became the most important master of Hungarian pre-modernism. Lajta gave Kozma tasks of decoration and interior design. Kozma designed the interior of the Rózsavölgyi music shop on the groundfloor of the Rózsavölgyi-house designed by Lajta. The wood-carvings there were strongly inspired by the folk wood-carvings of Somogy region where Kozma spent his childhood.

In 1913 he began to work on his own and established the Budapest Workshop where he dealt with furniture and interior design. Besides that he was active in graphic and book design as well.

After service in the field in the First World War, at the time of the Hungariuan Soviet Republic his left wing orientation easily can be traced in his graphic works. He became a member of the Art Directorate (a kind of ministry) and was appointed to the Technical University as lecturer. After the fall of the Communist Republic he could not get any government commissions. Kozma could only rely upon the well-off middle class. He designed first of all neo-baroque and Art Deco furniture, interiors and he also designed books for Imre Kner's Publishing and Printing Office in Gyoma. He got some commissions for buildings too. The rebuilding of the Ilkovics-house and the design of the Kner Villa in Gyoma are good examples of that period of a special kind of historicism.

At the end of the 1920's Kozma was in a transitional period of hesitation. This is illustrated by an interior (not existing anymore) which is on half way between the so called Kozma-baroque and functionalism. There is a need for embellishment on the one hand, but on the other hand there is a tendency of geometric motives.

The year of 1930 was a year of change. Perhaps the returning Hungarian members of the Bauhaus (Farkas Molnár, József Fischer), the Tér és Forma (Space and Time) architectural periodical published from 1927 caused and also effected by the other European publications that Kozma decided to put an end to his former activity. It was probably supported by the memories of the years spent at the Lajta office. In addition to that there was taking shape a group of people who favoured the international style.

There were four Kozma buildings built on a greater scale in the 1930's. Kozma designed the reconstruction of Magyar Divatcsarnok (Hungarian Fancy-Goods Store) in 1930, the Üvegház (Glass House) in 1934, the Atrium House in 1935-36, and the block of flats in the Régiposta Street in 1938.

Magyar Divatcsarnok is his first work in real International Style. The courses of the windows and the wall surfaces amongst them are covered by black opal glass so it creates stripe-like windows. He used the same method on the facade of the Üvegház. Here we have to underline the witty idea of the display of all sorts of glasses sold by the company. The ground and the first floor plans of the cinema in the Atrium House shows the effective use of the building site. The rear outer wall of the cinema is also interesting with its plastic shaping. The house in the Regiposta Street is a nice example of Kozma's'

Weekend House in the Island of Lupa, 1935

functionalism. Besides these buildings he planned first of all villas and summer-houses. Their common characteristic is that they are open towards the garden with terraces and large windows but their facade is quite closed towards the street. These villas form the climax of the Hungarian villa-architecture with Molnár's and Fischer's buildings. The structure is not so much a novelty of these villas. He used reinforced concrete beams, but the walls were laid of brick. Kozma also designed the interiors of these villas. He planned individual pieces of furniture not thinking of mass production at all. There is one amongst his summer houses, the one on Lupa-sziget (Lupa Island of the River Danube) built in 1936. The building projects above the water from the retaining wall of the bank. He considered this modest yet high level house very important. He put the photo of this house on the front cover of his book published on his own design in Zürich in 1941 under the title: Das neue Haus (The New House).

He published in this book several of the drawings showing houses designed after the Hungarian peasant-house types but according to new needs and respecting the original layout of the village. It is a pity that the architecture of the villages did not follow this pattern.
His atrium-house and the various types of terraced houses are also interesting.

Observing Kozma's colourful career spanning through the first half of the 20th Century we have to ask: What do we consider as modern ? Well for example Giovanni Fanelli in his book "Moderne Architectuur in Nederland (1900-1940)", he discusses Berlage together with the Amsterdam and Delft School just as De Stijl or Duiker's works. What do we already consider modern and what is not modern yet ? Are we entitled to deal with classical modern or we have to apply a wider notion of modernism to find place for the transitions and reactions offered by the rich variety of the history of the 20th Century architecture ?

Stefan Slachta
Slovak Department for Conservation, Bratislava; Czechoslovakia

Translated from German

The tradition of modern sacral architecture in Slovakia

As a result of the "Velvet Revolution" of November 1989 certain issues have become highly visible. Issues which hitherto had been forbidden. One of these is religious architecture. That is the reason I have been invited to speak here today on the subject of "tradition and conservation of modern religious architecture in Slovakia".

In Slovakia many religious monuments stem from the period 1100 A.D. Surviving foundations of ancient churches in Nitra and Devin, more recent roman rotundas, wooden churches in Eastern Slovakia, gothic churches in Levoca, Bardejov, Kosice, baroque and renascence churches throughout Slovakia testify to the continuing development of architecture in the Slovakian territory since the 9th Century. Naturally, this tendency could not be suppressed in the 20th Century. To be exact, it continued in the first half of the 20th Century but later, under the communists, was violently destroyed. Although a few religious buildings were built in the 1960's, it is only today, after a hiatus of forty years, that there can be said to be a continuance of the centuries-old tradition. In the last forty years not only were no new buildings built, conservation of religious buildings was also ignored. Virtually every Jewish synagogue has been neglected. Some were put to other purposes, such as Behren's synagogue in Zilina which was used as a performing hall; the synagogue in Malacky as a popular art school, etc. Generally, it was the wooden churches which were threatened and which presented material problems which, incidentally, indicated the overall nature of our architectural conservation.

The projects of the architects E. Lechner and S.Megyaszay, were looked upon as the first significant results of the new architecture of the 1920's. The personage of E. Lechner holds a special place in the history of European secessionist style. The Catholic Holy Elisabeth Church in Bratislava, the "blue church", is an example of Lechner's work from 1909 - 1913, a typical example of Hungarian secessionist style which is quite distinct from Wagnerian style. The fronts are heavily decorated with mosaic. Lechner changed the original version of the church, which was shown with an oval-shaped foundation, a domed roof and a gothic-style closure of the cylinder-shaped towers. The original interior of the church designed by Lechner is still intact today which, together with the structure, forms a total effect well-worth seeing. A surviving part of the church is the parish which stands next to it, built at the same time as the church. The "blue church" is the final work of the great masters of the secessionist style. The church was renovated in the late 1960's, continues to be used and is considered one of the best preserved examples of modern religious architecture in our country.

S. Megyaszay (1877 - 1959), a pupil of O. Wagner, designed two churches in Slovakia prior to the First World War: in Mula near Lucenec (1908 - 1910) and in Hurbanovo (1911). The small church in Mula is a particularly notable example of his approach to construction. It was the first church to make use of reinforced concrete at the time in Hungary. The main area is covered with a dome measuring 15 meter in diameter. The dome consists of pre-fabricated shuttering elements which are connected to iron beams visible on the outside. The figures of angels on the circumference of the dome are similar to those used by Wagner in the church at Steinhof. The uniqueness of the new technology also applies to the interior. The foundations of the twin windows are also made of reinforced concrete. The form of the solitary belfry reminds one of the wooden belfries of Siebenbürgen. The octagonal space of the church in Hurbanovo resembles previous ones. Except that it is covered with a wooden construction. Both churches continue to be used in their original condition and up until now have not been renovated to any large degree and have deteriorated substantially in the course of time.

The work of professor F. Wimmer is architecturally interesting, especially the Calvinist church in Bratislava which dates from 1913 and which, together with the parish and living accommodation in the Obchodna street, comprise the total project. Wimmer was the only one who, following the example of the "Chicago School", above all wanted to be associated with Henry H. Richardson. Richardson's combination of new romanesque elements with new geometric decoration is easily identifiable here. Although the churches have not yet been renovated, they are used intensively by the very small Calvinist religious community in Bratislava.
The historical events of the Czechoslovakian architectural avant-garde in the period between the wars were of course not limited to secular buildings. Many significant

architects demonstrated their creative artistic talents in terms of religious architecture, linked to centuries of older works such as those of A. Pilgram, Th. Hansen, L. Baumhorn and others. During the 1920's and 1930's new churches were built by all church communities. They reflect various architectural concepts. What they have in common is the architectural content, the conception, the details, the construction, the interior refurbishing and the choice of building materials. Today, some of these are in poor condition, are used for different purposes, which has had a negative influence on the original structure. The reemergence of traditional values of care in contemporary society also brought about a new attitude toward the values of religious architecture in Slovakia.

In the first few years following the First World War religious architecture was not considered an urgent task to be undertaken by the new State. The need for private housing and government buildings took architectural precedence. The first significant religious project was not erected until 1923. This involved the synagogue in the Huydukova street in Bratislava by A. Slatinsky. In terms of the complicated metropolitan construction situation, Slatinsky chose a simple architectural form which blended with the surrounding buildings. In filling the empty space he respected the geometric line of the street by making use of the seven great pillars, behind which at some distance stands the actual wall of the temple. The asymmetrical entrance leads directly to the courtyard and then on to the outer chamber of the gallery. The marvellous atmosphere of the interior is due to the manner in which the light forces its way through the decorous windows. The synagogue is a valuable historic building. The structure has been damaged appreciably. Until now it has not been renovated. The synagogue remains one of the few Jewish temples which is still in use today.

In the same year an interesting project developed involving the Evangelical church in Trnava by the young architect Jozef Marek. The church, ranked as one of the leading metropolitan buildings, a massive, dominating structure, stands at the centre of one of busiest streets. The architectural content and progressiveness of the church in Trnava is especially to be found in its arrangement. The pews of the faithful are built in the shape of an amphitheatre placing the minister at the centre, providing evenly distributed access to the alter. The church was renovated and its condition is technically good.

The city of Trnava was offered the extraordinary opportunity of putting up a work by the excellent architect Kamil Roskot. Roskot submitted his design of "fuori le mure" for the Evangelical church. It showed his marvellous sense of quiet, classical, carefully calculated composition of space and mass, his understanding of historic buildings and his close cultural affinity. Unfortunately, his project has gone unrecognised.

V. Karfík:
Church in Bratislava-Petrzalka
(1930)

J. Mergane:
Evangelic Church in Nove Mesto nar
Vahrun (1932)

P. Behrens:
Synagoge in Zilina (1933)

The synagogue in Kosice, built in 1927, is the work of the world-renowned Hungarian architect and graphic artist, Ludovit Kozma (1884 - 1945). The original value of this building can only be recognised today in photos. The synagogue was closed and converted into the Kosice Philharmonic concert hall, changing the interior and, as a result of an addition, the original structure as well.

A similar fate awaited another significant building: the synagogue in Zilina, built in 1933 - 1934, based on a project of professor Peter Behrens, one of the founders of modern European architecture. The central building rests on a terrace with terrace-like steps, and is covered with a central dome. The architect's creativity in the extraordinary, horizontally linked front can be clearly observed in the architectural detail and the excellent choice and use of building materials. Once the synagogue was no longer used, it was converted into a lecture hall of the Higher School of Transport Theory and continues to be used up to the present. The time has come to consecrate this excellent architectural monument with the greatest possible attention, to renovate it and to remove all traces of later alterations in order to restore the original "Behrens" structure.

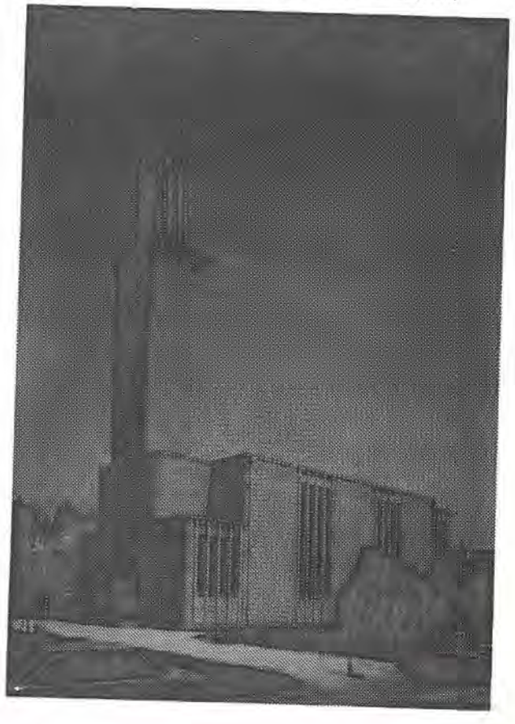
In 1931 an excellent religious building was erected in Bratislava-Petrzalka, whose value lay in the fact that the architect, V. Karfík, had built it using the principles of the "Zliner concept" to develop a kind of religious architecture. The structure of the church stands on an unusual 6.15 by 6.15 metre foundation, connected by round, prefabricated concrete columns. This example demonstrates the exceptional flexibility of the "Zliner framework" and the "Zliner concept". Thanks to pressure from public opinion and the church, it was rescued from a planned demolition in the 1970's. Having been renovated in the 1980's, the church is once again in use.

One of the most productive architects in the realm of religious architecture was M.M. Harminc. He is the creator of more than sixty churches in modern-day Yugoslavia, Hungary and Slovakia. In seventy odd years of creations he reacted to architectural events in his characteristic way. He reflected the beginning of functionalism in the design of the Evangelical church in Bratislava in the years 1929-1932. The church had a clearly constructive quality. The reinforced concrete foundation had a span of 16.20 meters. The nearly square foundation provided all the believers a very good view. The church's structure conveys a certain symbolic expression of the language of architecture as well as the tectonic of new building materials. For Harminc, this church was archetypical, an approach later repeated several times with certain changes. The church has not been renovated since 1933.

In the 1930's the architects F. Florians and G. Schreiber, belonged to the realm of activists in religious architecture. One of their first buildings was the chapel of the student dormitory Svoradov, in Bratislava (1926 - 1928) and, later, the chapel of the Salesian Institute in Milelicova street (1934 - 1935). Typical of these buildings was the sobriety and strictness of the interior and the elegance of detail. Both chapels were destroyed in the 1950's and rebuilt for other uses. The most significant projects of both these architects, unfortunately, were never realised, such as for example the church in Svit or the church of the Jesuit Grammar School in Bratislava in the Kalinciakova street (1940).

The 1940's resulted in another interesting project from professor V. Karfík. In 1943 in the newly built factory settlement of the Bata company in Batovany (now

V. Karfík:
Church in Partizanske (1943)



Partizanske), in addition to other projects, a Catholic church was designed which bore an architectural affinity to the "Zliner architecture" which, however, was on the scale of the church in Petrzalka. The mid-section had a span of 8.60 and the side sections 3.60 meters. In the interior the lattice of the roof construction reaches its full expression. Equally notable is the detail with a specific industrial nature which has remained extremely valuable to this day. The interior is dominated by the vertical lines of the towers above the entrance, an expression of symmetry and simplicity. Centrally situated with architectural ingenuity in an expansive park, the dominant position of the church is displayed. Taking part in the project was the architect F. Fackenberg. The church was finally completed in 1949.

Also within the wide range of creations of professor Bellus, religious architecture is present. Mentioned needs to be the Evangelical churches in Nesvady and Senec, both dating from 1947. These modest, simple buildings are very important architecturally. Bellus also presented them as examples of his creations in the spirit of modern classicism. Both churches are, in terms of their alters, well preserved.

In 1948 the approach of the first half of the century was brought to a close with the building of the Holy Margit church by M.M. Harminc in Bratislava - Lamac. Harminc also brought his own seventy odd year architectural career to a close. The respect which he gained for his solution to this assignment is also reflected in the variety of linear perspective in the church interiors which are dominated by the diamond ceiling.

The rise of the communist regimes in February 1948 ended a chapter on religious architecture in Slovakia. The strength of its tradition, however, was preserved and carried on. During the visit of the Pope in April 1990 some 200 foundation stones for new churches were consecrated.

Nora Pamer - de Sorgo
Publicist, Budapest; Hungary

Modern Movement in Hungary

As was usual all over Europe, a trend of rationalisation in architecture emerged also in Hungary as early as the 1910's preceding World War I. It differed from eclecticism to Art Nouveau, since it strived after simpler forms. Needless to say, the Wagner School of Vienna also played its part here, but not to such an extent as could have been justified by the vicinity of Vienna or by the fact itself that Hungary was part of the Austro-Hungarian Monarchy.

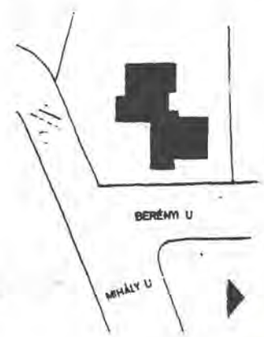
In 1920 the Monarchy collapsed and this fact confronted Hungary with an entirely new situation both politically and economically. An impoverished country, reduced to one third of its former territory, had to start a new life in which the state was able to build up only the most necessary missing objects. The new political situation aroused nationalism and the consequence was a strive in addition to subsiding eclecticism for some architecture of special Hungarian character. But in 1919 there was a short-lived communist era in Hungary and give rise, despite its general, destructive effect, to many good, new ideas. This was especially so in the social respect of architecture, and these ideas appeared later also in the Bauhaus programme. Yet the communist rule of 1919 was the main reason of the circumstance that at the end of the twenties the ideas of the Bauhaus, penetrating into the new architecture, were rejected with abhorrence as the menacing tendency coming from the "red Weimar" not only by official circles, but also by the majority of Hungarian citizens. A decisive change in the architectural school of thought was brought by the foundation in 1928 of the periodical Tér és Forma (Space and Form) around which the pioneers of modern architecture were rallying.

This periodical's articles on daring, new views started quite a series of polemical writings in other periodicals. These had a fruitful effect on architecture and opened the way wider to the new ideas.

In 1929, at the 2nd CIAM Architectural Congress held in Frankfurt am Main, as many as 7 Hungarian delegates took part. They founded in 1930 the Hungarian section of CIRPAC (which was the executive organ of CIAM).

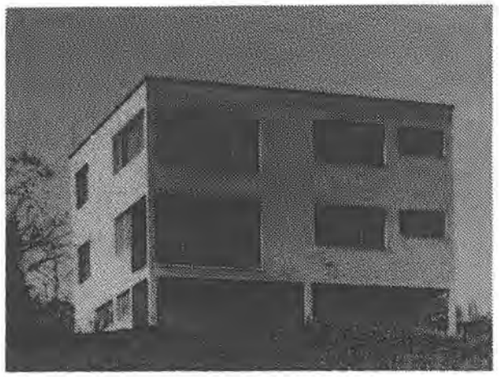
In the green-belt hilly region of Budapest appeared the first creations of modern architecture as the cube-shaped houses in the form of family villas. In 1931-32 the pioneers of the modern architectural movement arranged their first exhibitions in accordance with the ideas laid down by CIAM. The public confrontation with social problems came to an end when the exhibited material was confiscated by the authorities. The rationally outlined trends for innovation (e.g. in the case of a so-called collective house in which, apart from the living-rooms, all premises were intended for common use) were seen by the public as a Utopian architecture of the future, since people understood only what affected their immediate interest.

At that time Hungary suffered from the general economic crisis and from an inflation that stopped all building activities of the state. Because of growing unemployment the state tried to promote construction by encouraging private investment. CIRPAC member's designs were included in the propaganda for inexpensive building activity and so it happened that the detached



The first "modern" house in Budapest
Architect: Farkas Molnár, 1929-31

Right: the situation



Farkas Molnár:
Single-family house, 1932

single-family houses became the first experiments of the Modern Movement in Hungary.

The most expressive Hungarian representative of Modern Movement architecture (named New Architecture by Gropius) was Farkas Molnár (1897-1945) who returned about 1925 straight from the Bauhaus as a Bauhausmeister.
But Molnár got very close to the neoplastic principles of Theo van Doesburg in Weimar and then asserted them consciously and frequently in the diagonal layout and inner colouring of his houses. He did so even in the beginning (1929) when he could build only of brick and made the trimming of large openings difficult. Also, he always strove for the plastic expression of equilibrated

József Fischer: villa Walter,
Budapest, 1936

relationship.

The representives of Modern Movement architecture in Hungary tried to realise in the beginning almost solely the Bauhaus ideas, or the new trends that had come from Weimar, since a large number of Hungarian artists turned up there at that time. They had close contacts with their home country, with architects and artists who were interested in what was new. Suffice it here to mention the architects Forbát and Marcell Breuer, the painter and Bauhaus teacher László Moholy Nagy, and the art specialist (editor of the Bauhaus Books) Ernó Kallai. The constructivist painter Sándor Bortnyik also was active in Weimar and had close connections with Van Doesburg.

Besides Molnár, the most creative architect was József Fisher (1901). It is in connection with him that we may speak for the first time of a direct Le Corbusier influence, mainly as concerns buildings standing on pillars and the consistent application of band-windows. It was Fischer who made the puritan buildings of the new architecture more varied by creating soon a number of really splendid impressive villas. From 1929 to 1935, about 30-33 architects may be ranged with those who have created in the spirit of the Modern Movement. The best known of these are Kozma, Kósa, Preisich, Rimanóczy, B. Arkay, Rácz, Dávid, Wanner, Lauber, T. Kiss, Virágh, Visy, Winkler. Needless to say, their number grew to about 35 not before 1934 when the economic crisis had calmed down and life returned to normal. And in 1934 we may say that the leading principles of the Modern Movement were generally accepted in Hungary.

A new layout of rooms was given to the urban dwellings in modern tenement houses. A demonstrative prototype of the avant-gardist dwelling-house was a building complex of three strip-blocks set at right angles to the surrounding streets, so that both main elevations have equal value. This type of building had no followers, as it's layout didn't match the built-up areas of the city. To build correctly oriented flats, a new building legislation was necessary. The new building statue of 1937 came into force from 1940, according to which the lots in the densily inhabitated urban districts could be built up only at the street. With this regulation it was possible to avoid the narrow, dark courtyards.

An unexpectedly free scope was given to the new architecture to build churches, preceding the modern buildings erected by the state for the public. In the late twenties the novel church designs were still rejected at public competitions, nevertheless in 1933 Aladár and Bertalan Arkay built the first modern church in Budapest (in the quarter Városmajor). It's consecration required papal approval because of the general indignation this modern structure evoked. The architectonic formation of this church shows an interplay of cubes off different sizes and this results in the embodiment of avant-gardist aestetics. The detached belltower with it's spire of reinforced concrete composed of geometrical motifs became the pattern of novel church architecture (e.g. the Franciscan church in Budapest, built by Rimanóczy, in 1934). It was again Aladár Arkay and his son who applied

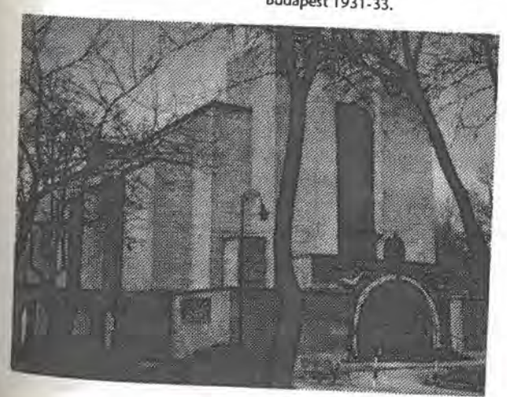
the first stressed-skin structure for building cupolas.

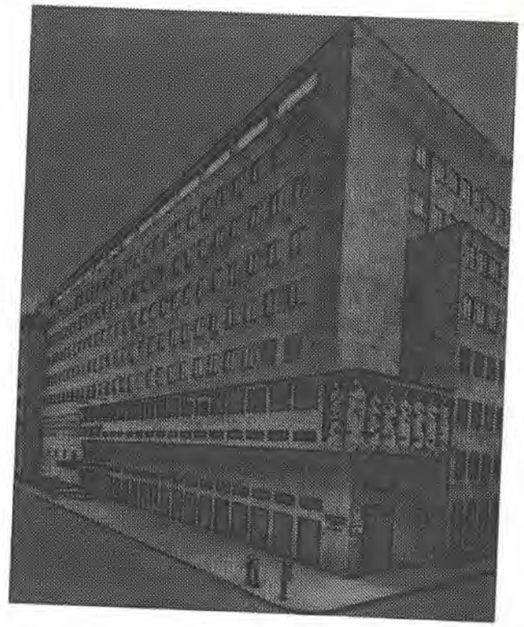
As a result of the crises, very little was built by the state during the mid-thirties. Following this period (1935), it was no longer appropriate to follow historical patterns. Shaping public buildings of major dimensions in the functionalistic style of the Bauhaus was devoid of that solemn outward from which the people at large expected from public buildings. Inarticulate blocks were built with big elevations, and it was believed that architecture as an art was created by applying relieves and sculptures. (The examples are the one-time Postal Administration and Telephon Centre, built by Rimanóczy, Hidasi, Papp in 1937-1940; the Central Banking Corporation, built by Bauber, Nyiri in 1930-1940, both in Budapest).

As the thirties passed, the severity of functionalism relaxed, and a discreet classicism came to the fore . This kind of classicism, which had been in the air all over Europe, came to Hungary from Italy. Close cultural relations promoted this.

Aladár and Bertalan Arkay:
Bell-tower of the Church
Városmajor,
Budapest 1931-33.

Aladár and Bertalan Arkay: Church
Városmajor,
Budapest 1931-33.





Rimanóczy, Hidasi, Papp: Postal
Administration and Telephone
Centre
Budapest 1937-40

Simone Hain
Bauakademie Berlin; DDR

Translated from German

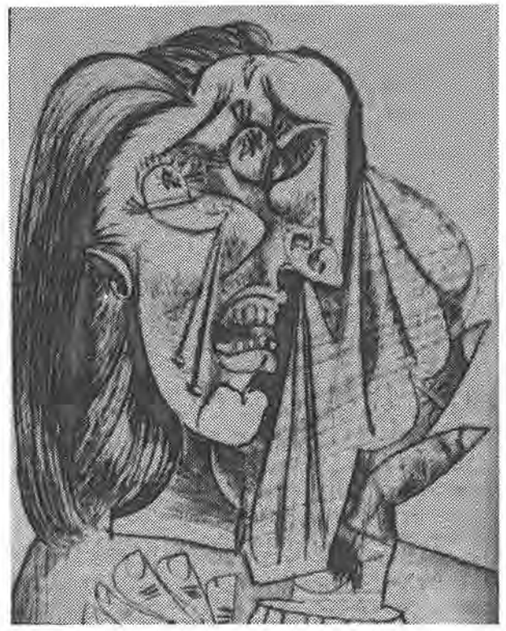
The poetic dimension

Conceptive differences in the Modern Movement in architecture

I would like to call to your attention a paradox in our discussions during this conference.
We use the term "Modern Movement" with reverence but treat it, trapped in time, as more or less a homogeneous group.
Lacing our polemics with citations from Giedion, Le Corbusier, Karel Teige, which can be both dated and based on a specific time with a specific philosophical background, leads to an unjust perpetuation of them.
Up until now reflection and self-criticism, on which the protagonists of our "movement" suckled during the period between 1920 and 1940, have hardly been the keynotes of our internal analysis.
With a sophisticated glance from the attentive beneficiaries, the conflicts and crises of the Modern Movement disappear - the vehement controversies and inner struggles, the often painful experiences of which have brought forth a greater social reality.
In the time allowed I will only be able to give a few examples:

- the outbreak of the world economic depression and the expanding unemployment among architects after 1929;
- the polito-cultural aspect of Stalinism in the Soviet Union, whose social views provoked emphatic response in the 1920's and early 1930's;
- the general breakdown of democratic institutions when the Fascist dictators came to power - the emigration;
- the wide-spread lack of acceptance of the language of form of the 1920's, directed at the ultimate recipient of a socially aware modern architecture, the "common" man;
- the destruction of the "Residencia des Estudiantes" in Madrid by Franco's troops and the bombing of Guernica as a prelude to the devastation caused by the Second World War;
- the inhuman consequences of assembly-line labour;
- the beginnings of the development of the "modern entrepreneur", working without architects;
- the crisis in modern natural science by the breaking down of the principle of certitude as a result of the Heisenberg uncertainty principle;
- paradoxical changes in philosophy - I will mention only Wittgenstein's change of direction in his Philosophy II, or the rise of such fundamental existential questions as the criticism of neopositivism, which greatly influenced the theoretical foundation of the new architecture.

So many conflicts, so many consequences - for modern architects as well - unintentionally tragic, yet they often managed to survive better than either the buildings or their creators.
The social facts of life forced a conceptive re-examination, a criticism of past efforts and, in a changed form, brought down established architecture.
Here, then, lies the root of the explanation for the change in form of the 1930's: approximately the right touch of gentleness in the contours, flowing space, traditional exteriors in both structure and form, the rediscovery of emotive, substantial materials such as wood, marble and brick - a transmodern appropriation of folklore and cultural roots. The elegiac quality of many buildings of the 1930's is evident. The establishment can now understand - as Bruno Taut wrote in the Japanese "Emigration" in 1934 - that modern architects are also "one of the treasures of the world".
Phenomena, described yesterday by Luc Verpoest as "moderate modernism", have their own specific historic background. Giedion's space-time conception as a modern reflection of the world, as well as his book, "Mechanisation Takes Command", were self-critical reflections on the experience of the 1920's, an exact expression of the resolution of a complex conflict.
I have now reached a dilemma as regards this broad, endless, complex subject, since I am unable to interpolate anything more at this point.
Therefore, I would like to limit my explanation to the Czechoslovakian architects, who will stand as examples for others.[1]
I would like to comment here on Karel Teige's conception which in 1929, with its criticism of Mundaneum-Entwurf, unleased a vehement discussion[2] among the Corbusiers of the Czechoslovakian avant-garde architects concerning the intrinsic value and characteristic form of modern architecture - an analysis of the aesthetic quality of these buildings and their poetic dimension.
With the question formulated by this conference we are confronted with the aftermath of an analysis which Teige was determined to see developed:
Architecture no longer builds monuments, it builds "instruments". That was his reply to Hans Poelzig's provocative thesis in "Bauen für den lieben Gott" [Monuments to God].
Karel Teige's view of architecture was totally "instrument"-oriented, flexibly presented as permanently



Guernica, Picasso 1937
Picture of a human being

changing vital processes nestled within society, with changing garments, a qualitatively neutral, indeterminate form, in much the same way that the uniquely aesthetic, regulating yet puritanical, governing agencies can suddenly appear. His ideal was a structural, gothic-style of architecture: a supporting frame and a neutral exterior. This view of future architecture as an uncompromising, anonymous social collective did have, however, an inherent purpose and value since it helped to keep alive a perceptive - and for Teige an implicitly collective and revolutionary - subject. Poetismus, the artistic approach to life, was the "modus vivendi" - "Socialism of the five senses" which, to Teige, meant a proletarian, cultural conception no longer alienated from real life, which would guarantee the particulars of a maximum enjoyment of life as a result of the development of his perceptive, social subjectiveness and, in so doing, would first of all make such a free development possible. In this way architecture established itself on the loftiest, most scientifically objective plane - and, only in this way, as a fleeting, poetic expression of its purpose in life, could it acquire meaning.

Teige emphatically rejected all perpetuation, solidification of functionalism in its aesthetic design relations, which he saw as being "worthless" [tote Werte]. For him, it was not the definitive function, but rather the potential perspective, which determined the building's form. Reduced to its bare essentials one could say that Teige saw only one function for architecture, that of its constant changeability.

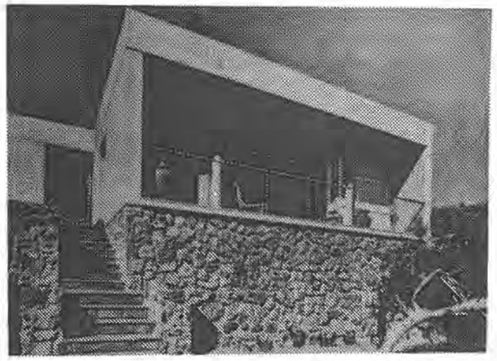
> "There is nothing constant in any given function except a perspective which one can extend, define and refine. One could say that in the same way that function determines architectural form, architecture for its part forms new functions".[3]

In this conception architecture is seen as being pointedly relative, an interim solution, removed from the realm of the absolute. Time, in the sense of "endless change" and the "concept of truth is lost in the final analysis to the concept of development".[4]

> "There is no eternal permanence, only eternal change and renewal. A new, active, dynamic interpretation of eternity, in which there is no place for static, constant values and truths. An absolute and normative aesthetic concept is impossible and absurd".[5]

The limitation of the tangible side of this usurpation of architecture becomes clear when Teige repeatedly emphasises that architecture means "windows", "ground plans", "layout".
Something happens here which remains unexplained in the course of his discussion. It will both bring about the freedom of life in society as well as "arrest" it.
Teige's conception of "Function in Time" demonstrates his influence and importance when one compares it with other qualified interpretations from the 1930's with respect to "phenomena of change" in architecture. That is to say it is in fundamental contrast to the concurrent tendency to construe the ideas of variability aesthetically - i.e. either to symbolise the universal turbulence as regards space and sculpture or to create an aesthetically observable "mis en scene". Behind the spectacular efforts to create a dynamism of space, of slabs of walls and sections of roofs, was concealed both the search for an affirmative, meaningful world view of modern architecture and a spacial symbol of an era of radical change and fleeting transitions, as well as a decisive moment of subjective despondency in view of retarding, (dear me!) reactionary tendencies in the actual social process. With anthropologically-rooted intent put together by Sifried Giedion in "Space, Time and Architecture", for the first time modern architecture was, with a historical continuity in which he passed the "the zero point" of the more constructive along the way, transposed back once again to primitive phenomena, fundamental concepts of spacial designs. For Giedion, space-time turbulence, changeability, were modern myths; from him sprang the symbolic meaning of building in the 1920's. At last, his aesthetic dimension. In sharp contrast to this symbolically abstract, imaginary treatment of "Phenomena of Change" by Giedion, stands Teige's conception:

> "The dynamic of architecture is above all a question of ground plans moving, being moulded into shape ... Dynamism means, not substitute and formalism of motion but, specific, real motion, change in space and time".[6]
> "Today's architecture, metropolitan buildings, the art industry is science ... an intense work of civilisation, social technique".[7]



Weekend houses in Garraf
Luis Sert, 1935
(Mediterranean Culture for eternity)

For him, time, motion and development were emphatically specific: socio-historic, practical categories. Variability, availability and formal flexibility were demands which Teige did not adapt to the concepts of a meaningful world view or a positive symbol of the turn of the century, but rather to an actual social necessity. His conception, in its approach, was the foundation of a theoretical plan for physical social organisation. As did Hans Schmidt, around 1930 Teige anticipated the projected methods of planning and came out in favour of open models of social processes and structures. Buildings, especially metropolitan buildings, were for him newly-constructed buildings, renovated buildings, buildings which were increased in height or enlarged, fortified, improved. Architecture must be built in such a way that it can be guaranteed without question. He hated "monuments". They stood in the way, either because of their massiveness or their appeal to sentiment.

In Teige's exceptionally solid, socio-theoretical functional models which, in a similar way, were also represented in the works of Hans Schmidt, Mart Stam, Hans Meyer and the OSA architects, there was a neglect and quite a deliberate blow to the group of opposing values and system of norms. Aesthetic dimensions were emphatically declared to be epiphenomena of more important interests. Teige quoted Loos whenever he ignored the artistic nature and yes - on occasion - even the aesthetic relevance of architecture; together with Engels, he argued against striving for aesthetic form. For the time being one would have to restrict the practicable social minimum (Engels: "sufficient living space") and not speculate about future forms, not regard form as the goal (Engels: "it would be an empty Utopia"). In 1930 Teige, waiting for a new revolution, advocated restricting the momentary necessity, always bearing in mind that it was only a temporary solution to the problem of minimum living space. Someone who shared this opinion was Karl Marx, who had in mind a poetic vision of the future, as he wrote on the "18th to Brumaire". [8]
It should now have become clear that Teige's conception did not contain an aesthetic concept of architecture, no surface structure styling. As human flesh covered amorphously with tent squares without a framework to support it, so too are the garments of the house: adjustable, neutral, "untattooed" [no distinguishing marks]. In his numerous discussions concerning new buildings he had never engaged in an analysis of form nor had he ever considered the nature of form in terms of its expressive potential. Teige's aesthetic concept of architecture was essentially one of doing: of planes, organisation, construction, production and - of life itself. He sought solutions in art for such things as seeing, hearing, tasting, feeling and moving. His conception of the 1920's was locked within himself. It suffered from an opposition to rationality by placing emotion and hyperactivity, if you will, at the mercy of an incapable dialectic. His excessive stress of the dynamism of social processes led to a neglect of unchanging values, based on more profound, socio-psychic aspects, derived from the experience of history, of space and physical formations.

Finally, our biased criticism turns to a group of Czechoslovakian architects and theoreticians who together founded the quarterly periodical, "Kvart"[9], in order to do away with the restrictions of a "too highly-regarded aesthetic concept".

They refused to deal with questions concerning human passions and the "evocative appeal" of houses.

> "In our view a house should be livable, it should evoke a yearning to be inside and to live within it, to be invited into its areas, to touch its surfaces and forms".[10]

The critics of the neopositivist foundations of the Teige conception put it this way:

> "To the people we say: the world is matter, is reality, which we weigh, whose powers we can measure, the world is composed of human needs and human relationships, which can be rationally criticised, and then though they only have a piece of earth in the world, one that lies within their visual angle. So long as

Own House, Munkkiniemi,
Alvar Aalto 1934-36
(Connection with the Nature)

House Gropius, Lincoln
Gropius, Breuer, 1938
(Look for the roots, for the country in the new world, new regionalism)

they believed in the supernatural, they were capable of looking farther but once they began to trust only that which they behold, touch and hear, they were shut inside a small shell of a country whose borders were clearly visible to them ... Once they began to attach a spiritual meaning to these small, restricted dimensions of the real world, they lost the courage to pursue real progress, they became the worst kind of reactionaries, since the future, for which they wait, cannot be written down in advance on some imaginary balance sheet and surpasses even the imagination of the romanticist".[11]

Which brings us back to the purpose of our conference: to preserve the projects of classical modernism prior to the decay, and to keep them for ourselves and for the coming generations.
Karel Teige would have derided this purpose as being sentimental and, possibly, reactionary.

But human beings are sentimental. They dream, read poetry and fall in love with very special houses. In the Netherlands, it would seem to me, they fall in love with "Zonnestraal".

I come from a country which for decades has followed a construction policy of rigorously tearing down old and putting up new buildings. "More beautiful than ever" shall rise the new cities of the DDR. In many cases rebuilt buildings often stood face to face with older, traditional buildings. This approach failed completely.

In Leipzig and other cities people walked the streets, even though they could not bear to see their city going to ruin. Disregard of and damage to the cultural identity of a city led to a process of passionate protests, which established an unheard of politically explosive force.
As a building historian at the Building Academy of the DDR, I am constantly being confronted these days with questions from people wanting to know who was responsible for passing the Destruction of Culture Act during the forty years of our history: who was responsible for the destruction of the Berlin Manor Houses, the Potsdam Garnisons Church, the Schinkel Building Academy ...

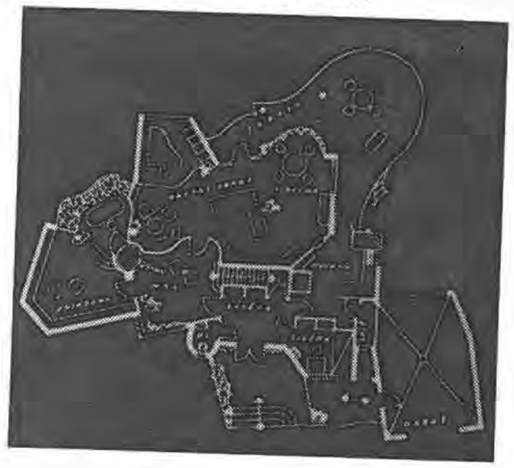
I confess that I am glad I have not been confronted with the question: who tore down the Bauhaus in Dessau.

Notes:

1. The various theoretical efforts of Karel Teige, Karel Honzik, Vit Obitel and the structural aesthetic, Jan Munkarovsky, were subjected to a comparative international examination in the authors' dissertation: Hain, Simone, Verteidigung der Poesie (In Defence of Poetry).
   Architektur-Konzeptionen der sozialistisch orientierten tschechischen Avantgarde in den dreissiger Jahren. (Architectural Concepts of the socialist-oriented, Czechoslovakian avant-garde in the 1930's). Zur Geschichte des Funktionalismus (Toward a History of Functionalism), Berlin, 1986, Humboldt-University, Dissertation A.

2. It was in Czechslovakia in 1929 that, grappling with the problem of a qualified polito-culture within the Czechoslovakian Communist Party, an intensive analysis developed concerning the apraisal of the philosophical and social theories of avant-garde art and architecture.
   See also
   - Avantgarde zhama a nezhama 3, Generacni diskuse, 1929-31. Prague 1971.
   - Hilpert, Thilo: Der Funktionalismus (Funktionalism) - Streit.

Design for a villa
Vit Obrtel, 1932



Bemerkungen zu einer Diskussion von 1929 (Comments on a Discussion in 1929). In the Scientific Newspaper of the College of Higher Education for Architecture and the Weimar building trades 1979, 2. Bauhaus Colloquy, p. 377.

3. Karel Teige: Etapy vyvoje (2), Stavba VII, 1929-30, p. 20.

4. Karel Teige: Konstruktivismus a likvidace "umen" (1925). In: Programy ceske aventgardy, Prague 1984.

5. vide supra

6. Karel Teige: Recenze, Behneho "Der moderne Zweckbau" (The modern functional building), Stavba V, 1926-27, p. 57.

7. Karel Teige: Adolph Loos (3), Stavba VIII 1929-30, p.92.

8. Karel Teige: Vyvoj sovetske architektury (1936). In: Zapasy o smysl moderni tvorby. Studie z tricatych let. Vybor z dila II, Prague 1969.

9. Kvart appeared between 1930 and 1934 in Prague as an "anthology for poetry and science". It published essays and theoretical sketches dealing with philosophical, literary, sculptural, architectural, political and cultural problems. They adapted a critical tone vis-a-vis the affirmation of reasonableness and showed strong interest in the powers of realisation of the senses. Politically, they displayed a revolutionary, as opposed to a united proletarian, posture, but did express criticism towards the Stalinist developments within International Communism. There were areas of agreement with Catholic political action groups.

10. Karel Honzík: Uvahy o architekture..., Volne směry 1937, p. 228.

11. Karel Honzík: Za obzorem vecnosti, Kvart I, Jaro 1930, p. 32.

Cristo Ganchev
National Institute for Monuments of Culture, Sofia; Bulgaria

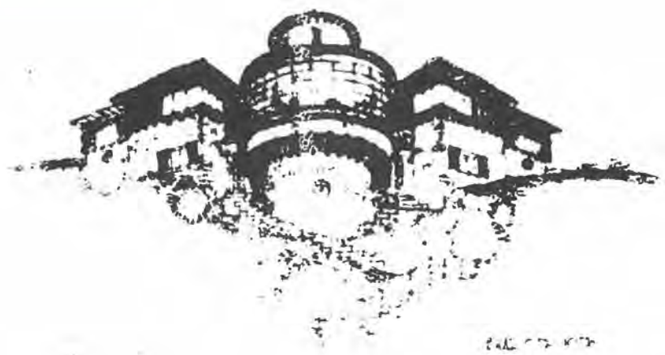
Bulgarian architecture in the 1920's and 30's

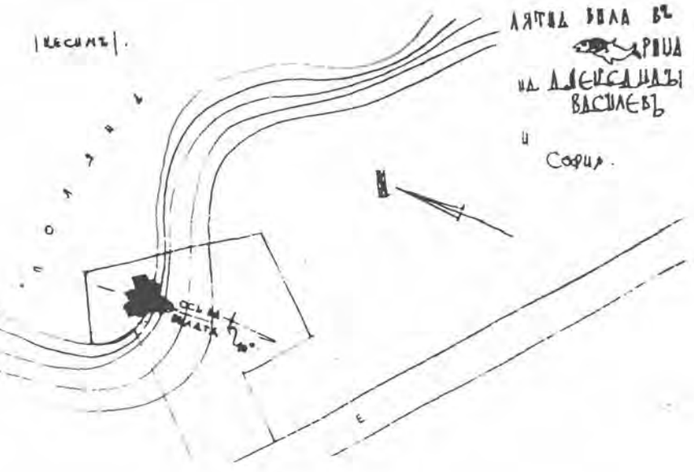
After World War I, owing to its economic, social and political effects, as well as inspired by the development of European architecture, the rationalistic ideas of new architecture showed up more and more clearly in the creative work of Bulgarian architects. This process however was conditioned by the epoch of Art Noveau, where the causes of the development of the "Modern Movement" of the twenties and thirties of this century can be found out. In this sense, it can be said that Art Nouveau in Bulgaria became the starting point of modern architecture, carrying new intentions and solutions.
The Art Nouveau architecture in Bulgaria developed its aesthetic, functional and spatial principles in the first quarter of our century. It determined a phenomenon whose philosophical and aesthetic basis were not provoked by local tradition or by discontent with official art. This phenomenon was imported by the first generation of Bulgarian architects, graduated in Vienna, Munich, Ghent and other big European schools and lived up to the end of the twenties in the work of K. Marichkov (hotel "Imperiol" in Sofia - 1920), K. Nikolov (residential building "Mussala" - 1925), P. Kantardjiev (hotel "Odeon" in Sofia - 1923), etc.
The particular historical conditions determined the complex duality in the development of Bulgarian culture. On the one hand, there is the desire to break up the 500 years cultural assimilation of enslavers of a different faith and conjoining to the culture of the Christian world; on the other hand, however, there is the crave for self-identification in this process. In this way was provoked the interest towards the national heritage, which in turn led to the occurrence of the national romanticism trend in architecture - an aesthetic conception to influence the development of Bulgarian architecture during the next periods as well. A late Art Nouveau interpretation of this idea is accomplished by A. Tornjov in the twenties (the church "St. Paraskeva" in Sofia - 1918-1930).
A basic opponent to Art Nouveau, as well as to the Modern Movement in Bulgaria, is the historicism, embodied in neo-styles and the eclectics, transferred by foreign architects invited to Bulgaria immediately after the liberation from the Turkish yoke in the year of 1878. Its' overcoming is a difficult and painful process, most of all because of the public and professional prestige of this art system. Once accepted as a model, and having formed the public taste, historicism could difficultly be got over by avant-garde opinions. Its' influence could not be overcome in the twenties too. Many approbated architects bore the consequences of this conception, for example, G. Fingov, D. Nichev and G. Jurukov (Bulgaro-Frnch Bank in Sofia - 1925), I. Vasiljov, D. Tsolov (the house of A. Chaprashikov in Sofia - 1932). Eclectics remained at the basis of the creative credo of N. Lazarov (County Chamber of Commerce in Sofia - 1920).
The whole complex of social, economic, political and cultural factors of the time is the basic prerequisite for the mixture of style trends and movements, building the motley picture of Bulgarian architecture in the twenties and thirties. In this sense, it can be claimed that the Modern Movement in our architecture is not conceptually homogeneous and develops its principles along several basic directions:

- confirmation of a national architectural style on the basis of rationalism;
- attempt for rationalizing the classics;
- desire for total renewal of the form and affiliation to the European Modern Movement.

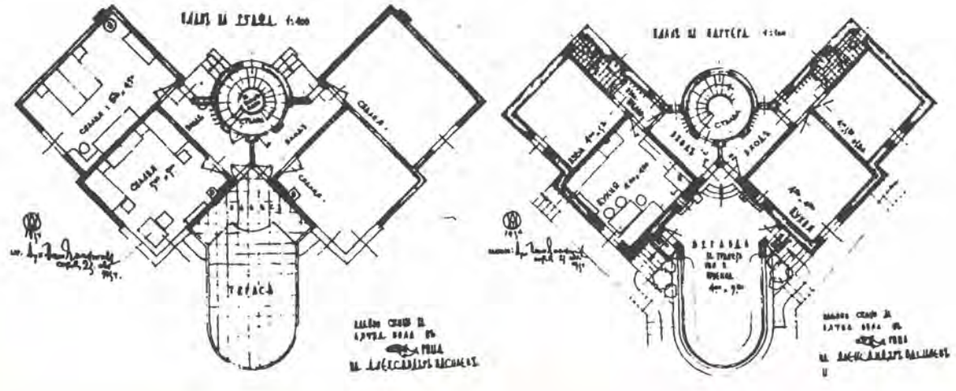
Attempts for interpretation of the national heritage in this period find their explanation, in addition to the creative gropings of individual artists, in a number of psychological, canonical and subjectivistic prerequisites, having their influence upon the formation of the errand. For example, because of the affiliation of Bulgarian church to the Eastern Orthodox Church the historical links with Byzantine architecture and the strong tradition bind religious building to the stylized in the spirit of rationalism Byzantica. A case in point is the church "St. Nedelja" in Sofia (1936 - I. Vasiljov, D. Tsolov).

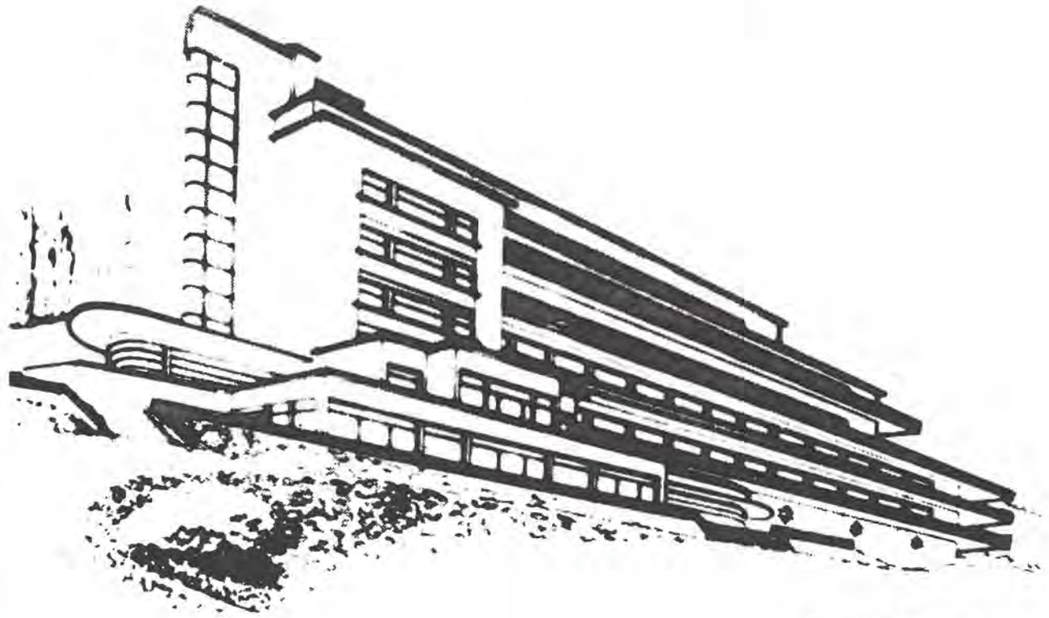
The thirties are the time when the trend of national romanticism in architecture reaches its' original maturity. The artists get over the interpretational approach towards the individual form or detail and the object of their dialogue with heritage becomes the whole plastic building of the architecture of Bulgarian renascence. In this way, the organic link is accomplished between tradition, on the one hand, and the basic European trend of the time, modernism, on the other. The complex synthesis of the principles of the Modern Movement with the structure of a local house of 18th and 19th century is most conspicuous in the villa of N. Jamantiev in the Ribaritsa village.
The renewed classics in the spirit of rationalism, the so called "modernized classics", has an important place in





Villa in the Ribaritsa Village
Architect N. Jamantiev, 1934





Spa resort in the Pyrenees,
competition project
Architect C. Dzangozev, 1934

the public building of the time. The execution of the big public errands during the twenties and the beginning of the thirties exactly in this spirit shows the painful process of changes of thought in recognized artists, which was conditioned by the dramatic struggle between academism and avant-gardism. Result of this effort are a number of masterpieces of our national architecture, such as the Law Courts in Sofia (1926-1936, P. Kojchev, N. Lazarov, P. Zagorski), the house-monument "A. Stambolijski" in Sofia (1924 - P. Parashkevanov), etc.

The building of the Bulgarian National Bank in Sofia (1934-1939 - I. Vasiljov, D. Tsolov) is the most illustrative example of how "the avant-garde ideas and solutions are transformed along the way of giving up to the conventional". (G. Papagalov - A and S - vol. 4 and 5). Despite of that, this building remains a masterpiece of the optimal synthesis between two artistic conceptions. Such a synthesis is beautifully accomplished also by G. Ovcharov in the realization of the building of the Ministery of Internal Affairs in Sofia.

Despite of the strong presence of the national romanticism, historicism and classics, during this period a number of buildings in the spirit of the European Modern Movement show that this idea has had its important place in Bulgarian architecture. A desire and gropings towards radical form renewal is shown by many Bulgarian architects who strive to create their architectural parallel to the new phenomena in the contemporary national culture. During that time no big public buildings were ordered to modernist architects. That is why this trend leaves its best models in housing architecture - in maisonette and cooperative housing construction. Some cases in point are the projects of N. Jamantiev for a house in Pleven - 1930 and for a villa around Sofia - 1935; the project of A. Demjanov for a residential building in Sofia on 28 Shipka str. In the field of cooperative residential building the house of P. Karasimeonov in Sofia (1929) can be given as an example. In the field of public building typical examples are the project for a Balneotherapy Center and the project for a departement store of K. Djangozov, the picture cinema "Osvobozhdenie" in Sofia of A. Delibashev, the 1st Workers Hospital in Sofia and the project for a concert hall and a museum in Varna of G. Ovcharov.

A new original trend in Bulgarian architecture has been created, which parallels one of the important periods in the development of our city, which is characterized not only by territorial development but also by the desire to a more intensive use of urban parts. This process is expressed in the change of the older parts of the housing in using the already created street structure, which effects substantial changes in the height of the erection. It increases from 3 to 5 storeys according to the then acting building regulations. Up to this day, this height determines the spatial scale in the central urban parts of our big cities and it is a result of a movement which can be characterized today as "renewal". It reflects the strave of this generation of architects to link the principles of the

Modern Movement with the context of the urban environment determined by the historical structure.
This approach may be illustrated with the dialogue in the plastic solution of the above-mentioned Bulgarian National Bank and the transformed into an Archeological Museum Bujuk Mosque (15th century). The relative scale of the architecture of hotel "Bulgaria" (1930 - S. Belkovski, I. Danchov) and of the Clerk's Insurance Company (1920 - G. Fingov, D. Nichev, G. Jurukov) as well as the remaining buildings on Blvd. Russki in Sofia create, with their nuances, a calm, harmoneous silhouette where each individual building clearly shows its style membership. The medieval impact of the space along Malko Tarnovo str. in Sofia is achieved through the composition of seperate buildings. On the principle of contrast with historical architecture, but with an emphasized feeling for optical scale, the building of the Student Cultural Hall in Sofia (1933 - S. Belkovski, I. Danchov) is realized, and this does not violate the frame of the square of the King Liberator Monument, i.e. the scale of the historical space from the end of 19th Century, is preserved. There is a principle difference in the approach to the building of a group of houses around the monument of V. Levski. However, despite of the changed spatial scale, the serene architecture creates an appropriate background to the obelisk.
The examples considered attempt to generally illustrate and explain the complex picture of Bulgarian architecture in the twenties and thirties and the conditions under which it has developed. In an attempt to make a fair evaluation of its' qualities we should note one of its' distinguishing features, namely the crave for taking into account the particular conditions, besides the desire for rational attitude towards the four aspects of architecture. Such a position seriously questions the eternal and universal truth. That is why a mid-way position, between tradition and avant-gardism, determines a substantial part of the architectural practice in Bulgaria in the twenties and thirties, whereas the (pure) models of the Modern Movement are very scarce.

The Picture Cinema
"Osvobozhdenie" in Sofia
Architect A. Delibashev, 1938

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Translated from French

The modern architectural movement in Rumania during the period 1920-1930

A country's reason for existence can be defined separately from its capacity to subsist or produce, and its' values can be preserved, by its' national heritage. But the roots, the traditions, the memoirs of a people is at the same time a unique treasure for each and every one of us. That is the starting point: by accepting that which brings them together, that which changes or preserves what mankind will leave to posterity, that which rises above the antagonisms - one can and must reveal a potential conviviality, create for one's self a common treasure.

One aspect of this common treasure is represented by the architectural heritage of Rumania, within an area of Europe where the Byzantium reached to the Occident and the Occident was bound by the Orient, an extremely interesting heritage, bringing about a historic meeting and synthesis.

This heritage has been in great danger and was, unfortunately, partially damaged during the 1977 earthquake, which resulted in the ludicrous and incredible demolition of churches, houses and whole suburbs which had grown up around the capital, Bucharest, giving way to the violence and blindness of a boundless power.

The equivalent of six square kilometers situated right in the middle of the city was raised, among which many properties and buildings dating from the 1920s and 1930s which had withstood the slow erosion of time, were reduced to dust.

Since 1922, following the first few difficult years after the War, the picture of a politically unified Glorious Rumania, of a country continually bursting with growing economic power and a remarkable industrial progress, began to influence every aspect of social and cultural life in the country.

Having become the capital of a country which was growing considerably, the city of Bucharest developed rapidly. Many intellectuals, seeking to join and become part of the dynamic life of the moment, exposed to European modernism, went to study in Paris, Vienna, Berlin, were quick to follow the avant-garde artistic movements.
Well-known personalities such as Ion Vinea, Tristan Tzara, founder of "dadaism" and Marcel Iancu, architect, nonconformist painter and art critic - transformed their periodical, Contimporanul (The Contemporary), with more than 100 issues between 1922 and 1932, into a platform of European modernism.

Marcel Iancu published in Contimporanul examples of modern architectural incitement as well as the avant-garde theoretical writings of such people as Gropius, Meyer, Van Doesburg, Van Eesteren, Bruno Taut, Mendelsohn, making them known to the Rumanian public.

"Vers une Architecture" [Towards a New Architecture] was published in 1925 and for the first time the dogmas of Corbusier were confirmed in the Rumanian press: "... the aesthetic of the engineer, architecture, two complementary features, consecutive ... A volume is enveloped by a surface ... THE BEGINNING OF A GRAND ERA ...". In Bucharest one could read De Stijl, Esprit Nouveau. In 1926 M. Iancu reestablished the international prestige of the periodical with the publication of a series of conversations with friends from France, Germany and Switzerland, who sympathised with the Contimporanul: Brancusi, the painters Delanuay and Ernst, the sculpturer Hans Arp, the surrealist writer André Breton, the playwright Jean Cocteau, the poet Paul Eluard, and the architect Auguste Perret.

The use of new materials, the new technique using reinforced concrete, the functionalist concept, a new plastic art capable of giving form to the new aesthetic concepts in keeping with the spirit of the time and the requirements of modern man, represented realities which called for new solutions.

In 1925 "International Style", the most important modern architectural trend up until 1950, commanded respect in Europe and the U.S.A. In Rumania, the phenomenon was received in nearly the same way as the first indications of style in France or Germany, the first creations designed to house individual people.

This new architecture started out in Rumania in the 1920's based on a rather ethereal classical academics and on "Neo-Rumanian" style, existing side by side with a formal and militant opposition represented by cultural

personalities of the time, eager, adept conservators of the national style.

The conservative periodical of the time, "L'Architecture" [Architecture], alarmed by the proliferation of the international style, declared: "... When one looks from the Place de l'Université to the Place Romaine (the section of the new boulevard widened at the time), one gets an impression of an enormous market place where chests overflowing with merchandise have been superimposed to the limits of what is possible, ready to tumble down with a catastrophic collapse. How can one say that such a style, anonymous, international, disoriented, lacking moral and architectural character represents and defines the potential, peculiar genius of our people ... ?"

The international style, with its new, expressive values, the simplification of volumetric analysis, juxtaposition and articulation of primary forms, submission to right angles, the treatment of the naked surfaces of an excessive ornamentation, responded perfectly to the new economic and political requirements.

An important group of young architects, belonging to and graduated from the main universities of architecture of France, Germany and Switzerland returned to their countries fascinated with the concepts of a new revolutionary art form, represented by the projects and creations of such persons as Tony Garnier, Ozenfant, Robert Mallet-Stevens, Henri Sauvage, Eric Mendelsohn, Mies Van der Rohe, Gropius, Le Corbusier.

Full of enthusiasm, they began to experiment with avant-garde concepts with a great, exciting burst of construction and the revival of an unprecedented economy. The promoters are numerous, the economic crisis of 1929-1930 only had a slight effect on estate construction, the needs of modern society demanded and imposed new solutions.

Among the numerous professionals whose creations are distinguished by the quality and impact of their works on the whole of architectural production in Rumania, testifying to a relatively important contribution to international style in the 1920's, 1930's and 1940's, are such exceptional people as Marcel Iancu, Octav Doicescu, Horia Creanga, G.M. Cantacuzino and Duiliu Marcu.

Marcel Iancu, born in Bucharest in 1895, left for Zurich in 1915 with Tristan Tzara. There they founded "dadaism", a renowned, global movement replete with violent, anti-conformist demonstrations.

After brilliantly completing his architectural studies at Zurich, he took part in 1922 in the first "constructivist" congress at Düsseldorf, declined a chair of Art Nouveau at Munich, returned to his native country, where he actively practiced graphic arts and art criticism, together with Ion Vinea published the periodical, Contimporanul, the active, militant platform of the Modern Movement for more than ten consecutive years.

In the aesthetic amalgam of the city of Bucharest, which contained two official styles side by side, that of the local "Neo-Rumanian" and that of the classical, academic, dual occidental, of innumerable other stylistic varieties (neo-Gothic, neo-Byzantine, Art Nouveau, the Sezession, Art Deco, the Fachwerk methods, Moors, Florentine, etc.) Marcel Iancu became the pioneer of the Modern Movement offering the inhabitants of Bucharest in 1922-1925 the first "maison cubiste" [the cubic house], in the rue Negustori.

From that point on he created more than 30 individual houses and housing estates, bringing to the streets of Bucharest the modern language of voluminal simplicity, stripped of all decoration.

Octav Doicescu (1902-1981), a remarkable personage in the realm of architecture, eminent professor at the Bucharest Institute of Architecture, creator in the 1970's of the magnificent campus of the new Military Academy of Bucharest, his work oscillates between classical and national tradition and modern expressionism.

In 1930 he built the Yacht Club on Lake Snagov, an edifice which unites "Gropiun" purity of form with the clear dialogue of geometric forms of the foremost creations of the European Modern Movement.

Horia Creanga (1892-1943) studied architecture in Bucharest after receiving his degree in the fine arts in Paris, worked at the studios of Gustave Ubdenstock and d'Expert, returned to Bucharest in 1927, his first creation being the residence of Dr. Petru Groza at Deva in Transylvania, one year after finishing Marcel Iancu's house in Bucharest, in the same avant-garde style.

But the real example of Rumanian building during the 1930's was the estate of the Société d'Assurances [Insurance Society] (ARO) in Bucharest, finished in 1931 by him and his team (Ion, his brother, and Lucia, his wife) in a succession of public works.

The building with two wings, eight and five stories, intersecting by means of a tower 11 stories high, principle means of articulating the transition required by the angle pointing to the streets, sheltering offices, conference rooms, a large hall for theatre or cinema, accommodations and storage areas, represented a lively and clear discourse on "international style", perfectly under control.

The horizontal balance, pure geometric volumes clearly expressing the various functions, the dynamism of the roof, the eaves - arguing in favour of and imposing in a distinct and firm manner the vocabulary of the new architecture.

Finished in 1937: the Malaxa estate by Horia Creanga, completed and given the finishing touch of his professional credo: pure volume, a gentle dialogue among the horizontal balance of endless windows, the remarkable suspension effect of the utilisation of volume in the tinted glass on the ground floor.
The work of Horia Creanga, assisted by talented associates, in his unfortunately very brief professional life, included very diverse projects, from private villas to moderately-priced rental buildings, universities, industrial buildings and sports stadiums.

Horia Creanga's creations between 1927 and 1943 confer on him the leading position as founder of the modern architectural movement in Rumania, due as much to the values which are unique to him as to the spirit of their author.

His tendency toward simplicity and abstraction, the similarity to Brancusi and, without having been a professor, his influence on his associates and students during the 1930's and 1940's, was considerable.

"The straight line", "less is more" were characteristic traits throughout his work. Horia Creanga promoted "newness" in Rumanian architecture, preaching the same dogmas of the Modern Movement of the time as on the Continent and in the U.S.A.

G.M. (George Matei) Cantacuzino, humanist, citizen of the world, architect, learned professor of history and of the theory of architecture, painter, man of letters; profoundly fond of his country, occupies a unique position in the heart of the Modern Movement. Almost all the new projects, the modern technique and a sense of urbanity are reflected in his practical and theoretical work.

In his buildings on the cliffs of Lake Noire G.M. Cantacuzino introduces a symbolic idea: in the Aviana villa the arc of the circle becomes an expression of pure geometric language; the hotel Bellona reminds one of naval architecture. In 1935 he wrote: "...the materials are the same in Bucharest as anywhere else in the world...""..we are part of a unitarian civilisation which extends throughout the world..." - generous, prophetic thoughts for an occasion in some future world.

Duiliu Marcu (1885-1966), architect, professor, crossing several stylistic stages of the time; following the classicist, academic experiences and attempts at a personal interpretation of popular architecture, he united a group of modern architects during the 1930's.

As the head of a valuable team of architects he built a number of important, influential estates and remarkable, high-quality villas in Bucharest. At the same time he created a series of prestigious modern buildings in Bucharest: the Palace of the Ministry of Foreign Affairs (1937-1944), the Military Academy (1937-1938), the State Monopolies Administration (CAM - 1934-1941), the Academic Library (1937-), etc.

Towards the end of the 1930's he became the chief

Hotel "Bellona" in Eforie North on the Black Sea,
Architect G.M. Cantacuzino

representative of a monumentalized modernity, reflecting the international crisis in style on the eve of the Second World War.

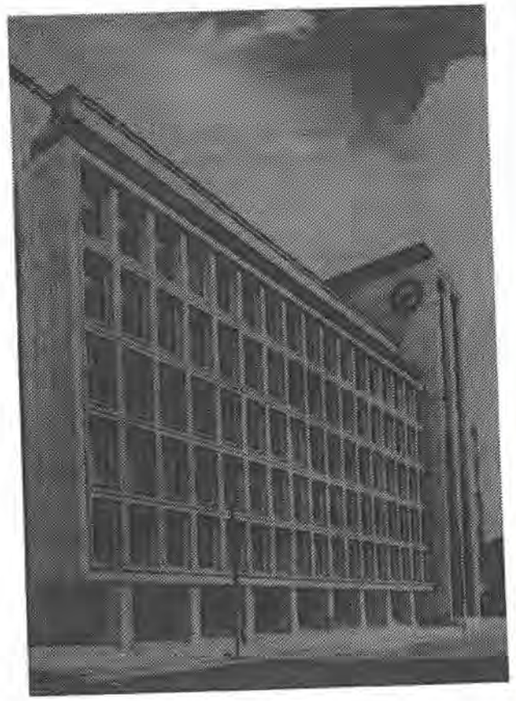
Reporting on the modern architectural movement he wrote: "... The artistic optimism of the younger generation to return architecture to its source: surfaces, volumes, substance, space. ...never has the music of geometry had such an intense influence on people's feelings. Never has it been brought to bear so sensitively as with the miracle of pure substance..."

A listing of the works of Rumanian architects of that era - all of whom understood the necessity to create in the spirit of the times, to meet the realistic request of their contemporaries - obviously does not stop here.

This architecture, of such remarkable quality, with its inherent worth, its comprehension and harmony, at the same time one of the most captivating of movements, took possession of the world of art and its concepts left an unequivocally lasting impression on Rumanian culture and European values.

The New Architecture of Rumania represents part of our heritage. A heritage that was and must once again become a constituent part of the nations of Europe, a "rebirth" which will be difficult to bring about but which in times to come will be our common joy.

Enriched, we with your heritage and you with ours, together we will face the future.



State Administration Building
(C.A.M.)
Architect Duilio Marcu, 1934 - 41

Bibliography:

Radu Patrulius - "Horia Creange", Omul si opera; Ed. Tehnica, 1980.

Duiliu Marcu - "Arhitectura"; Ed. Tehnica, 1960.

Gr. Ionescu - "Histoire de l'Architecture en Roumanie"; Ed. Academiei, 1972.

- "Monuments Historiques" - C.N.M.H.S., Paris, 1990, nr. 169.
- "Arhitectura", rev., les nr.: 4-5/1975; 1/1981; 1/1982.

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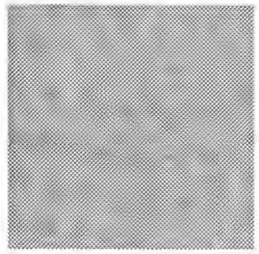

Protofunctionalism in Moscow's architecture

By the beginning of the 20th Century the rationalistic movement in Russian architecture has already had behind itself a half-century history. For the first time the principles of rational architecture obtained their clear-cut wordy expression and theoritical rationale in the book "Civil Architecture" (St. Petersburg, 1851) written by the Petersburg architect and pedagogue A.K. Krasovsky, in which it has been proclaimed: "Our slogan is the transformation of the useful into the elegant" (p.29), as well as that "technique, or a structure is a chief source for architectural forms' origin" (p.5). It is not difficult to note that precisely these chief postulates have become basis for a universal concept for the Modern Movement in architecture in the early 20th Century.
Having considerably passed ahead of his time their author produces an impression as if he were a forerunner of the distant future, but, on the other hand, the publication of Krasovsky's book in the course of the 19th Century offers us a starting point in accounting the evolution of architectural rationalism as a conscious and purposeful movement in Russian architecture and marks the start of a deeply-hidden process of maturing of the turn to a new architecture being accomplished in Russia in the 1920's.

The visible results of this process emerge in Moscow's architecture at the border-line of centuries. One of the first structures demonstrating a particular functionalism of the formal language has been a Trade House in Bolshoy Cherkassky Lane built in 1898-1899 by the architect A.V. Ivanov. The framed structure nearly deprived of decorations and distinctly disclosed on facades permitted to increase, to a maximum, window openings with them having obtained a horizontal configuration. The formal language of this structure can be compared to the works by the Chicago School and only the buiding's small size (4 floors) hinders to draw an anlogy with it to a greater extent. At the same time this structure also shows that protofunctionalism as a trend in architectural practice had been conceived in Moscow's architecture somewhat earlier than the "modern style" (Russian modification of Art Nouveau) and independently of it, though precisely the greatest masters of the "modern" played a significant part in its further evolvement.

The turn of the century was marked by a certain rise in architectural "collectivism" throughout Europe, having become a specific trait of the entire art of the 20th Century. Not infrequently architects got united into associations of like-minded persons, wrote declarations and manifestoes, that outlined the peculiarity of their viewpoints in words, set them apart from other architects and creative groups. In this respect, the architects of Moscow of the 20th Century appeared to have been traditionalists in their majority. Not having been able to actually set up an association consolidating architects on the basis of a rationalist programme, they - one by one - started exploring the aesthetics of a naked structure and the simple geometric form.

Among the first who succeeded not only in full liberation of their structures from decorations but obtained a convincing artistic effect have been the greatest architects of the Moscow modern A.E. Erichson and F.O. Shekhtel. In 1901-1902 Erichson built "R.B. Levisson's Trade House", and Shekhtel - the remarkable building of the "Ryabushinsky's Bank" (1903-1904).
Both buildings bearing the traits of the Wagner's School influence have demonstrated the embodiment of some functionalist principles. The simplicity and geometry of forms, accentuation and aestetization of the building's structure, enlargement of window openings at the cost of the closed parts of the facade, textual contrast of surfaces (glass, facing tale, rendering) vividly show that in these structures the accent in the image-bearing interpretation of the building has been shifted from decorations to the rhythm of geometrical forms (the shape and sizes of window openings and piers, window panes' pattern). These properties are also inherent in some succeeding works by the same architects - Trade House in Kuznetsky Most by A. Erichson (1907) and masterpieces the "Utro Rossii" Printing House (1907) and the House of Moscow Merchants' Society (1909-1910) by Shekhtel.

The shift to strict geometry and simplification in 1900-1910 entails rather wide strata of Moscow architects thus penetrating into housing estates. Many facade compositions of private residences and tenement houses of that time faced with ceramic tiles - a then popular building material - also reflect an objective process of liberating the "body" and structure of buildings from decorations - from gorgeous eclectic decorations to their flat representation and further to their absolute abandonment. The coloured spots of window frames in E. Zalogina's private residence designed by the architect

K.K. Gippius (1904) and V. Panyushev's tenement house designed by the architect A. Ivanova-Terentieva (1911), or window imposts with women's hermae on the utterly flat facade of V. Baskakov's tenement house created by the architect O.G. Piotrovich (1910-1913) are perceived as an ironic reminiscence about traditional eclectic window setting.

At the same period there appears a rather large number of buildings, in which there have been overcome even such modest reminiscences about a decorative feast of eclecticism and the "modern" and the accent is shifted on the creation of a facade composition through the geometricized volumes of bay windows and balconies not infrequently made as bare reinforced concrete structures. A good example of this is a tenement house in Sobinovsky Lane erected in 1913, as well as a tenement house in Lyalin Lane designed by the architect I.G. Kondratenko (1911) and I Purishev- I. Katsman's tenement house built to the design by the architect O.O. Shishkovsky (1912) . Purism, intentional asceticism of the formal language, a tendency to wipe out the contrast between the architectural treatment of street and courtyard facades, attention to the spatial isolation of buildings to the plastic treatment of geometric volumes make this stratum of Moscow's architecture related to constructivist housing estates.

Let us also note that architectural tendencies exemplified above are semantically parallel to the evolution of other arts, in particular of painting, in which in 1908 cubism sprang. The Russian philosopher Berdyaev wrote that "Cubism is ... a search for geometrical shapes in the objective world, the skeletons of things. The searches are analytical, but not synthetical" (Article "Picasso", 1914). It seems to be true as applied to architecture, in which many works of that time look sometimes like timid and sometimes like more daring experiments in the field of form-creation, as attemps to remove old decorative clothes from buildings and disclose their essence.

Although protofunctionalism in Moscow's architecture in the end of the 1910's becomes a steady tendency in architectural practice, there was also the active development of movements that are genetically connected with the stylistic pluralism of eclecticism, among them neo-gothic. However, its formation is also, doubtlessly, influenced by protofunctionalism. The scarcity of decorative traits of the gothic style and the rhythmic structuring of facades distinguish Galperin's tenement house designed by the architect Shekhtel (1908) (decorative gothic pinnacles capping the building have not survived), a tenement house in Podsosensky Lane by the architect V.A. Mazyirin (1910), a tenement house in Markhlevsky street by the architect V.E. Dubovsky (1916). Individual gothic elements are contained in the building of I.D. Syitin's Printing House designed by the architect A.E. Erichson (1912) with its splendid ribbon windows of continuous glazing.

Original imprints of protofunctionalism have been left on the works of neo-classicism which replaced the "modern" (Art Nouveau) as a principal stylistic trend in the second half of the 1900's impetuously evolving till 1917. Protofunctionalism has formed a special branch of Moscow neo-classicism, in which the tokens of the style are expressed in the form of sign-applications or some formal quotations, but mostly do not affect the buildings' structural characteristics. Quite a lot of imposing buildings in the inner part of Moscow can be cited among such buildings. For instance "Business Courtyard" by I.S. Kuznetzov (1913), into the ascetic rational volume of which there has been fitted a classical portico capped by a flat cupola; or the houses of the Nordic Insurance Society (1910-1911) by the architect I.I. Rerberg, M.M.Peretyatkovich, V.K. Oltarzhevsky, which integrate an ordered rotunda and a large spherical cupola into the spatial play of volumes, which testifies to an, absolutely, new approach to the building's composition based upon the counterpoint of simple geometric bodies.

The same approach is revealed too in Sytin's office building designed by the architect Erichson (1913-1914) and a tenement house in St. Petersburg belonging to the Insurance Society and designed by the architect A.G.Izmirov (1912). "Classical protofunctionalism" has been rather spread in mass-housing construction too. Many structures of this trend have been erected with maximum respect to the functional peculiarities of this type of buildings and on the whole are very close to protofunctionalism. Sometimes, small "brooches" of decorative panels, festoons or bas-reliefs can be indicative of their classical orientation - for example, the count V.A.Baranov's tenements house designed by the architect V. Voeikov (1913-1914).

In the 1910's in building up Moscow, the geometrization of building forms and their fragments, as well as their congruence with a functional challenge rises to a new quality level. Such protofunctionalist buildings as M. Levin's tenement house (architect A.K. Gottman, 1909-1910), the Trade House of the Military-Economic Society (architect S.B. Zalessky, 1912-1913), a block of flats (architect E.K. Nirnzee, 1912) and the nothern block of the Stroganov Artistic-Industrial College (architect A.V. Kuznetzov, 1914) concentrate in their forms and structural principles not only the conceptual and formal achievements of protofunctionalism, but indicate ways for the further evolvement of this trend.

Apart from economic aspects, the architects become increasingly preoccupied with the social aspect of that time, and in confirmation of this, as example can be taken a house with "affordable flats" specifically designed for low income population. This is the largest - by height - house of prerevolutionary Moscow - Moscow's skycraper - which happened to be the first building which brought to life another principle of functionalism - an exploited flat roof, where originally there were accomodated a cafeteria and a cinema-house. Ensuring a building's open plan the reinforced concrete frame is embodied in the architecture of the Stroganov College in a mature and professional way. Here, one is astonished by plastic junctions between the structure's round pillars and floor slabs, while other formal innovations are also of interest .

A short retrospective into protofunctionalism development in Moscow based upon the materials related to architectural practice allows to understand only some evolutionary tendencies in the establishment of aesthetics of the 20th Century's new architecture in Russia, issues of a universal concept, the evolution of other arts not being addressed. Nevertheless, even this short review convinces us of the inevitability of the turn accomplished in the 1920's, in the correctness of words spoken by our tactful contemporary N. Berdyaev in 1917: "Passeism is powerless in the fight with Futurism. The return to old art, to the old beauty of a realized world, to classical norms is impossible" (Crisis of Arts, 1917).

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Roman Post Offices 1933-1935: design and construction

The convergence between fascist cultural policy and the demand for modern architecture was at its height in the Italy of the early thirties. The major monuments to that climate are well known: Florence Station, Sabaudia, the Rome University Campus. This open-minded attitude to the ideas of the younger architects (who would later be downgraded to the realisation of minor projects) produced a whole series of buildings, which were long considered of secondary importance but which remain distinctive features of our suburbs and are outstanding in their originality and quality. These buildings have not always received the attention they deserved. Their maintenance has been neglected and their original features not always preserved.

Preeminent among these buildings are the four Post Offices built in Rome in 1933-35, following a national design competition. Three of them, in particular, were the youthful works of Adalberto Libera (with Mario De Renzi). Mario Ridolfi and Giuseppe Samonà all destined to play a major role in Italian architecture. Their particular interest lies in their distinct differences from both the more conventional facist architecture and the more typical expressions of Italian rationalism.

The genesis of these particular architectural achievements has been the subject of an extensive and detailed study which analyses the entire process from design to construction, details, choice of materials. The analysis reveals the experimental nature of certain technical and architectural solutions as well as the contrivances - sometimes outright tricks - adopted by the architects in order to avoid the stereotyped rhetoric of fascist monuments.

The present brief report is taken from that study (1).

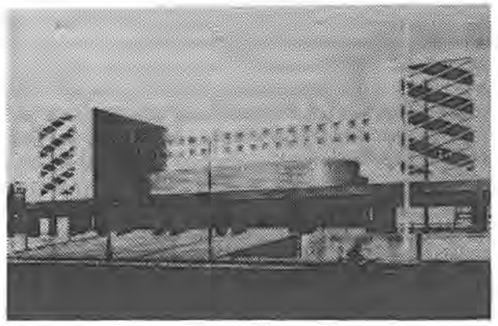
The Competition

In November 1932, a special committee set up by the Ministry of Communications proposed the construction of four new Post Office buildings on the periphery of the city centre, to be located at four focal points of urban expansion. The project formed part of a wider programme for the development of national communications launched in 1925. The decision to build four Post Offices rather than the single new building constructed in other major cities was attributed by the Minister Costanzo Ciano, to Mussolini himself. It was, in any case, a key element in the regime's strategy to create public buildings in the Capital that epitomised the institutional legitimacy, efficiency and stability of fascism.

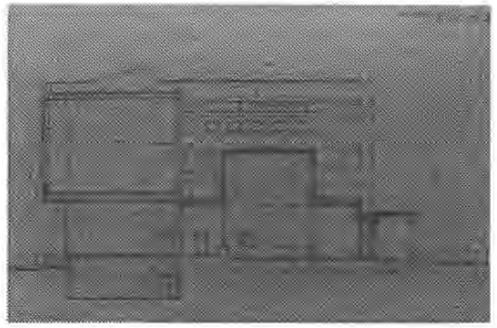
The decision to launch a national design competition was taken despite the opposition of the two official Ministry of Communications architects, Roberto Narducci and, especially, Angiolo Mazzoni who designed most of Italy's new post offices and railway stations in that period - with varying success, though most of their work is not without interest. At the same time, the design competition was the primary tool used by Marcello Piacentini and Alberto Calza Bini as they trod a careful path between the demands of the traditionalists and the modernists.

Recruits from the new Faculties of Architecture were skillfully brought into play, while the more extremist fringes among the "Academicians" were relegated to the sidelines. At the same time, the power over architectural decisions exercised until that time by non-architect intellectuals like Ojetti of Papini and by top civil servants was reduced, while the agitation in favour of modern architecture was absorbed into the regime's cultural policy, but very cautiously, the "modernists" being restricted to more functional projects rather than the great show pieces.

The Post Offices occupied the middle ground between the monumental edifices for which traditional criteria were insisted on and functional buildings for which a rational approach was authorised. Article 2 of the competition announcement explicitly stated that the designs should not only "conform in architectural concept to the artistic dignity of the capital and the spirit of the present historic age" but also "satisfy in the fullest, modern fashion, practical requirements". In any event, the fact that emphasis was explicitly on function, even before the judgement criteria were clarified, inevitably aroused the interest of the young rationalists. The desire to find a point of convergence between the demands of the traditionalists and the modernists was also reflected in the composition of the competition's committee of judges. Apart from representatives of official bodies (Pession, Businari and Narducci from the Ministry of



A. Libera, Palazzo Postale
in via Marmorata, Roma 1933-35



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section

Communications; Giovannoni from the Rome Faculty of Architecture, Calza Bini from the National Union of Architects) it included two representatives of the traditionalist generation, Del Debbio and Brogsi; Giuseppe Vaccaro, universally recognised as an exemplary mediator between tradition and modernism and finally, as an unequivocal sign of the institutions' acceptance of Italian rationalism, Giuseppe Pagano.

The desire for modernity explicit in the competition announcement won a massive response from Italy's young architects.
The traditionalists and the "academicians" abstained, either put off by the innovative formulation of the announcement or otherwise engaged in the design of the university campus.
Roman architects predominated in the 136 entries which reflected the conflict (not always frontal or clearly reflected in the designs themselves) between the two newest generation of architects: the forty-year-olds, the last graduates from the Scuola Superiore di Belle Arti and the thirty-year-old graduates from the new Faculties of Architecture.

Prizes and commendations were evenly distributed between the two groups with Roberto Marino, Francesco Leoni, Giuseppe Wittinch, Emidio Ciucci, Cesare Pascoletti representing the old guard, Paniconi and Pediconi, Ernesto La Padula, Giuseppe Marletta, Ernesto Puppo, Franco Pietrucci, Angelo Dio Castro and Moise Tedeschi, the younger generation. However, when it came to construction, the jury simply selected the best designs, at least in three out of four cases. The design by the young Trentino architect Libera and Mario De Renzi was selected for the Aventino Post Office; the entry by the young Roman Mario Ridolfi was chosen for the Nomentano; the thirty five year old Silican Giuseppe Samonà created the design selected for the Appio Post Office; for Prati, the judges selected the design by the no-longer young Torinese architect Armando Titta. Though a real effort was made to ensure geographical balance and not to favour the Roman architects closer to the fascist power centre and despite the inevitable intrigues involving jury members and competitors, civil servants and professional architects, the winning designs, except for Titta's were indubitably the best and the most innovative.

In particular, the young rationalists, Libera, Ridolfi and Samonà, provided three distinctly different but extremely capable responses to the competition's basic challenge, developing projects that brilliantly balanced a traditional concept with modern touches.

Libera's design was for a building in three distinct blocks. His main, C-shaped block had the post office services on the ground floor with offices and the telegraphic equipment hall above.
The public hall housed in the belly of the C was highlighted by a raised roof. On the front, a broad, low portico was linked to the street by a series of steps and pools. This was an elementary solution that conformed almost exactly to the layout specifications attached to the competition announcement. However, only very few changes were required to convert it into a halved courtyard structure.
The image thus created lay half way between a metaphysical, mythic vision of a Civic Monument and a functional machine faithful to the basic canons of rationalism, yet embellished with evident futuristic touches.

Samonà was forced to design a building that would fit into a small, irregular site while respecting the traditional city block format. At the same time, his design had faithfully to reflect the functional organisation of this post office.
He solved this double problem with a composition incorporating several elements: an angular block with two wings converging on the street corner facade held the public hall with offices above. The rectangular block facing Via La Spezia held the parcel department with the telegraph hall above.
The central pavilion was equipped as a sorting office.

Ridolfi's design was to undergo radical transformation. Originally, it was composed of three blocks. The central element was raised and imposing. It held the large halls

(the public hall in front, facing the square, the rear hall housing the sorting office and the telegraph equipment). The side blocks held services below and offices above. The symmetrical facade looking out onto the square satisfied the functional requirements of the competition in a conventional manner, though not without a few original expressionist touches. However its supple line already hinted at the masterly insertion into the urban context that was to inspire the final design.

Construction work

The winning architects had been entrusted with the executive drawings and the artistic direction of the projects. Between July and September 1933 they produced the drawings necessary for the tenders put out for the building work.

They worked in close collaboration with the engineers from the Ministry of Communications' office of works who were acting as contractors as well as directing the works. In this phase functional details were finalised, constructional and structural elements were defined and dimensions were calibrated after the facades had been revised.

The same construction system was used for all four buildings and reflected the inability of the period to decide between traditional masonry work and modern frame construction. Thus, the bearing structure, a reinforced concrete "skeleton" was plugged with heavy masonry work of solid brick, while the floors were of reinforced concrete. The important parts of the external facade were intended to be faced in travertine marble with a cladding of brick or "Terranova" plaster for the secondary parts. Inside, marble was used in the area open to the public, distemper elsewhere.

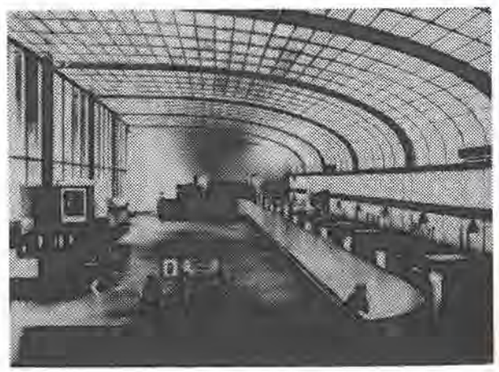
Building work on all four post offices began on October 10, 1933. Over the next twelve months the bearing structure was completed, posing considerable problems for the construction companies due to the slenderness of the beams and static volumes that, in certain cases, were considered "adventurous".

By the end of June 1934, the architects had delivered the second batch of executive drawings, including the definitive designs for the front elevations and their choice of materials. There were innumerable hold-ups and delays between June and December 1934 that reflected not only the builder's problem with the load-bearing structure but also the architect' hesitations and second thoughts about certain construction elements as well as bureaucratic slowness in allocating tenders for the finishing work.
Nevertheless the finishing work was completed in the first ten months of 1935. This meant that the post offices could be opened on the date originally planned, though it had taken extra shifts in holidays and at night to do it and part of Ridolfi's travertine marble facing had to be replaced by painted plaster.

Once completed, the buildings were not universally acclaimed. The press was expected to give ample coverage of an event that demonstrated the regime's concern for local civic amenities in its creation of the Great Metropolis, but the reports reveal little enthusiasm for the architectural modernism on which so much emphasis had been placed only two years earlier in the announcement of the competition and the selection of the winners. It was not only that the regime had lost some of its enthusiasm for modern architecture. Another factor was the difference between the original designs and the completed buildings. While the original competition entries clearly revealed the combination of traditionalism and modernism, once the buildings were completed it was obvious that the architects had avoided the conventional rhetoric of the fascist monument, creating edifices that were hardly capable of representing the regime's institutions. Despite close government monitoring of construction techniques and materials, despite its close supervision throughout the design process, a whole series of corrections and adjustments had been introduced into the executive drawings and had substantially transformed the architectural physiognomy of the three buildings.
This was less evident in the works of Libera and Samonà, much more obvious in Ridolfi's case.

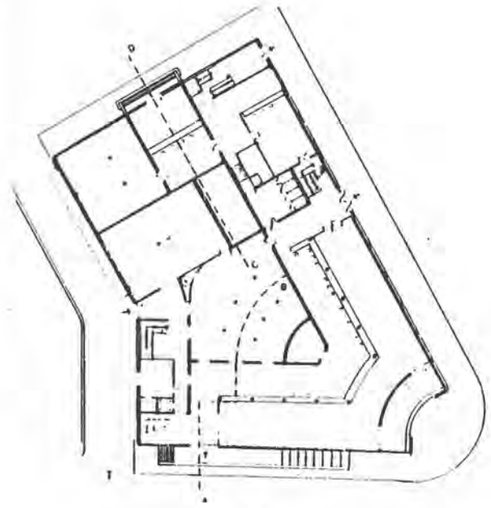
In combining the traditional and the innovative, Libera had invented an extraordinary series of architectural features designed to reveal the functions of the various parts of the building in the facades. The dense grille of tiny, square openings corresponding to the telegraph office at the rear was created by a thin vertical sheet of concrete anchored to the ends of the bearing beams. The two big lozenge-shaped windows that marked the staircase at the head of each wing on the main facade were composed of inclined beams that carried the external ramps cantilever fashion and were crossed with slender joists. In contrast with such extravagantly imaginative solutions, the side view was a classic facade: a double order of slender rectangular windows (too close together for bearing masonry but not so much so as to reveal the underlying frame structure) over two big windows made of horizontal strips, formed a single, symmetrical central units. The discrepancy between the

M. Ridolfi, Palazzo Postale in Piazza Bologna, Roma 1933-35
public hall



rationalist or futurist tone added by this treatment of the facade and the conventionally 20th Century layout was much more evident in the finished building than it had been in the drawings. Furthermore a series of modifications introduced in March 1935, just a few months before the scheduled opening date underlined that contract. Originally, for example, the ceiling of the public hall, like the one at the rear was intended to be a concrete shell. Instead, a grid of iron T-bars was used. Then the portico on the front was originally planned in white granite matching the colour of the travertine marble cladding the entire building. Instead the portico alone was covered in slabs of purplish Predazzo porphyry. In the end, the intrinsic monumentalism imposed by the massive symmetry of the building was toned down until it rather resembled a kind of colossal toy. The very figurative simplicity behind every detail: the pools, the portico, the hall with its open ceiling, the lozenge-shaped windows, the honey-comb surfaces helped to create the image of an unreal, metaphysical, mythic palace that was a world away from the rhetorical representation of the fascist state that had been expected.

As far as Samonà's building is concerned, the most interesting result of the executive drawing phase was the distinct difference that emerged in the treatment of the two facades corresponding to the two functional elements that made up the building: the angular block centred on the street-corner facade and the rectangular block on the other side. In the first, the two elevations converging symmetrically on the street corner were drastically simplified, their constituent elements meticulously proportioned to create a classic whole, created by superimposing two orders: the slender colonnade that marks the ground floor windows supports the more massive brickwork front with its double row of carefully proportioned rectangular windows. In the second block, the facade onto the street retained its original elementary and moderately ornamental appearance, of which the characteristic feature had always been the composition of the main entrance and a simple row of seven windows whose accentuated verticality hinted at the workshop character of the telegraph office, while introducing a note of functional modernity to the facade. Considered separately, there was nothing particularly original about either. Functionalism ennobled by carefully rhythmic treatment to the level of modern classicism or monumentalised by the use of showy symmetries were commonplaces of Italian architecture in the thirties. However the combination of both apparently conventional languages in the same building endowed them with a distinctive tone that was quite different from either the current rhetoric or other forms of Italian rationalism, and modernism. The juxtaposition of several figurative structures of equal weight with a view to highlighting different aspects of the building drastically reduced the representive potential of the architectural image. The non-hierarchical use of different languages on the same building underlined its descriptive function and it was this, so different form the lyricism of so much Italian architecture of the period which highlighted the ineffable neutrality that was so characteristic of the architectural



G. Samonà, Palazzo Postale
in via Taranto, Roma 1933-35
first floor

language we find in Samona's work during the thirties. This was emphasised by his approach to the finish. The use of stone cladding on the "nobler" facade, stone and brick on the more functional side might seem conventional for the period. In fact, both facades were transformed by a radical eclecticism in which the reassuring traditionalism of stone and brick lost its intrinsic connotation of Roman glory and nationalism.

In some mysterious way, the syntax and vocabulary that distinguished all the more conventional architectural "self-portraits" of the fascist regime were deprived here of their potential for significance and, in the end, did no more than document the multifunctional character of the building.

Unlike the architects of the other three buildings, Mario Ridolfi did more than introduce modifications and details to his original design in the executive drawing phase.
In fact he developed a whole new solution, this time, he combined the three blocks that constituted his competition entry into a single volume, using the unbroken surface that encloses the whole edifice to create a unified image. Enclosed within the smooth flow of the outer wall, the original divisions were still suggested, but only indirectly in the elements that conferred a specific physiognomy on the whole: the flight of steps and the cantilever roof of the main entrance; the other cantilever roof that topped and highlighted the central section; the most obvious nucleus of modern technology at the rear of the building, including the curtain wall, the two staircase cylinders of concrete and glass, the emphatic double cantilever roof. This formal organisation was reflected accurately in the construction where the duality of masonry and bearing frame triggered bold experiment. The very thick outer wall surrounded the entire building and englobed the piers that formed the perimeter of the

G. Samonà, Palazzo Postale
in via Taranto, Roma 1933-35

bearing structure. Inside, however, this was mad daringly visible. In the central block, eight huge frames developed into cantilever beams protruding about ten metres into the rear. Above them, the up-rights corresponding to the rear facade were offset. The structure was conceived as an internal organism that only emerged on the surface at certain carefully selected and circumscribed points to highlight different aspects of the building. On the front the two cantilever roofs jutted out in counterpoint, underlining the compact masonry of the wall.
At the rear, the great bearing frames emerged to emphasise the modern lightness and space of the building. The same duality of modern and traditional was evidenced in the choice of materials and finishes. Ridolfi's original weave of strips of travertine marble for the outer wall chosen in order to highlight its dual role as part of the building and the serpentine boundary of the square was a last minute inspiration after an agonising series of experiments. In order to create this facing in a particular hazel nut shade of Maremaman travertine only to be found in one small, badly equipped quarry in Magliano Toscano, Ridolfi had an even harder fight with the authorities than he had run into over the structure of the building and this too, meant that construction work was constantly running behind schedule. At the same time, it was precisely this craftsmanship and the meticulous design of every detail that endowed the building with its particular atmosphere and its absolute originality. In the end, Ridolfi created something utterly different from both European modernism and the stereotyped style of fascist public works that was also unlike any recent experiments of the Italian rationalists. The architectural language of this building was distinctly 20th Century but it was a 20th Century sui generis, anti-rhetorical, profoundly realistic in building terms and unusually rich in inflections, both organic and expressionist. These elements were visible not only in the facades but also in the more significant interiors: the public hall, the sorting office, the stair bays, which, sadly, no longer exist in their original form.

Notes:
(1) Rather than overload the present summary with footnotes, I refer you, for more detailed information to: Sergio Poretti: "Progetti e costruzione dei Palazzi delle Poste a Roma 1933-1935", Edilstampa, Rome, 1990.

Jadwiga Urbanik
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Werkbund organization as the precursor of new ideas in inter-War architecture.

Breslau "dwelling and workplace" exhibition 1929.

In the history of contemporary architecture a considerable attention is paid to an exceptional role of the Werkbund organization founded in 1907 in Germany on the development of modern architecture. Hermann Muthesius, propagating the following programme of the modern architectonic art, that is "More contents less art", was its leader and one of the founders (1). The exceptional success of the Werkbund was caused by its perfect consolidation of artistic and industrial efforts and a very considerable help of the state. The Werkbund organization made itself popular in other countries by taking part in different exhibitions.
It is necessary to admit that the Werkbund encouraged artists and architects not only from Germany to cooperate with industry. Werkbund gave a strong basis to further development of modern architectonic and artistic concepts tightly connected with a fast developing industry.
Before the First World War little attention was paid to dwellings for the so called wide social masses. Life, which after the war underwent a lot of changes, called for some changes in housing industry. The quantitative shortage was accompanied a the qualitative flat shortage. This problem was intensified by the affluence of people from the areas taken away from Germany after the War.
The aim of the Werkbund was pretty difficult. The main reason was the necessity of a fast satisfaction of housing needs in all the countries ruined by the War.
A very symptomatic phenomenon in the field of housing could be noticed in Germany after the War. In many cities social-democratic circles came into power what made the realization of larger housing concepts for working masses possible (2).
The housing industry of that time had two important problems to solve to update architects. First it was necessary to design a new type of dwelling beginning with a rational kitchen and ending with town planning. Secondly technical and organizational improvement of the housing industry was needed. Not representative buildings but first of all houses, housing estates and whole cities were the most important in almost the whole inter-War period. Architecture looked for new simple forms. Getting rid of ornaments, making functional use of basic solid figures (cuboid, cube), horizontal lines of windows along the elevations without any ornament, terraces - gardens, buildings on columns: all are characteristic for the new international style which became obligatory in inter-War Europe.
An International Home Exhibition in Stuttgart in 1927 entitled "Contemporary Dwelling" was a very interesting enterprise initiated by the Werkbund (3). It became an experimental ground for town planning and architectonic solutions and for the application of new building materials. The best architects representing the newest trends in architecture were invited from five countries to design different buildings. The designers were free to apply the new dwelling arrangement concepts, new constructions and new building materials. A flat roof was the only compulsory element. The inauguration of Weissenhof housing estate in 1927 was an impulse for Le Corbusier to formulate his five famous rules of modern architecture: columns, flat roofs, free plan, horizontal windows, free elevation (4). Columns are the logical consequence of the possibilities which are given by the application of the reinforced concrete or steel. Free plan, free elevation, horizontal windows are the logical consequence of the load-bearing function taken by the columns. In traditional architecture walls had the load-bearing function. The Stuttgart Exhibition was a review of the newest tendencies in housing industry but it did not solve the problem of cheap houses because all the realizations were too expensive. The exhibition summarized the first period of inter-War attempts to finding in the near future the right solution to the housing problems.
Soon new model housing estates were built from the Werkbund initiative: Novy Dum, Brno 1928; Neubühl near Zurich 1930 - 1932; Woba, Basel - Eglisee 1930; BABA, Prague - Dejvice 1932; Vienna, 1932.
During that time the Breslau circle of architects, connected mainly with the Academy of Art, was closely related with the architects of the European vanguard. Breslau, although situated far from the German centers of new architectonic reality, tried to build according to new trends and ideas. In 1929 the Silesian Section of the Werkbund prepared in Breslau an exhibition entitled "Dwelling and Workplace" (Wohnung und Werkraum Ausstellung - WUWA). Its aim was to introduce new possibilities for the housing industry and to present different types of small and medium size and also cheap houses and flats having an important social meaning. It was a kind of proposal with respect to the existing dwelling crisis.
The exhibition consisted of two parts: a model housing

estate and an exhibition situated in the area of Centenary Hall (today's Folk Hall). The second part was devoted to the process of building designing (Kurt Langer), new building materials (Adolf Martens, Josef Vinecki), new ways of building (Paul Heim, Albert Kempter), technical equipment in housing building (Ludwig Moshamer), lightning (Fritz Roder), colouring (Johannes Molzahn), ways of finishing the flats (Theo Effenberger), interior arrangement, furniture (Hans Scharoun, Emil Lange), housekeeping equipment (Artur Hennig, Siegfried Haertel). A complete prototype office interior (Hermann Wahlich), a workplace for an architect, engineer, doctor and lawyer (Albrecht Jeager) were presented. A housing estate was presented in the historic development and against a background of the achievements in different countries (Argentina, Denmark, Great Britain, France, Italy, Austria, Switzerland, Czechoslovakia, Poland) (Adolf Rading, Heinrich Lauterbach), the ways of arranging municipal green areas (Richard Konwiarz) also in the comparison with the foreign achievements (Max Schirmer). Exhibitions of Werkbund "International Building", Technical University, achievements of Estate Society (Siedlungsgenossenschaft) "Eichborngarten" and Bauhaus were held in the Centenary Hall. The ways of elementary education (Josef Albers, Wassily Kandinsky, Paul Klee, Joost Schmidt, Oskar Schlemmer), works of Bauhaus workshops, painting and photography were also presented there. In Poelzig's exhibition building the architectonic and town planning achievements of other countries were presented. Unfortunately the material selection proved to be accidental according to one of the members of the Polish delegation visiting the exhibition (5).

A big part of Beslau Exhibition consisted of German craft works. Besides a model country farm, arrangement of areas for children together with a sanatorium and an exhibition of cementary art were shown there (6).

On sites near the exhibition among the present streets Wroblewskiego, Tramwajowa, Dembowskiego, Zielonego Debu and Kopernika an experimental housing estate financed by the Breslau Estate Join-Stock Society (Breslauer Siedlungs - Aktien-Gesellschaft) was built on Werkbund suggestion. Originally, it was planned to invite architects from outside Breslau, among them the representatives of the European vanguard. But this idea was given up for they came to the conclusion that only Silesian architects could make designs fitting the special climatic conditions of Breslau as it has "the strangest climate one can ever think of" (7). However they were criticized in 1932 for the technical imperfection of the buildings.

Eleven architects were invited to the estate realization. They were Paul Heim, Albert Kempter, Gustav Wolf, Paul Häusler, Moritz Hadda, Theo Effenberger, Emil Lange, Ludwig Moshamer, Heinrich Lauterbach with Hans Scharoun and Adolf Rading (8) who had already taken part in the Stuttgart Exhibition. For three and a half months it was possible to visit the completed buildings with the arranged interiors (9). Later on they were let for two years in order to check the functional assumption of new architecture (10).

General conception of the housing estate was given by Adolf Rading (11) and Heinrich Lauterbach (12). The assumption is stylistically coherent although it consists of a complex of buildings of individual character such as Hans Scharoun's and Adolf Rading's realizations and one-family houses. The arrangement of the surroundings and green areas were also presented there. A ground floor kindergarten of a new type designed by Paul Heim and Albert Kempter (13) is a part of this complex. The housing estate can be divided into two parts: one presenting multi - family houses of different types and the second one- and twofamily houses.

Adolf Rading's and Hans Scharoun's realizations are basic and dominating for the whole concept. Together with the gallery building of Paul Heim and Albert Kempter they are the largest buildings in this area. The design was to present 37 units. The numbers were given both to detached houses and those in the ribbon development, each unit treated as a separate one. But five of them were not realized (14). The buildings which were proto-typical for mass housing were also shown. The experiment was not only limited to showing a small tenement flat, one - family houses of higher standard than the tenement flats were also built.

Half-timbered (Gustav Wolf) and reinforced concrete

Heinrich Lauterbach:
One family house
Breslau WUWA Exhibition 1929
"Rzeczy Piekne", 1929 p.74

Ludwig Moshamer:
One family house
Breslau WUWA Exhibition 1929
Ostdeutsch Bau-Zeitung, Breslau
1929, p. 445

(Paul Heim, Albert Kempter) constructions, steel framework (Adolf Rading) allowing for constructing high-rise buildings and steel frames filled with gasoconcrete (Emile Lange) were applied. The last type of construction made a serial production and erection of flats possible. It also assured high heat insulation and lowered the building costs for about 60% (15). Not only new construction allowing for the achievement of a "free view" (16) but also new materials appeared.

The designers wanted to achieve the maximal effect with minimal space and minimal costs.

The above mentioned Adolf Rading's and Hans Scharoun's realizations belong to the most interesting ones. Adolf Rading throws away the traditional form of a tenement house building site. The construction allows the architect to form flats freely, that is why different flats of the same living space are presented on every floor. Besides a lot of different rooms for common use were provided like for example: shops, laundries, household rooms, studios, rooms used for social meetings or for children, terraces-gardens (17). It was connected with the conception of social life in a housing estate which did not come true. He gave the building an interesting architectonic form which was the composition of cuboidal solid figures with the play of light and shadow.

Hans Scharoun introduced a completely new type of a hotel for childless families and single people. The building joins a dwelling part (left and right wings) consisting of many small two level flats (two rooms with a kitchen niche) with a restaurant, recreation hall and gardens on the roof (middle part). He believed that "technology is the master of architecture" (18). He created an innovatory architecture of a dynamic form, drawn with a soft line with big wall surfaces and horizontal lines of windows. It should be treated as a vanguard achievement of those times.

The gallery building of Paul Heim and Albert Kempter is formally simple, devoided of artistic ambitions but economic and functional. Its good side is the reduction of a communication space (one staircase serves six flats on one floor). They wanted to see if this form of a house suits the climate of Silesia (19).

Gustav Wolf, the headmaster of the Artistic Craft School, introduced a multi-staircase building, where every flat has its own stairs. All the rooms have minimal size because of its destination. This building of a simple architectonic form presents functional interior solutions. The way of its construction was very interesting. In spring the building was built out of the plastered elements prepared in a hall in winter (20).

Emil Lange introduced a design of small flats in a ribbon development. Common stairs serve four flats thus saving 40% of space devoted to communication. Thanks to the shifting of parts in relation to each other an effect of good corner airing of the flats was achieved.

Succeeding sections of ribbon development (Ludwig Moshamer, Heinrich Lauterbach - President of the Silesian Section of Werkbund (21), Moritz Hadda, Paul Häusler, Theo Effenberger) are small flats of the same size but different interior arrangement. On the ground floor there is a daily part with a kitchen and on the first floor a bedroom with a bathroom.

A group of one- and twofamily detached houses

Adolf Rading
Multi-family tenement house
Breslau WUWA Exhibition 1929
Ostdeutsch Bau-Zeitung, Breslau
1929, p. 444

(designed by: Theo Effenberger, Emil Lange, Paul Häusler, Gustav Wolf, Heinrich Lauterbach, Moritz Hadda, Ludwig Moshamer) is an interesting and separate part of this experimental housing estate. The living space of each house exceeds 150 m^2, their architectonic form is very attractive and shows a clear thought-over view. These are houses of higher standards than the tenement ones. The gardens surrounding the houses enter the interior through big glass door, terraces and gardens on the roofs. They may be seen as a trend called today organic architecture. This is an architecture created according to Corbusier's five rules.

The visitors could see the furnished interiors of the houses presenting the kitchens and the rooms with fixed furnitures designed in the workshops of the School of Fine Crafts (Gustav Wolf's house). Even today some of those fixtures are still in use and they are found in some houses. Especially those workshops made furniture, lightning, curtains, furniture covering, iron crates, glass, leather goods and pottery (22). Quite often the kitchen was connected with the day room by means of a big opening in the wall. There was also the possibility of joining two rooms by means of the sliding-folding door. The architects tried to situate day rooms and bedrooms on the east-west axis. Not all the designs were perfect but all of the attempts were precious. It was written that "WUWA has already fulfilled its task as it gave new impulses to designing small flats" (23). Economy of room and better space division were achieved. Formation of the outer form on the basis of the inner formation of the building gives the beginning to architecture of beautiful realism. This character of new times is clearly seen in the building concept making use of rationalized comfort and smart simplicity in form and colour. WUWA came into being when the First CIRPAC Congress tries to work over the programme of the Second Congress of Modern Architecture under the banner of "Minimal flat and its biological, technical and social solution from the point of view of modern architecture" (24). The Breslau Exhibition is a kind of voice in the discussion about this problem amongst an international circle of architects.

The opinions about the Exhibition were different. The traditionalists did not like the manifestation of a new

architectonic form. A lot of people criticized the unplanned division of the area. The inhabitants were not satisfied with the flats because during the first three years they were let many times. Moreover, the function of some buildings was changed. Hans Rading's house was criticized for its lack of movable windows and facilities for collecting condensation from glass facades, lack of window-sills (25), the lightning of four flats from the north, blacking-out the bedrooms by loggias, for entering the WC through the kitchen (only in some flats), for too small windows in the kitchen and too large ones in the bathroom (26). But at the same time it was underlined that "thanks to the perfect management of the building, in spite of the frost lasting until the late spring of 1929, the progress of work was considerable". It let open the exhibition in time. But probably it was the reason of some technical defects, which were observed after three years. The flat roofs on which terraces-gardens were designed, were characteristic for that exhibition. "Life showed that such rash construction revenges itself". It was written when the first rifts appeared.

Ludwig Moshamer's contemporary critic wrote about his house: "If a small mass is broken and its both parts are moved in relation to each other, but one part is raised it causes that such solution because of artistic reasons is not justified. A house is too small for applying such formal steps". The wrong application of new materials caused numerous wet spots, falling off of plaster and badly installed doors. It is possible that the opinion about the difficult Breslau climate was true. It was written that "A house for single people is an architectonic embodiment of unrest". It was pejoratively compared to a steamboat or barge. The traditionalists asked: "Does the waste which was done in the name of art, ill from its birth, have any sense?". Today it seems that it is the only building of the exhibition which has resisted the time, the only one which is above the average today, but half a century ago it was the most vanguard in the WUWA house estate.

Gustav Wolf's realizations: eight- and twofamily houses quiet in mass which "let recognize an experienced builder in every inch" (27) were approved upon.

The Union of Breslau Women had a negative attitude towards the Exhibition in Stuttgart formulating 17 stipulations for the future. In Breslau they tried to take them into account but it was not possible as the Union stated that the technical and functional aspects of the building is more important than formally beautiful architecture. The houses were criticized for their bad conditions for bringing up children (28).

It is curious that the more the conceptions were criticized in those times the less we are inclined to do the same now. According to Casabella WUWA was one of the most important cultural events of that period. (...) The exhibition won a considerable success among the specialists, but the theme of collective housing gave the opponents a chance for indirect criticism of the Academy of "Bolshevik building". (...) In 1932 the Ministry decided to close several academies including Breslau. (...) The decision did not in fact have political motivations as much as economic ones reflecting the situation of real emergency (29). In the same period the Bauhaus at Dessau was closed.

The Breslau Exhibition was organized in the same year as the Second International Congress of Modern Architecture (CIAM) under the banner "The Minimal Dwelling".

The form stops to be the only initial point for an architect; quite opposite it becomes submitted to different tasks. New means of expression more and more reflect the harmony between creative ideas and possibilities which are given by new building materials.

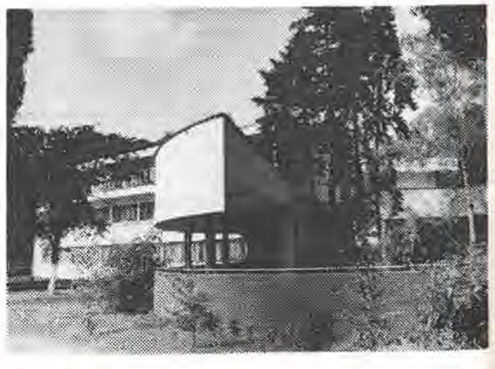
"In the 19th Century such problems as bathroom, kitchen, plan and the whole organization of a house were dominated by decorative ones. A new trend in architecture concentrated mainly on functionality. Again an architect becomes a specialist creating life conditions for house inhabitants. He opens a house, designs the interior and furnitures" - that is the opinion of the Swiss historian of modern architecture - Siegfried Giedion (30).

Modern architecture proved that the acceptance of new tools and technologies and their reasonable application may result in new values. Artistic creativity and technical thinking may exist side by side. The style created by them agreed with the new social and industrial situation of architecture. This new style with its simple surfaces and minimal decoration was perfect for a great number of anonymous people and for an industrial production of elements.

However, the variety, the architects were aiming at, seems to be quite understandable while looking at perfect housing estates from the twenties such as Dammerstock in Karlsruhe (1927-1928) or Siemenstadt near Berlin (1929) both designed by Walter Gropius and his partners, the estates which lines are correctly parallel and so perfectly built in rows. Although the elevation sketches are perfect, although the plans are functional, those houses lack something. Looking at them you start to miss something organic and unconstrained.

Now it seems that the attempt of solution presented during the exhibition was not fully successful. The WUWA participants did not suspect that their ideas would be degenerated later on, to what resulted in the uniform, no-style architecture of today.

House no. 31 Flatbuilding for singles and couples
H. Scharoun, 1929
photo: K. Wojtas, Wroclaw, 1990



References:

1. E. Niemczyk, Nowa forma w architekturze Wroclawia pierwszego trzydziestolecia XX wieku. In: Z dziejów sztuki slaskiej. Edited by Z. Swiechowski, Warszawa 1978, p. 421-422.
2. I. Wislocka, Awangardowa architektura polska 1918-1939, Warszawa 1968, p.32.
3. W. Gropius, who was closely connected with Bauhaus, took part in that exhibition. Bauhaus had a great impact on the contemporary form i.e. it is not possible not to mention it in this place. Its activity was an important lesson of architecture which made the proper understanding of new work waiting for the architects faster.
4. H. Syrkus, Ku idei osiedla spolecznego 1925-1975, Warszawa 1976, p.46.
5. Architekt, 1929, p.320.
6. Wohnung und Werkraum. Ausstellungs-Führer. Breslau 1929, p.2-71.
7. Ostdeutsche Bau-Zeitung-Breslau, Vol.27, 1929, p.341.
8. Wohnung und Werkraum ..., p.3.
9. Schlesiens Handwerk und Gewerbe, vol. 10, 1929, p.130. Because of great interest of the Exhibition the date of its closure was postponed from 15 September to 29 September 1929.
10. E. Niemczyk, Nowa forma w architekturze Wroclawia pierwszego trzydziestolecia XX wieku ..., p.447.
11. Ostdeutsche Bau-Zeitung ..., p.341.
12. V. Slapeta, Rading e Breslavia, Domus, No 704, April 1989.
13. Wohnung und Werkraum ..., p.75.
14. o.c. p.75.
15. Ostdeutsche Bau-Zeitung ..., p.341-349.
16. H. Syrkus, Ku idei osiedla spolecznego 1925-1975 ..., p.46. The creation of Weissenhof estate caused to formulation by Le Corbusier of his five famous rules for modern architecture.
17. Ostdeutsche Bau-Zeitung ..., p.344.
18. o.c., p.347-348.
19. o.c., p.342.
20. o.c., p.343.
21. H. Frank, L'Accademia d'Arte e d'Arte Applicata di Breslavia negli anni 1914-1932. Casabella, No 492, June 1983, p.46.
22. Ostdeutsche Bau-zeitung ..., p.349.
23. Schlesische Monatshefte, Vol. 6, 1929, p.286.
24. I. Wislocka, Awangardowa architektura polska 1918-1939, ..., p. 58. Comite International pour la Réalisation des Problèmes d'Architecture Contemporaine - delegates of CIAM .
25. Ostdeutsche Bau-Zeitung ..., Vol. 30, 1932, p.298.
26. E. Niemczyk, Nowa forma ..., p.450.
27. Ostdeutsche Bau-Zeitung ..., Vol. 30, p.298.
28. Ostdeutsche Bau-Zeitung ..., Vol. 27, p.613-616.
29. H. Frank, L'Accademia d'Arte ..., p.63. In the same period the Bauhaus at Dessau was closed.
30. P. Trzeciak, Przygody architektury XX wieku, Warszawa 1974, p.171.

Bibliography:

1. P. Trzeciak, Przygody architektury XX wieku, Warszawa 1974.
2. S. Gedion, Przestrzen, czas i architektura - narodziny nowej tradycji, Warszawa 1968.
3. P. Bieganski, U zrodel architektury wspolczesnej, Warszawa 1972.
4. H. Syrkus, Ku idei osiedla spolecznego 1925-1975, Warszawa 1976.
5. N. Pevsner, Historia architektury europejskiej, Warszawa 1976.
6. I. Wislocka, Awangardowa architektura polska 1918-1939, Warszawa 1968.
7. I. Wislocka, Dom i miasto jutra, Warszawa 1971.
8. W. Szolgina, Poczet wielkich architektow, Warszawa 1976.
9. G. Naylor, Bauhaus, Warszawa 1977.
10. R. Banham, Rewolucja w architekturze, Warszawa 1979.
11. L. Benevolo, Histoire de l'architecture moderne, Vol. 2, Avant-garde et mouvement moderne (1890-1930), Paris 1984.
12. A. Kopp, Architektura awangardowa od Atlantyku po Ural, and O. Czerner, W poszukiwaniu nowej tresci i formy. In: Awangarda polska - urbanistyka, architektura. Edited by O. Czerner and H. Listowski, Warszawa - Paryz 1981.
13. Wohnung und Werkraum. Werkbundausstellung. Ausstellungs - Führer, Breslau 1929.
14. E. Niemczyk, Nowa forma w architekturze Wroclawia pierwszego trzydziestolecia XX wieku. In: Z dziejów sztuki slaskiej. Edited by Z. Swiechowski, Warszawa 1978.
15. Ostdeutsche Bau-Zeitung-breslau. Vol. 27, 1929 and Vol. 30, 1932.
16. Schlesische Monatshefte, Vol. 6, 1929.
17. Schlesiens Handwerk und Gewerbe, Vol. 10, 1929.
18. Rzeczy piekne, 1930.
19. Schlesisches Heim, 1928, 1929.
20. H. Eckstein, 50 Jahre Werkbund, Berlin 1958.
21. L. and V. Slapeta, 50 Jahre WUWA, Bauwelt, 14 September 1979.
22. V. Slapeta, Neues Bauen in Breslau, Rassegna, December 1989.
23. H. Frank, L'Accademia d'Arte e d'Arte Applicata di Breslavia negli anni 1914-1932, Casabella, June 1983.
24. Architekt, 1929.
25. V. Slapeta, Rading e Breslavia, Domus, aprile 1989.

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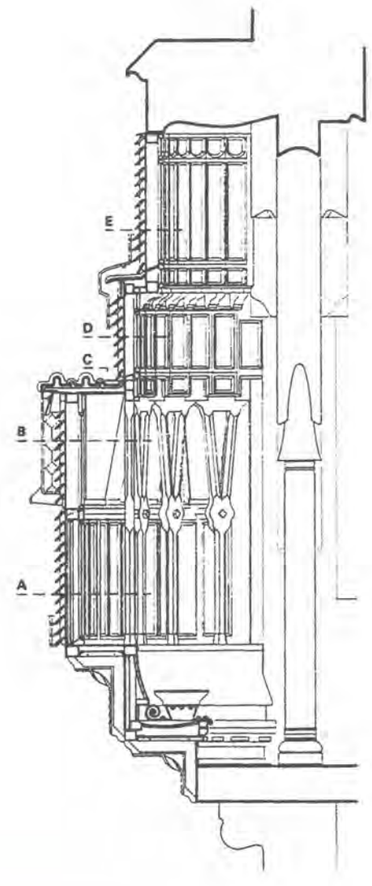
Analysis of historical buildings as an educational tool

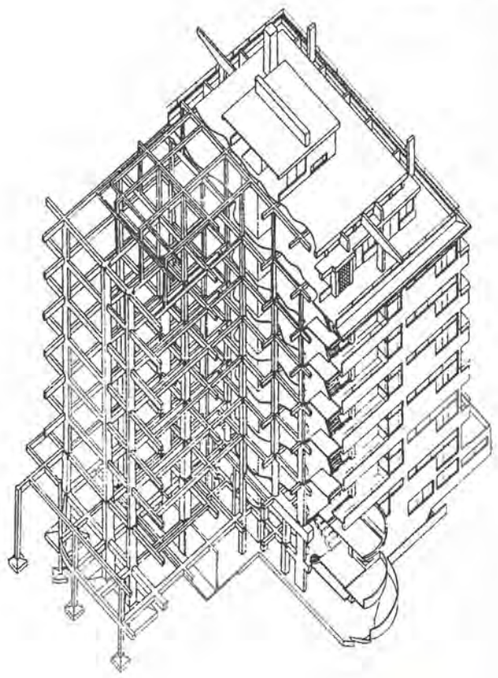
In 1970 I started work in the school of architecture of the Delft University with a very simple project that I called Analyse van Gebouwen, Analysis of Buildings. This educational tool was meant to make students familiar with construction and to show them that knowledge of materials and manners of constructing were not 'per se' obstacles on the way to good architecture but, on the contrary, help to make good architecture possible. Now it may look quite logical that good architecture can only be reached through a thorough knowledge of the material part of building, this is to say construction, but this idea was not generally accepted, at least not in our school.
It turned out that students almost never recognized a knowledge of materials and of ways of constructing as means for designing their projects. There was a strong belief that, if these things were going well together at all it was in the negative sence: technical knowledge obstructed the way to good design.
In Analyse van Gebouwen students got interest in the subject when taking part in the projects. And many a student found out that good construction, good structuring can very well lead to good architecture, that many architects - through their domination of/and pleasure in constructing, being inventive and innovative in this field - were led to new, unexpected architectural forms. Evenmore the well-known statement that new materials (and new ways of constructing) had never led to a new style in architecture was proven perfectly untrue.
One can defend the thesis - and would I very much like to do so - that really new architectural form came as a rule through or from the development in technique and science.
One known example - but seldom recognized as such! - is Sir Christopher Wren's cupola of St. Paul's of London. The physician Wren worked out a scientifically just form - most probably together with Hooke and Newton - taking advantage of their (new) knowledge of mathematics and statics. Borromini developed his "strange" architecture by using conical forms, which had been freshly defined by mathematicians (he being one himself?).
Going back to the Analysis of Buildings project: In the first years - till 1978 - buildings were chosen by students; all sorts of buildings, mostly near to the new school of architecture, (by Bakema and van den Broek) as well as the school itself which as a building is allready a real educational tool. Within a short period of three weeks students had to visit - and revisit - and measure the building, make registrations of building materials and constructions used, take photographs, make drawings and give comment. They had to investigate the functional and the material structure, letting apart the spatial one and any personal historical or critical description. Just find

Section through the bay-window of Güell Palace (Gaudí, 1886-91);
a result of the Gaudí analysis-project for students, 1978.



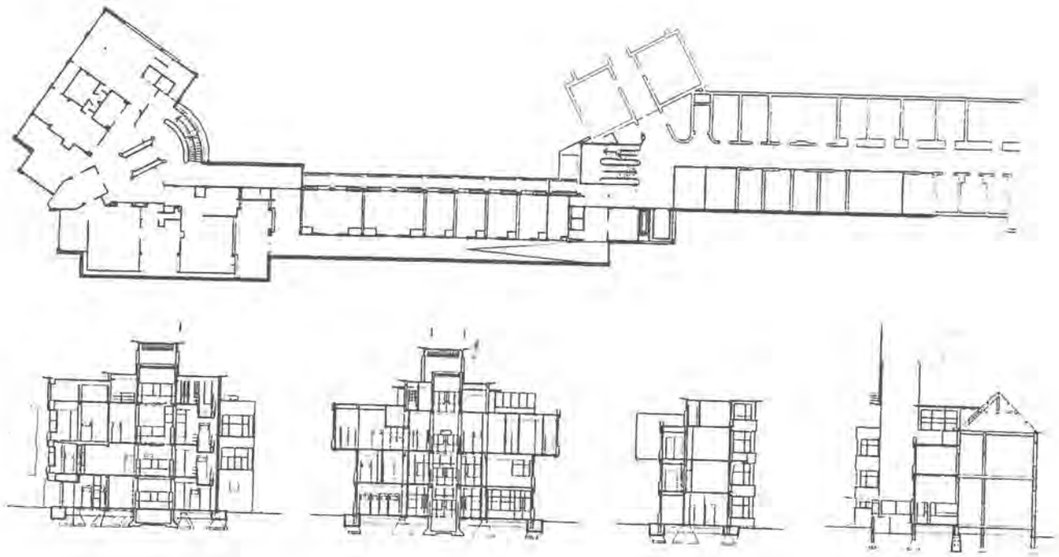
out how the thing works, how it was built, what materials were used, how and why so. And at the end of the project: do you still like the building, do you like it more or has it become disappointing ? I have to underline that we always started by choosing a "nice" building. I - later on we - always worked with more mature students (third year) who could choose a "nice" building, but not yet define a "good" building, not scientifically.
Later on it became possible to extend the period of the projects from three weeks to ten and from one session a week to two, also the interest of students grew remarkably so the project had to be far better organised. Up till then the groups comprimised a maximum of 8 students, divided into groups of two to three. This made contacts very easy and intense. But on the other hand very little information could be assembled and the observations and reports were quite superficial or unbalanced. No real books or exhibitions could be made, no results whatsoever emerged for those other than the participants. So if I wanted to have more enduring results the way of working had to be changed. Moreover because when the groups became bigger it only meant doubling, doing the same thing twice.
There was also another argument. All groups came to the same positive result. Many a "nice" building turned out to be a "good" building, so I had to find an architect whose work was famous but seemingly the architect had not cared about problems of construction.
A simple coincidence led me to Antoni Gaudí. In 1976 friends of mine wanted me to build their house, so we asked ourselves what sort of house we like to have. The problem was solved by defining what we did nót want. We did not want something irrational, full of the architect's jokes with no functional-logical background. So we went to Barcelona to see and study the architecture of Antoni Gaudí. Now then, in the short period of four days "doing" all of Gaudís' work in Catalonia something most remarkable occurred to us. What through books, texts of well-known writers had come to us as a mere "capricho" turned out to be fantastically (mind the word!) logical and rational: forms had been developed starting essentially from physical problems like rain, sun, wind and other loads etc, following more than obstructing these and resulting in a fairy-tale. Now, everybody knows that fairies do not exist but... the good fairy tale-teller makes us believe that they really exist. So that was what we found out... and could not build, being no masterbuilder like Gaudí had been. Anyway, nice food for thoughts for students.
So we started studying during one period of 10 weeks with a group of some twenty students the available books as part of the preparation for an excursion and soon found out the usual things: writers who have never seen the buildings don't produce (they reproduce) correct plans, sections, etc. through which the (way of) building can be understood, if one is not able to visit the building itself. Very nice examples can be given but here one example must do the job: César Martinell drew a section of Bellesguard for his wonderful book about Gaudí. He made the lower mainfloor far too high which we discovered by simply counting - in the building itself - the steps of the stairs. Now no other writer - if not told by us - found out. They did not visit the building and if so did not study the structure of the building.
It would not have been important, where it not that Gaudí designed very precisely, using the cube as the basic form for all his designs (or if this was impossible the double square, very much recommended as such by many theorists in Gaudís' early years as an architect, going back on much earlier writers like Alberti. Now Martinell apparently did not know this fact, which I had to discover myself - and the others just copied him.
This has become the quintessence of our investigations: one can never be too precise in one's measurements, and there is always a system behind when it comes to the work of the masterbuilder (call it; "the blacksmith's secret").
The Gaudí-studies brought to life the so called "Gaudí-groep Delft", which was formed by a selected group of (former) students in the Gaudí-projects. One of the most important results - if not the most important one - is the reconstruction of the polifunicular model Gaudí developed for his design of the Colonia Güell Church. This was made by Jos Tomlow, one of the senior members of the Gaudí-group who, after finishing his studies in Delft, started to work with Frei Otto in Stuttgart. This model, made to be exhibited in "Der Hang zum Gesamtkunstwerk", went all over the world as centerpiece of the great Gaudí-exhibition which had an incredible reception in the Berlage Exchange building in 1987 in Amsterdam with more than 28.000 paying visitors in 3 1/2 weeks. This, and the three books produced brought the "Gaudí-groep Delft" to the uppermost level of Gaudí-studies.

Axonometric view of the structure of the Nirwâna apartmentbuilding (Duiker and Wiebenga, 1926), result of the Duiker-project, 1982.



As a "antidote" we started, already during the Gaudí-studies, the Modern Movement in Holland-project, beginning with the work of Jan Duiker. What we really wanted to start was a constructivist study, but distances in all respects being even greater than in the case of Barcelona, we decided to look for a comparable architect inside the country and found out that no fundamental research had been done about any architect of the Dutch "Nieuwe Bouwen". Nót in the way we had gone with Gaudís' work. Thus in 1982 the Duiker exhibition was prepared by the Duikergroup of which Wessel de Jonge is one of the outstanding members.
During the preparations for the Duiker exhibition, Wiek Röling proposed an investigation of Sanatory Zonnestraal - far more technical than the Duiker-group had been able to do - to be payed by the Netherlands Department for Conservation. From this grew the extensive study Hubert Jan Henket and Wessel de Jonge did in Eindhoven, assisted by an important group of researchers of Delft University. This study may be called the first (important) technological research model for buildings of the Modern Movement.
The Duiker exposition was launched together with the extensive Duiker book (only in Dutch) and travelled for more than three years in Spain with financial support from the Ministry of Foreign Affairs, including a Spanish catalogue. A second book was produced last year and will be published in due time in English and other languages.
One can understand that by now the production cannot be done just by students. I don't want to mention all the organisational problems that arose, but part of them was solved by starting a foundation, the Stichting Analyse van Gebouwen. The first product of the foundation was the exhibition about Jan Gerko Wiebenga, a direct colleague of Duiker, member of "De 8 en Opbouw". The book was mentioned in the Best Book of the Year Award of 1987, the year of the publication of the Wiebenga-studies, in which Wessel de Jonge participated again.
For next year the foundation plans the edition of the architectural diaries of Albert Boeken, the designer of the Apollo sportshall in Amsterdam, one of the "monuments" of Dutch Modern Movement. This edition will be done in collaboration with architectural historians from other universities, as this sort of work is out of our scope. But the contents are important as they clarify much of the way architects of the Modern Movement had to work in the twenties and thirties.
Plans, many plans. But always there are the mingled interests of students, teacher and others.
Education in architecture can produce products that can be of advantage to anyone interested in buildings, be it an architect, a planner, a historician, someone "just looking".
Any building built is a historical building, it has its history and its place in history although not yet in historiography.
We have to realize ourselves that history starts from here and now, not from there and then - 50 years ago. I see no difference whatsoever between a new and an old building. Any building can be subject to education as long as the building is attractive to the students.
So let them choose one, let them go into it profoundly, let them measure and analyse. Do it as well as you can and publish the results.
I propose for the year 1991 or 1992 an international meeting on this subject with people working in architectural schools that is about the results of Analysis of Buildings.

Plan and sections of the Sophia Hospital (Wiebenga, 1931), result of the 1989 Wiebenga-project.



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The "Caio Duilio" bathing establishment at the Lido of Rome (1937, Luigi Moretti).

A proposal for its conservation within Ostia's urban history in the thirties.

In this paper we would like to discuss a research which we completed in 1988 for an universitary course (University of Rome, Faculty of Architecture, under professor Giovanni Carborana and professor Carlo Severati) regarding the formulation of an hypothesis for the conservation of a small bathing establishment called Caio Duilio. It was built at Ostia (the ex Lido of Rome) during the years 1937-39, by the architect Luigi Moretti.
Here we discuss the two principal issues of our work:

1. The planning process of the restoration of the "Caio Duilio".
2. The documentation of the whole urbanistic organization of Ostia during the thirties and the forties in order to protect its future.

In the first part we shall clarify how the restoration of a building is composed of two inseparable phases: the general "survey" and the "project" itself. We shall attempt to show how it is possible to approach these two phases using an operative method which is directly related to the restoration of past architecture.
This method, when applied to modern architecture, must take into account the theoretical question regarding the redefinition of the concept of "the original" which modern art and architecture have proposed.
We believe that it is necessary to examine each case individually, considering the relationship which the configuration of any edifice has with the building tradition as well as with the industrialization.
We begin therefore with a description of the phase of the general survey of the "Caio Duilio" bathing establishment.
First of all it is important to note the characteristics of the architectonic grid into which the "Caio Duilio" was inserted and its position within the overall urban system.
The building is located at the fore-edge of the new expansion of Ostia in the thirties. It was placed on the board-walk in front of the trapezoidal lot where a series of apartment-houses were built by the architects Adalberto Libera, Alfredo Energici, Mario Monaco, and others, for the national competition, "Lotto di palazzine ad Ostia Lido", promoted by the Societa Tirrena in 1932.
The entrance interaxis of our building coincided with the symmetrical axis of this lot.
This balanced triangulation of modern architecture is an example of the high architectonic quality of Ostia in the thirties.
Our documentation of Ostia's planning organization will be based on an analysis of contemporary architectonic examples.

We started with a carefull metric and photographic survey of the building, and at the same time we carried out an archival research in public and private collections. The building was cited by the architect in his private register during the seventies.
In the public archives we traced only the following few documents:

- some drawings of the earliest project, dating from 1938, and signed by the technical manager and contractor.
- some drawings of the first enlargements dating from 1941. In private archive of Moretti, in the files of the building-firm and of the commissioner our results were less successful.

During the survey we reconstructed the physical characteristics of the building by an analysis of the technological solutions, constructive discontinuities and the quality of finishing.
We then compared the results of the survey with the archival documents and were thus able to recontruct the different planning stages and subsequent enlargements and alterations made to the original building.

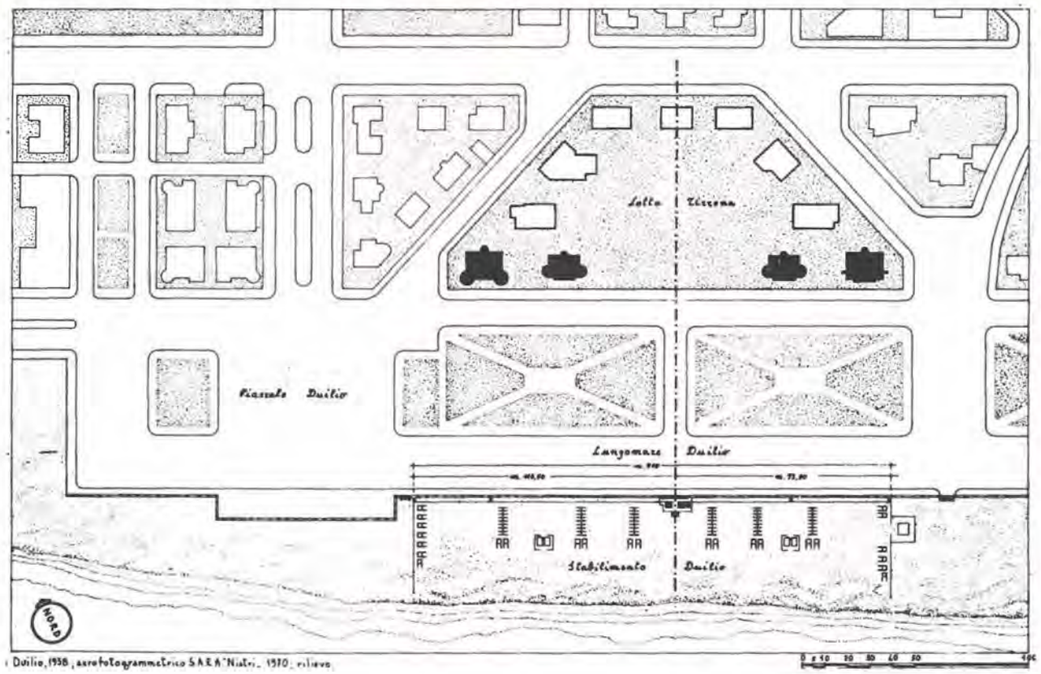
Originally the "Caio Duilio" bathing establishment was formed by a small entrance building, situated parallel to the seashore, and by a series of wooden bathing-huts and facilities, placed linearly at regular intervals, just as a "comb", along the beach. The entrance building included two rooms: a small office and a ticket seller's booth. They were located at a slightly higher level with respect to the board-walk (70 cm).
In this way a partly underground floor, used for storage, was obtained on the shore side. Access to the roof, conceived as a solarium, was gained from an external stair overhanging the office and the superimposed water-tank.
The construction was realized with a supporting structure in reinforced concrete. The plan was extremely simple. It was composed of four "virtual" interaxes of 2,75 m lengthwise, and by one interaxis of 2,25 m crosswise, with 25 x 25 cm pillars with bevelled edges. We defined the interaxis as "virtual" because there exist only two interaxes of 2,75 m, whereas the pillar between the other two is displaced by 50 cm to stress the general dissymmetry of the composition. The latter is achieved by leaving the entrance interaxis open to the side of the volume which includes both office and water-tank.
The external finishing of the concrete structure as well as the walls was realized with "Terranova" coating (a special coloured plastering with siliceous aggregates) coloured pale blue-green at the ground floor and light yellow at the upper floor.
Window frames were probably made of natural wood with inner metal mullions. Balustrade, probaly with circular section, were made of metal.

The original shape of the "Caio Duilio" bathing establishment can be architecturally related to several examples of the Modern Movement, recalling the patterns of naval construction.
In this form, Moretti refered to a typical river flat-boat, considering the board-walk as a dock.
The sea imagery was developed by Moretti using the following components:

- a small tower with a porthole;
- an overhanging cantilever-roof, used as a solarium;
- a stair winding around the tower;
- a large glass surface on the deck;
- a small entrance stairs, perhaps, originally, in wood;
- a flagstaff.

These elements were common within the vocabulary used by Italian "rationalist" architects. For Moretti this was not only a formal choice, but also an opportunity to formulate a basic, typological variation of the traditional European bathing establishment which usually included elements placed both perpendicular and parallel to the board-walk.
The perpendicular elements were the following: the entrance building with the facilities and the rooms open to the public, the big circular hall with the restaurant on the sea, and the connecting wharf; instead two separed wings composed with brick bathing-huts were placed parallel to the board-walk.
Two typical examples of the same kind of construction might be found at Ostia: the "Roma" Baths built in 1924, in form of ancient Roman Thermae; and the "Plinius" bathing establishment built in 1933, probably by Enrico Del Debbio, in "Novecento" style.
In the case of the "Caio Duilio" Moretti simplified this plan. He reduced the functions of the entrance building to a minimum and adopted the solution of wooden-huts meant to be seasonal structures stored during the winter.
This simplified solution proceded from his consideration of the rational character of naval construction.
The "Caio Duilio" solution, a new typology better suited to contemporary needs, became a model for the organization of the successive bathing establishments.

Actual state of the bathing establishment "Caio Duilio" seen from the boardwalk



Duilio, 1938 ; aerofotogrammetrico S.A.R.A. "Nistri", 1970 ; rilievo

Our reconstructed plan of the urban grid of the first stretch of the boardwalk "Caio Duilio" in the 1938

Having described the original configuration of the "Caio Duilio" bathing establishment and analyzed its imagery and typological characteristics, we must now consider the relationship between the original project by Moretti and the construction itself.
During this same period Moretti was also bringing to completation other edifices, among which the major works of his early period, the building for the Italian Youth of the Littorio (G.I.L., 1933) and the Academy of Fencing (1936) both in Rome.
In all probability he did not enterily oversee either the planning or construction of the "Caio Duilio"; in fact the related archival documents are signed only by the contractor.
We believe that Moretti made a quick sketch in which he delineated the overall form of the original building and its urban setting, together with a series of general indications regarding its dimensions.
When the earliest project was presented for the approval of the public authorities, some of the architectonic elements had been changed, for example, the solarium and main entrance stairways.
The first stairway which had been designed as parallel to the building and completely isolated, was critized for the"audacity" of its form and technical solution. Thus the design of the stairway was altered so that is circled the tank-tower in a continuos line.
Instead the entrance stairway was widened across the whole front of the building, but this modification was not a satisfactory solution to the problem of the transition between the basement and the west elevation.

However it is probable that Moretti oversaw these modifications to his project since there are several highly refined details which confirm his intervention such as the cantilevered slab forming the solarium and the stairs.
The original form of the edifice, which we have reconstructed above, had a relatively short life. A series of subsequent enlargements and alterations were carried out beginning in 1941 and have continued to be made until the present.
Several rooms were added to the entrance building on the facade facing seaward at the level of the beach. The balusters, the window frames and the external finishing were totally substituted, and the flagstaff was removed.

Until now we have discussed only the stages belonging to the critical "survey" phase. By means of this latter alone it has been possible recognize the "quality" of the building and decide how to restore it.
Our restoration project, based on the results of the survey, is individuated in two parts:
1) The reinstatement of the original form of the building.
2) The enlargement of the complex.

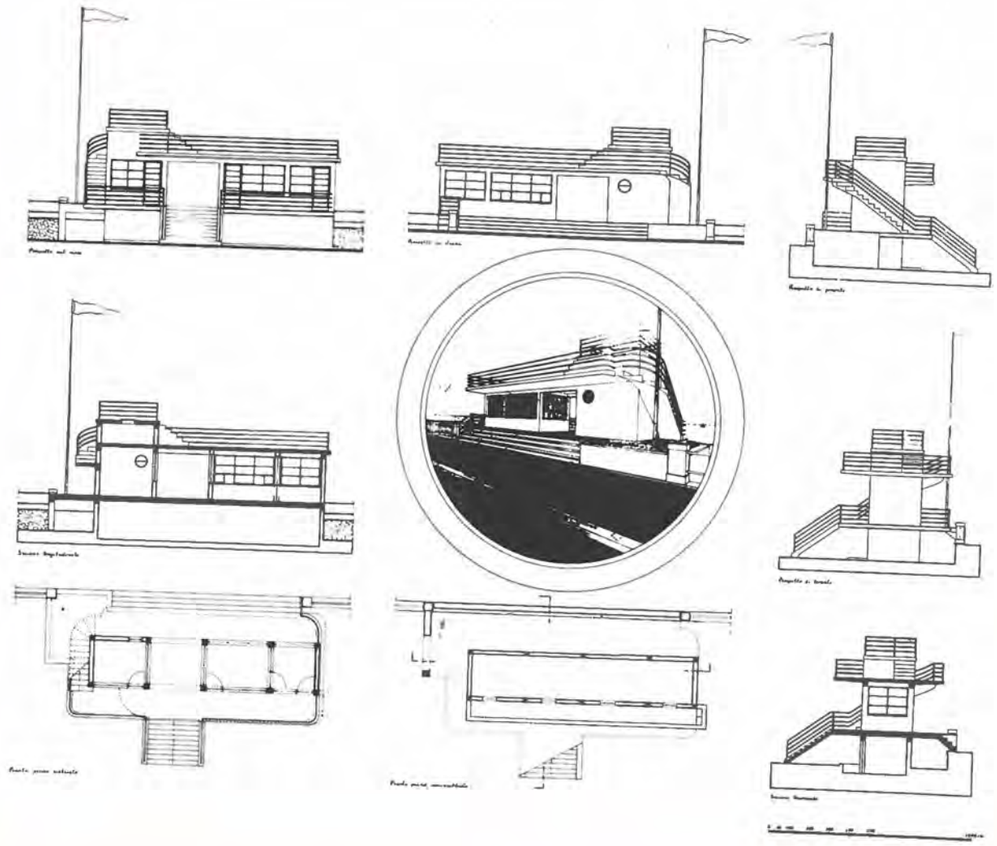
In order to reinstate the original form of the "Caio Duilio" bathing establishment we have formulated the following proposals:
- To demolish all additions made to the building from 1941 until the present, and to remove all finishings which are not original such as the balusters, aluminium window frames and the terracotta casing on the upper floor.

- To preserve some of the original elements. For example, the entrance level pavement in brick and maiolica tessera, and the porthole frame, certainly still extant within the wall of the street facade.
- To individuate the quality and the shape of the lost original components. This should be possible through an analysis of the traces which remain of them, found during the removal of the additions.
- To reconstruct the lost components in according to their original form. In order to clearly evidence the difference between the reconstructed elements and the original ones, the former must be designed with new materials and detailing. Here we refer to all window-frames, the stairway on the seaside facade, the balusters, the entrance-gate and the flagstaff. Materials and details may be redesigned by considering the original imagery of the building which was derived from naval construction. Materials, for example, which include natural wood for details like the window frames, the treads of the stair and the flagstaff; the brass for the mullions of the glass surface, and, finally, the glazed stainless steel for the balusters and the entrance-gate.
  For the plastered surface "terranova" plastering, still produced today, might be used.

To maintain the original function of the "Caio Duilio" bathing establishment after the restoration a new organization of the overall complex must be planned.
To cope with the functional needs of the present bathing establishments, an increase in the number of dressing-rooms, showers, toilets and stores has been foreseen.
This enlargement project has been designed on the basis of two fundamental aspects of the building:
1) Moretti's idea to use the partly underground floor as facilities area.
2) The still unsolved question of the transition between the basement on the street facade and the west elevation.

Thus we propose to realize two new partly underground wings, both parallel to the board-walk, along the whole front of "Caio Duilio" beach.

Our reconstruction of the original configuration of the bathing establishment "Caio Duilio" in the 1938



This is a sort of prolungation of the extant basement. The view of the sea from the board-walk would thus remain unaltered. Unaltered would as well be the building's hierarchical formal relationship to the facilities quarter.
We would also put in place the temporary wooden huts on the beach, complying with their original configuration.
The new wings' overall form differs substantially from that of the original building. Nevertheless, the materials used for the finishing of the new enlargement are the same as those which have been chosen for added elements in the reinstatement, such as natural wood staves, brass profiles and stainless-steel details.

Thus, with our restoration project we propose to develop the same typological solution as those found in the original building; in this way, we obtain an organic whole in which takes into account the difference between the old and new elements.

Through an analysis of the location of the "Caio Duilio" bathing establishment we have individuated its particular urban role within Ostia. As we noted at the beginning, the building is not an isolated phenomenom of modern architecture, but part of a complex urban history which informed Ostia's development during the thirties.
On these grounds we believe it necessary to extend our documentation to the entire town. Thus we have built an urban frame of reference which individuates all buildings and urban systems that are in need of restoration.
By taking into account the relationship between architecture and city, we may correctly reintegrate the urban character of Ostia of the thirties.
In the following we attempt briefly to discribe Ostia's development of those years in order to clarify its specific character.

The new Ostia (Osatia Lido) was created at the end of the 19th century, following the drainage of a marshland situated between the Tiber's outlet to the north and the wide pinewood of Castel Fusano to the south.
During the twenties the village of Ostia was in process of becoming a new disrict of Rome, the urban expansion towards the sea.
Such expansion of the capital, in addition to the re-organization of the whole Pontine Marsh area on the southern part of the Latium coastline, was part of the fascist regime's urban policy for decentralizing the residential areas of Rome.
This is the meaning of the so called "Roma al mare" project (Rome to the sea) emphatically pursued by the regime, appealling to the myth of a renewed Italian leadership on the Mediterranean sea.

Ostia's development belongs to this general context.
In this development two stages may be distinguished: the first from about 1924 until 1936; the second from 1936 till the beginning of the Second World War.
In the first stage Ostia's urban planning evolved following the creation of two major communication axes:
- the highway from Rome to the coast of Ostia, the so called "Via del Mare";
- the railway line parallel to the latter.

Ostia became a little garden city with a particular character linked to the presence of the sea. Several ephemeral popular bathing establishments built in wood were realized, together with a series of one family units near the station and along the sea-walk.
The only bathing establishment built in brick in those years was the "Stabilimento Roma".

The second stage of Ostia's urban planning had a very different evolution.
In the urban development plan of 1936 a remarkable building development of the town especially towards Castel Fusano in the southern area was foreseen.
This development was closely linked to the "Renewed Imperial Rome" project conceived by the fascist government during the thirties (there had been the proclamation of the Empire in 1936).
During the same period the new quarter of the Universal Esposition of 1942 (E.U.R.) was planned. It was located between Rome and the sea on the axis that put in communication the capital with Castel Fusano. At the same time the pinewood of Castel Fusano was acquired as an urban public park.
In this way Ostia was given the definite status of a district within the city of Rome. It was furnished with all necessary public buildings: a post office, school, the "Casa del Balilla" and so on.
Ostia lost its character as a garden city and gained an increasingly urban form.

The high architectonic quality of the new building, both public, above mentioned, and private such as the small apartment-houses on the board-walk and the bathing establishments is worth noting.
Two contemporary events demonstrate the involvement of several Italian "rationalist" architects in Ostia's development:
1) The competition of 1932 for the "Lotto di palazzine ad Ostia Lido" promoted by the Societa Tirrena on the Duilio board-walk, already mentioned.
2) The competition of 1933 (ca.) for a transformation project of the coastline of Castel Fusano.

In the first competition architects Libera, Ridolfi, Luccichenti, Energici, Monaco, and Nicolosi submitted some projects.
Following this competition, in 1934, the apartment-houses were built just in front of the "Caio Duilio" bathing establishment.
The second competition was meant to generate a new leisure-area for the capital but it had no followers.
Among the participants were Moretti and Montuori, Libera and, on behalf of the Government of Rome, Petrucci. Moretti proposed a set of residential typologies very similar in dimension and style to the "Caio Duilio".
At the same time on the seaside of the new board-walk towards Castel Fusano several bathing establishments were regularly ranged. The "Caio Duilio" was among the first.
All were designed to meet changed functional and aesthetic expectations and thus the traditional form was abandoned.
On the other side of the board-walk the new apartment-houses definitively lost the vernacular and

eclectic appareance of those which had been built in the twenties. These are related to examples proposed in modern housing research.
Thus, at the end of the thirties, several remarkable buildings had been realized, and Ostia had assumed its character as a seaside resort quarter of the capital.

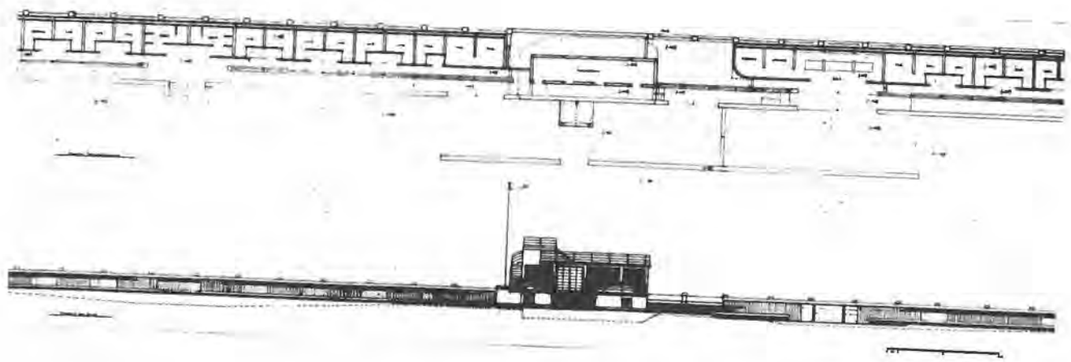
After the war, during the fifties, the town's identity as a bathing resort was the only aspect which continued to evolve at Ostia. In fact it had notably increased in the number of bathing establishments and railway lines in the direction of Rome.
Simultaneously Ostia progressively surrendered its general urban quality.
In recent years with environmental pollution problems, a substantial reduction in seaside activities followed, and the town quickly has become a degraded suburban area.
Although much of the character of the architecture built at Ostia in the thirties has been drastically altered, it is still possible to distinguish the remarkable architectonic quality of areas and individual buildings.

Following this analysis we present an initial inventory of this works.

A. Public Buildings:
1. Sea hospice with the "Colonia Profilattica Vittorio Emanuele III" (1932, Vincenzo Fasolo).
2. Post Office (1934, Angiolo Mazzoni).
3. School (1935-36, Ignazio Guidi).
4. House of the "Balilla" (1935-36, Paolo Benadusi).

B. Residential Buildings:
5. Apartment building on the Toscanelli board-walk (1932, M. Marchi).
6. I.N.C.I.S. (1932-33, ca.)
7. Apartment-houses on the Tirrena's lot (1934, Adalberto Libera - type A and B - and Alfredo Energici with Mario Monaco).
8. Apartment-house on the Tirrena's lot (1934, Leopoldo Botti).
9. Tirrena's apartment-houses near the railway (1934, A. Libera).

C. Bathing Establishments:
10. "Plinius" (1933, probably, by Enrico Del Debbio).
11. "La Pineta" (1933).
12. The "Lega Navale" building (1935-37).
13. "Caio Duilio" (1937-39, Luigi Moretti).
14. Municipal employee's sea club (1938).
15. "Adua" (1941, L. Moretti).
16. "Belsito" (1941).



Restoration project of the bathing establishment "Caio Duilio" reinstatement of the original building and its enlargement (plan of the partly underground floor and facade seen from the see)

Françoise Hamon
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Translated from French

Architectural journals and their function today

This paper came about as the result of two personal experiences: before teaching the history of architecture at the Sorbonne, I spent more than 10 years at the Ministry of Culture in France, working for the Department of Art Heritage. During that time I was responsible for the study of art heritage of the 20th Century, specifically the general List of Historic Buildings and the Art Treasures of France. The approach was to define the methods of investigation and the selection criteria. These investigations made possible the safe-guarding of 20th Century buildings according to the 1913 law concerning the protection of historic buildings.

In establishing the principles and the methods of study of recent buildings and, above all, in urgently trying to rescue 20th Century buildings threatened with destruction, we were aware that we would have to undertake a systematic appraisal of those architectural journals which constituted the most complete source and which were the most accessible in order to take swift action. It was in this way that our team launched a serious investigation.

The second experience happened only recently while preparing a special issue on architectural periodicals for the Revue de l'Art (The Art Revue - a journal edited by the French National Centre of Scientific Research). Interviews with the authors of articles have shown that these journals are seldom studied for the information they contain, although they are readily used as reference sources.

I would now like to examine three aspects of scientific and practical use to which these journals can be put today.

1) a practical method of the Modern Movement for the conservation of historic buildings;

2) a scientific method for rediscovering architects and minor works, and the restructuring of artistic "textile" with respect to major works;

3) finally, I will say a few words about a problem which is very well known, that of the way in which ideas are spread and the trends from country to country as regards the interpretation of these journals.

The first point:
the protection of historic buildings

I will give a single example, that of the grand covered market of the city of Reims, the history of which I will briefly remind you: following the nearly total destruction of Reims during the First World War, the "city of martyrdom" was reconstructed, interestingly enough, with the assistance of American philanthropic organisations (Carnegie, for example). To this day it remains a kind of museum of French architecture of the period from 1920-1930, in the style of "Art Deco" (a conference was held on this theme in 1988).

The covered market which was destined to become an ordinary market was reconstructed starting in 1927 by the architect, Emile Maigrot, who called upon the enterprising citizens of Limoges, well known for their construction skills using concrete, and whose chief engineer was Eugène Freyssinet, the inventor of prestressed concrete (see the celebrated thesis by Fernandez-Ordonez).

Today, the weekly market has been discontinued, the building abandoned in a state of filth and in such need of maintenance that its very safety is threatened, and the mayor has decided to demolish it in order to put the centrally located site to other uses. Several architects in Reims are concerned about this project and have alerted the Ministry of Culture.

There is an urgent need here to set up an investigative dossier. We were not able to examine the original construction archives since access was denied by the mayor. There was not a single original document available. I have been able to put together a dossier quickly, thanks to four articles from the larger professional journals in France, which celebrated the construction of this historic building. The first of these articles was signed by the architect who also restored the Reims cathedral: he compared the covered market to a 20th Century cathedral.

This dossier, which includes beautiful photos published in the 1927-1928 journals revealing the vernal freshness of the covered market, convinced the minister, who took official measures to protect the structure. But precious time has been lost. The psychological climate has deteriorated. The mayor had already started the demolition which we were forced to stop. Today, there is a state of war between the mayor and the minister.

In the meantime, I have discovered an article about this covered market in the January 1929 issue of Moderne Bauformen (Modern Building Styles), which shows the covered market draped in an embroidery consecrated with what appears to be concrete. In Germany, thus. In addition, one also learned from the journals in France (at Nantes in 1934 from the same Maigrot) and throughout Europe (for example, Cologne, 1938), that covered markets would have been built according to aesthetic and technical concepts. My own conclusion is that a complete card index would have to be set up, but most importantly, there must be rapid, easy access to allow preparation of a dossier when demolition projects of 20th Century historic buildings are first announced.

One could also quietly take legal measures for protection, something which seems to me even more important, before the threat becomes real. Such protection would be based on the repercussions which these historic buildings had in the press at the time of their construction, an anticipatory measure to avoid heated conflicts and allow calm negotiations.

In order to obtain a good impression of architectural output, one must not limit oneself to examining only the avant-garde journals. It is necessary to consult the whole of the architectural press without prejudice!

The second point:
renewal and enrichment of the history of architecture

The second benefit one can point to in the systematic and thorough study of journals is that of brushing up on the recent history of architecture, the historiography of which is a bit threadbare, based as it is on the same leading players and ignorant supporting actors. This is as true of French architectural studies (e.g., René Jullian, Histoire de l'Architecture contemporaine en France - History of Contemporary Architecture in France, edited by P. Sers, 1985) as it is of history in general.

One could restore, intellectually to be sure, the cultural surroundings of the most important historic buildings. I think it is very important to convey to people today that the Modern Movement has built a popular culture around itself which is not based on the aristocracy of some cultured elite, and that, as it was created for a past artistic movement, there was a close affinity to these new social values, the expression of which is not generally recognised today.

The smaller French journals provide an opportunity to reconstruct this climate and to re-establish a place for these completely unknown personages who represent the third-rate builders, those who worked in the shadow of greatness, who diffused innovative ideas, often changing or belittling them. These smaller publications are closely bound to the Loucheur Act of 1927, encouraging access to private property.

In La vie à la campagne (Country Life), 1927: the "designer's house" by Cauchois, made of concrete and glass: "very wholesome and very economical", said the project's creator.

This journal, which had a large distribution in the provinces, was devoted to a number of mediocre but curious "modern" architects: besides Cauchois, there was Ramsdonck and Alex Levrat who suggested the concept of the unpretentious houses one encounters throughout France. If an inventory were to be taken in the suburbs, it would be possible to identify the origins of those small "modern" houses, reconstruct the path along which the ideas were transmitted and, on a practical plane, choose a well-documented old neighbourhood which one could envision being preserved (something that has not yet happened!). In this way, the architecture of the 20th Century would not be represented exclusively by a few lighthouses preserved in total intellectual and physical isolation, as has been the case in past centuries.

Some other modest examples:

In the Revue de l'Habitation of 1930: a studio project by Giovanni Vedres (an Italian late futurist architect, completely forgotten today), and a villa on the edge lake d'Annecy by Fenzy and Carreau. This odd little journal had never been studied since it had a rather cheap air about it and was very poorly printed. Undoubtedly, it tried to reach a readership of modest means but one whose standards were exacting, since it also showed architectural concepts which were already well known: the projects of Lurçat (article concerning "the problem of low-cost housing"), of Mallet-Stevens (hotel for a sculpture), of Le Corbusier and C. Perrland (increasing the height of a villa) ...

The monthly chronicle in the Revue de l'Habitation, entitled "Un peu d'architecture étrangère" (A few examples of foreign architecture) was very anti-German ("ungracefull", "coarse" architecture, were terms used) but it acknowledged that the Siedlungen of Frankfurt "are not lacking in charm". Too bad this column had not been signed.

The third point:
Inter-European relations and the dissemination of concepts

We now arrive at the third point, which I will deal with very briefly: the question of journals as instruments of international contacts. This is the most common usage of printed information.

However, once again one can raise a few specific questions: what is the actual penetration of foreign journals in various countries? It is highly significant that

one cannot today find an Italian periodical, notably: L'Architecttura by Piacentini (1922-43) in any French library. Even single issues are not to be found.

Let us examine, for example, the library of the "Société des Architectes diplomés par le Gouvernement (Society of Government-approved Architects) founded in 1890, the most important, wealthiest professional society in France. The library was very much in use by architects and students until its dispersion in 1985. The catalogue drawn up for the sale of the foundation in '85 consisted of two subscriptions to Czechoslovakian journals in succession (1925-1933 and 1934-1939), several years of the Spanish academic journal, Arquitectura, but not the AC edited by le GATEPAC of Barcelona; also to be found on the list was the journal RIBA, three scattered issues of a Dutch journal, a lengthy series (1921-1934) of the Belgian L'Emulation. Apparently, these reflected the exchanges which existed among professional societies in the other European countries.

To cite a different kind of library, one responsible for the office of "Habitations a bon Marché" in Paris: for fifteen years it was under the auspices of the Municipality of Paris. It has mysteriously disappeared, something which has proved to be a minor catastrophe for the history of social housing, since it is known that H. Sellier had maintained a record of everything done in Europe at the time during his travels and by means of his lectures. What lectures?

It should be useful therefore to analyse the list of subscribers of special libraries, which would have been recorded by sellers of old books, bibliopoles or otherwise. In France, there are the issues of Moderne Bauformen and the RIBA bulletin which are quite recent, issues from private libraries and architects. One will note, for example, that the collection of Moderne Bauformen which has been preserved at the French Institute of Architecture once belonged to Henri Pingusson, the architect of the hotel "Latitude 43" in Saint Tropez (1930), who was also a member of the editorial staff of L'Architecture d'aujourd'hui. The collection begins in 1925, before he opened his office.

Such a "bibliométrie" entails a great deal of research in the archives (if they still exist!), and with editors in order to grasp the geographic magnitude of their subscribers and foreign sales. And, at the same time, not to lose sight of specialist library catalogues in order to trace the origins of collections and periodicals offered for sale (still bearing the owner's name).

Conclusion

This has been a glimpse of what one can find by undertaking a systematic study of the journals - an expanded and more complete knowledge of local architects in their own time and of the networks that crossed national boundaries - a guide to provide a systematic and coherent political rationale for protecting our modern heritage.

In closing, I would hope that these card indexes would be developed from country to country or, rather, established, and in particular in those countries whose press is not widely known outside its own borders. I would like to take advantage of this occasion to be able to organise the first stage of a collaboration, at least in a friendly manner, before more formal measures are taken in the context of the approaching European structure.

Vladimir Rezvin
Director Shchusev State Museum of Architecture, Moscow; USSR

Restoration of Melnikov's house

Lately the number of published works devoted to K.S. Melnikov, to the analysis of his buildings and designs has been greatly increased all over the world. In particularly, the compositional peculiarities of his own house, the structural techniques, history of buildings and other things are analysed in detail in these works. However, all of them have one common and serious drawback - they do not contain any more new facts. In 1983, for the first time since the erection of the building, the condition of the structures was examined, and the detailed measures for the project of restoration were fulfilled. This allowed to receive new facts about the condition of this monument that suffered much for the last decades (1).

And it is bitterly to acknowledge that if it was not the architect's anniversary celebrated by the world architectural community in July, 1990, it would be difficult to predict the future of the house in Krivoarbatsky Lane. This circumstance and also the many years' efforts of Melnikov's successors, the Union of Soviet Architects, the Monuments Protection Organs, the Soviet and foreign admirers of the great master's work have borne their fruit.

In the early eighties, when the house was examined, the condition of its walls and foundations did not cause anxiety. The most serious misgivings of the specialists were connected with the wooden ceilings and, especially, with the roofing. Let me remind you that the basis of the houses' composition is formed by two crossing vertically - erected cylinders of different heights and with a diameter of 10 metres each .

At one time the unfunctionality of the chosen decision was held among many reproaches with formalism against the author. Today, when we are not able to analyse unbiasedly the unique compositional and structural technique used by Melnikov, it is impossible not to pay tribute to his wisdom and tectonic logic. The chosen form of the cylinder has not only plastic expressiveness but also purely utilitarian merits. Just the form of cylinder makes it possible to combine maximum area of the floor with minimum perimeter of the walls. So the cooled surface is reduced. This circumstance as well as all questions of economics were for him of vital importance as he had little money and had to be economical with practically everything. Perhaps, for the same reason the "honey combform" system of brick-work appeared, that gave savings of scarce brick. A part of hexagonal holes in the walls was changed into windows (there are sixty windows in the house), and the rest of them was bricked up from two sides and filled up with builders' refuse. By using the technique of gigantic perforated cylinders Melnikov showed himself to be a real designer deeply understanding the possibilities and advantages of homogeneity of the used constructional material, in this case - of the simple brick. Thanks to his system of brick-work it became possible to get rid of lintels over the openings, which could weaken the wall. The time confirmed the rightness and viability of this innovatory technique - the walls have no cracks at all up to the present. The wooden ceilings for the construction of which Melnikov had received the inventor's certificate, were behaving in a different way during these sixty years. They are the lattice of put-on-the-edge-planks boarded up from two sides with narrow rabbeted deals. The structural feature of such wooden dises if that they erenly bear against the perimeter of the walls and are easy to manufacture. After the levelling survey of the ceilings had been made, the deflection up to 17 cm was detected in some places. The most serious anxiety was caused by the condition of the ceiling over Melnikov's workshop in the high cylinder. That's why exactly from here the examination and restoration began, which had been preceded by intricate saving of expenses. The specially designed autonomous temporary plastic roofing was erected over the whole house to protect the demolished original from possible leakage. Six metal forms leaned against the scaffolding wich touched the house's walls nowhere. During the designing of the low-cylinder's roofing, where a solarium was situated, Melnikov once more showed himself as an adherent of untraditional decisions. It is difficult to describe with words this folded multiplaned construction with two sloping surfaces, principal view of which is given in the photo. The recollections of the painter V.K. Melnikov, the son of the house's builder, and the only remained photo were the material for the re-creation of this unique construction. In that photo you can see K.S. Melnikov standing in the solarium as if admiring the result of his own work. The authors of the project rendered in detail the original conception of the architect. However, they have some apprehensions concerning the maintenance of this intricate roofing under the conditions of the Moscow climate.

The windows of Melkinov's house are a separate topic. Operating with large forms the architect clearly

understood that its active work was possible only with a well-considered lightning system. Getting into Melnikov's workshop you feel to a full extent the originality and the scale of his talent. Let me affirm that Melnokiv's workshop-studio is one of the most astonishing interiors in the world (photo 4). No one photo is able to reproduce the sensation of expanse and of abundance of light and air, the feeling of emotional elation seizing everyone who was here. The secret of the emotional influence of this interior deserves special investigation.

To avoid importunate repetition of the same form of the windows, Melnikov applied elementary simple but exclusively effective technique: the pattern of the sash in each tier is different.

Let us go down the wooden spiral staircase to the lower storey and look in the drawing-room. How does the author solve this interior in which it is clearly seen what the crossing of the house's cylinders is realized. He uses the technique of a contrast and realizes it to its fullest possible extent. What does Melnikov do? He contrasts the image of the drawing-room simultaneously with two interiors: the workshop and the bedroom situated beside it on the same floor. In the work-shop the main theme is the deposit of the windows over the wall's surface, and the drawing-room is lit trough the only enormous window with the area of eighteen square metres i.e. the theme of the wall predominates here. But the walls are not in traditional understanding, because only one room on the ground floor has flat walls. The intercrossing of the concave cylindrical surface and the projected one makes an exclusively deep impression, which increases thanks to the absence of any auxiliary architectural additions. There are no decorative details in Melnikov's house at all and I see in this fact its particular artistic merit. The master showed all of us how beautiful the pure architecture embodied in the materialized large form may be. A master needs only form and light.

Before leaving the drawing-room and going to the bedroom let us look at a small stove built by K.S. Melnikov with his own hand in the fifties. This small masterpiece of decorative art could become really an object in a museum. From standard brick and clay the master creates (I cannot find another word) an abstract sculpture, which at the same time heats the room perfectly. The area of the next bedroom is practically equal to that of the drawing-room. But how much these two rooms differ from each other! It seems that the low ceiling flattened the space of the bedroom lit by twelve rhombic windows placed round the perimeter. At one time, the decorations of the bedroom's interior astonished with their singularity. The ceiling, walls and floor were covered by the golden-yellow ground plaster. Today we can only guess how this interior was apprehended by its contemporaries.

The only colour picture of the bedroom remained. According to it there were some structures looking like beds of the Roman patricians depicted on the historical canvases. Today the bedroom is furnished with beautiful antique furniture of mahogany, which blends very well with the interior. This furniture has been bought in Melnikov's time and he liked it very much.

Later the restorers will be faced with an uneasy problem -

Rationalisation of traditional construction techniques: Melnikov house under construction, Moscow 1928, the architect and his wife on site.

for what period should this interior be reconstructed. It is very tempting to re-create its original appearance. But we risk losing the spirit of authenticity, the feeling of "presence" which we undoubtedly experience now. We shall not sin against the truth if we keep the bedroom as it is today, i.e. as it was created by Melnikov himself, as he lived here. But in this case we and our descendants will never see that inimitable interior remembered by its contemporaries.

It was decided to begin the restoration works from the roofing of the back cylinder as the ceiling in the workshop has maximum deformation. Originally the roofing was covered; it was dismantled and changed by a waterproofing, made of prepared roofing paper and bitumen.

After the roofing's dismantling the original wooden construction opened up, that had been made by Melnikov. With the exception of some places the wood turned out to be in good condition. The cells of the floor were revealed. They were filled with saw-dust for thermal insulation. We can also see here the old wiring and the new boards nailed by Melnikov in 1963 to eliminate the rafters' deflection.

Let me remind that the Melnikov's first buildings - the pavilion "Makhorka" and the USSR pavilion in Paris -

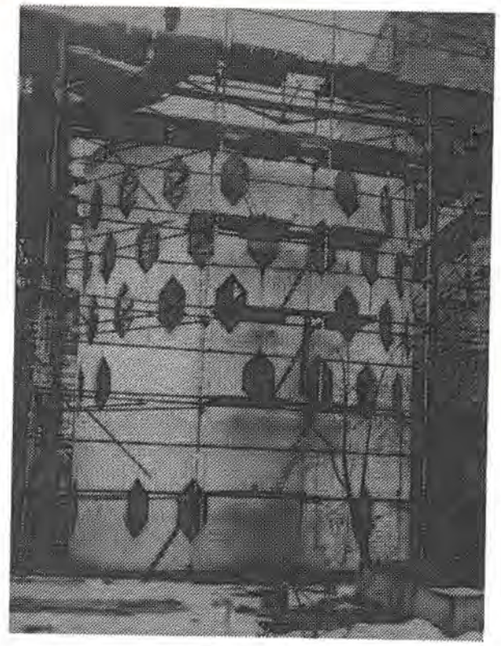
which brought world-fame to him, had been made of wood. They were lost and Melnikov's original wooden contructions remained nowhere except in his house in Krivoarbatsky Lane. This circumstance makes them invaluable for future research.

The authors of the project offered to keep, strenghten and restore this unique wooden construction. However Melnikov's son who lives in the house has objected to this decision. He insists on dismantling the original construction and on making if from new materials. The authors worked out two more versions of the old construction's strengthening, but they were rejected too.

Melnikov's daughter and also the Union of Architects, The USSR Ministry of Culture supported the restorers' decision as conforming to the spirit of the Venetian Charter. The dismantling of the wooden trusses made by Melnikov himself contradicts the elementary rules for restoration.

To insist on dismantling the original construction and

Back facade of the house
1930



The installation of the scaffolding, 1989

replacing it with a new one is the same as to demand that a bad leg should be amputated without even trying to cure it.

At the moment, when this article is written, the situation remain critical as the works on the monument have been stopped completely.

Notes:

(1) The authors of the restoration project are architects V. Rezvin, L. Braikovskaya, engineers E. Nikolaeva, V. Ocvhinnikov. The project was awarded the MOSA's prise on the best projects and buildings review of 1989.

John Allan
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Conservation of the works of Lubetkin & Tecton-architects

Introduction

The emergence of the Modern Movement in British architecture occured later than its European equivalent, and may be dated approximately from the late 1920's to the outbreak of World War II. Thereafter the changed social and economic priorities of post-war reconstruction effectively converted the experimental precepts of the 30's into the orthodoxy of the new Welfare State. The 'unofficial period' of the British Modern Movement may thus be quite precisely defined.

Berthold Lubetkin and the architectural firm of Tecton, which he formed in 1932, were arguably the most accomplished and productive exponents of this early modern phase in Britain. While other practitioners of the fairly small avantgarde each produced one or more buildings of undoubted period quality, no individual or group achieved the range, the artistic consistency or the technical interest of the Tecton canon.

The pre-eminent position of Lubetkin's works is reflected in their almost comprehensive statutory listing as buildings of special architectural merit. In 1982 he was also awarded the Royal Gold Medal for Architecture in recognition of his achievement - the highest honour the British profession can bestow.

The conservation of Lubetkin and Tecton's work thus assumes a central position in the application of the DOCOMOMO initiative to the United Kingdom.

Lubetkin's architectural intentions

Before looking at specific conservation projects, it may be helpful to outline briefly the background to Lubetkin's architectural education that informed, and is reflected in, his practice.

Berthold Lubetkin was born in 1901 in Georgia, in the Caucasian capital of Tiflis, was educated in St. Petersburg and Moscow and commenced his artistic studies in the cultural ferment that followed the Russian Revolution in 1917. This dynamic and exploratory period was dominated by such as Tatlin, Rodchenko, Lissitsky, Melnikov, and the Vesnins, all of whom Lubetkin knew and could consult in furthering his early artistic experiments. He also participated in the Prolecult movement, which debated the ideological role of art under the new Soviet conditions.

Although he left Russia in 1922 the impact of this early period left an indelible impression, a fervant belief in the role of art and architecture as vehicles of social progress.

In the decade 1922-32 Lubetkin travelled Europe, studying in Berlin, Vienna and Warsaw, and completed his self-managed architectural training in Paris, where he found his artistic direction in the French classical and rationalist tradition. He attended Atelier Perret at the Ecole de Beaux Arts. At the same time he absorbed the new theoretical, technical and aesthetic developments of the European Modern Movement. The influence of Le Corbusier's early work, was but one element of a rich blend of contemporary and historical influences that characterize Lubetkin's architectural background, and it is this artistic breadth together with the underpinning political and social idealism of his Russian - Constructivist origins, that make Lubetkin such an unusual figure in the otherwise somewhat parochial modern architectural movement in England, when he arrived in 1932, to form the Tecton partnership.

The English context

The limited opportunities for social building in England in the depressed early 1930's hardly matched the initial optimism of the practice, and much of the firm's work may be seen as a symbolic evocation of the better society that had not arrived but was felt to be within reach.

Tecton's consistent use of symmetry and primary figures, balanced by the introduction of contrasting lyrical elements, curves and diagonals - as well as serving the functional pruposes specified - was also undoubtedly intended as a rappel a l'ordre and a sort of metaphor for a more wholesome, and rational future.

To quote Lubetkin himself, from a letter written in 1947,
"I have the unfashionable conviction that the proper concern of architecture is more than self display. It is a thesis, a declaration, a statement of the social aims of the age. Its compelling geometrical regularities affirm man's hope to understand, to explain and to control his surroundings. By thus asserting itself against subjectivity and equivocation, it discloses a universal purposeful order and clarity in what often appears to be a mental wilderness.

To me this represents the CONTENT of architecture. But I must make it clear that content does not mean a story, the subject, nor the programme; it means a world outlook, a visual guarantee of the consistency of the whole human experience. It can be a potent weapon, a committed driving force on the side of enlightenment, aiming, however indirectly, at the transformation of our present, make believe society, where images outstrip reality and rewards outpace achievement."

Given these lofty ideals, the fact that much of Tecton's early work was in the genre of zoo buildings is an irony not lost on Lubetkin himself. *"I came to England expecting to build "Homes for Heroes""*, he has recalled, *"but instead found myself asked to design a Pool for Penguins"*.

This is another reminder of how the English Modern Movement is characterized by being largely a product of private institutional or individual patronage, in areas that might not be regarded as having a high social priority. This is in marked contrast to the situation in many European countries where it was adopted by many public and municipal authorities in explicit programmes of social reform. This is in turn a feature of the conservation issue in England, where 1930's modernism has tended to remain something of a minority interest, and where its physical upkeep has also remained largely dependent on the commitment and the resources of the original or subsequent private owners.

Project study

Three of the four Lubetkin conservation projects, with which my firm Avanti Architects has been involved, the Penguin Pool at London Zoo, a private villa at Whipsnade Zoo, and the zoo complex at Dudley near Birmingham, exemplity this general pattern. The fourth, Finsbury Health Centre, is the splendid exception in having been the first 30's modernist work to be commissioned by a public client with a political constituency.
Because of the limited time available, and also since the DOCOMOMO Newsletter No. 3 has now included accounts of our work at Regents Park and Finsbury, I intend to concentrate here on the project at Dudley. This nonetheless raises most of the key issues involved.

Although Tecton had achieved half a dozen buildings for London Zoo - either at Regents Park in London, or at the same zoo's country park at Whipsnade - by the time of the Dudley commission, Dudley was special in being a complete zoological garden designed and built as a single operation in the unique historic setting of Dudley Castle, an extraordinary medieval monument crowning a steep and thickly wooded hill that rises above the otherwise almost unrelieved industrial plain north-west of Birmingham.

View of Lubetkin & Tecton's buildings at Dudley Zoo
photo: John Allan, Avanti Architects

This comprehensive brief enabled the architects to adopt an integrated approach to the project, and establish a sort of family kinship between the various structures. Although differing individually according to function and site, these exhibit a sense of unity in their strong geometric identity and in the standardisation of certain recurrent details, such as parapet balustrades, walkways and wall finishes.

The project was completed in only 18 months, start to finish, and opened in 1937 to enormous popular acclaim, on account both of its architecture and of its animal collection.

In the post-war period the Zoo's fortunes have fluctuated with changes in ownership, investment and management. Most of the Tecton buildings have become dilapidated, partly through neglect, partly through intrinsic constructional problems, and partly from unsympathic alterations that have themselves deteriorated.

Over the same period, two seemingly incompatible trends have occured. On the one hand developments in zoological practice and public attitudes to the prestation of captive animals have superseded some of the principles informing the original design. On the other the buildings themselves have come to be regarded as outstanding examples of a particular architectural style and have all been protected by D.O.E. listing 5 no. Grade II*, 7 no. Grade II.

Taken to its extreme the result of these trends would be that the Zoo could neither effectively use its principal buildings, nor alter them or redevelop the important sites they occupy.
This is effectively the problem we have been asked to resolve, and at first sight it might appear that we must therefore make a choice between comprehensive reinstatement and preservation, or comprehensive demolition and redevelopment.

The philosophy of our response is that this is a false dilemma, and that neither of these approaches provides a

realistic policy either for Dudley, the Zoo owners, or for English Heritage the statutory protectors, in relation to the Tecton inheritance. We contend that only by synthesizing the claims of both restoration and alteration can a viable future for these buildings be secured. In practice this will entail implementing a programme of selective restoration and judicious adaption in such a way to re-present the architecture in a viable current application.

We have stated our belief that in the achievement of this programme, no less important than skill, time and money, will be the commitment to the underlying idea that the result of this approach can be a positive reconciliation, not a compromise.

Feasibility report

I now wish to say a little more about our methodology in approaching the study. Firstly our team comprised five professional disciplines, including architects, a zoological specialist, consultant structural and services engineers and quantity surveyors. The quantity surveyors Monk Dunstone Associates, are represented here by Geoffrey Ashworth.

Our initial task was to carry out a detailed condition survey of the twelve buildings - recorded in notes, annotated drawings and photographs. At the same time we were assembling historical information on the scheme through my personal contact with the original architects Lubetkin and Skinner who are still alive, from contemporaneous publications, drawings and photos, and from documents in the local history library. This exercise produce a fairly clear picture of the extent of change - whether by natural deterioration or deliberate intervention - that had occurred between then and now. It also provides clues as to what problems must be addressed in a restoration, since to a greater or lessor extent the way a building is used (or abused) becomes a sort of running commentary on the quality of its original design vis-a-vis the conscientiousness of its subsequent stewardship.

We also spent a good deal of time investigating how the settings of the buildings had altered - since seeing the pavilions in a different context is bound to change the perception of the building itself. We defined a series of "zones of ambience"- that is, the areas surrounding each building, within which it is seen and whose character therefore exerts an influence on the presentation of the building. Detailed recommendations for all these zones have been formulated - ranging from clearance or camouflage of later ill-sited buildings, to corrective landscaping (hard and soft), to rationalisation of details like signage, furniture and litter bins. The object is one of consciousness-raising-the establishment of an explicit aesthetic policy of carelessness and inertia.

Included in the task of surveying the buildings is the process of formulating an assessment of their architectural merit. This entailed not only individual analysis of each of the buildings, informed by an awareness of where they stand in the overall oeuvre of the architect, but also forming a view as to their significance as a group.

This is of importance, as the U.K. system of grading differentiates between buildings of Grade I, II and II starred, which affects a building's eligibility for grant aid. Five of the twelve buildings at Dudley are rated Grade II starred, and seven Grade II. However the sense of family kinship imparted by the consistent geometric character of the designs supports the argument that the whole is greater than the sum of the parts, and confers an enhanced value on the buildings of lower grade. In this respect the Dudley group is probably unique as an ensemble of inter-war modern buildings in Britain. It must also be pointed out that the grading of a building when it is listed may reflect the condition it has reached at the time, and does not necessarily represent its special architectural merit if properly restored. In some cases grades will need to be reviewed after restoration is complete.

We next analysed the capability of each building, and, in the light of our research into the original design intentions, tried to establish specific criteria for restoration and adaption. This is a crucial part of the conservation process as it entails forming detailed architectural judgements about what is important and what is not. Only if one is wholly aware of a building's original identity is one in a position to make an informed recommendation of its scope for change. We believe it is important to try to establish these criteria in advance of an actual re-use proposal so that they may be applied as a yardstick to judge the acceptability of any particular scheme. It is perhaps analogous to providing each building with its personal I.D. card, that prevents it losing its unique identity, whoever confronts it. These criteria ought to provide a common meeting ground between the potential opposing interest groups as represented by those urging change (usually the owners) and those urging preservation (usually the authorities).

Only by this point is one in a position to draw up specific restoration proposals. In the light of the criteria established above, we were confident in evaluating both the status of each proposal - i.e. whether it represented a restoration or repair task, or whether it involved conversion or adaption to new use - and the priority of each proposal - i.e. whether it was essential or desirable. This is of significance in determining the optional scope of work, and in identifying the differing orders of cost. Few projects are blessed with a blank cheque. In my experience projects have only ever been realised after, and as a result of making choices - usually painful ones. So it is vital to distinguish in advance between what is 'sacred' and what is worthy. In any case, grant aiding authorities will normally only contribute towards restoration work - not conversion work - so it is essential to be clear about which when establishing the building fund.

The architectural and zoological content of our proposals will be evident from the illustrations but I would like to refer specially here to some of the structural aspects raised in restoring Tecton's work. We were fortunate in being able to work in collaboration with the firm Ove Arup & Partners, as Arup was himself the original engineer on the job and in almost all Lubetkin's projects. His particular interest at that time was in the development of slab and panel technique in reinforced concrete to expand its use from only column and beam technique - which persisted initially both in practice and in regulations as a hangover from the preceeding structural steelwork tradition.

Lubetkin and Arup's solutions were highly innovative in England, but it is clear that reinforced concrete's structural potentialities were better understood than its long term durability. Much of the architectural impact of Tecton's design depended on the impression of lightness, and geometric purity achieved in the concrete sections. But cover to reinforcement bars was frequently nominal, leading to early rebar corrosion and concrete damage, which is usually of greater extent than first appearances indicate. The emphasis on formal clarity tended to lead to the omission of conventional weathering details, such as copings, drips and overhangs, and flat roofs with inadequate falls have often resulted in water ingress and further structural deterioration. Insufficient insulation of thin-wall envelopes has also caused condensation and rebar corrosion on internal faces.

The process of concrete deterioration was not fully understood until recent years when the implications of carbonation were appreciated. Reinforced concrete was evidently regarded as a building material which would last indefinitely. In fact it needs regular maintenance especially if reinforcement has been inadequately protected from the beginning.

Carbonation is a natural process in which the alkalinity of fresh concrete, which protects the steel reinforcement, is neutralized by atmospheric carbon dioxide. As the pH value falls the immediate environment of the reinforcement turns from alkaline to acidic. Corrosion will then commence provided that there is sufficient moisture. Ferric oxide, the product of corrosion, greatly increases the volume of the reinforcement causing the spalling of the surrounding concrete.

The remedial work strategy indicated by these problems may be outlined as follows:

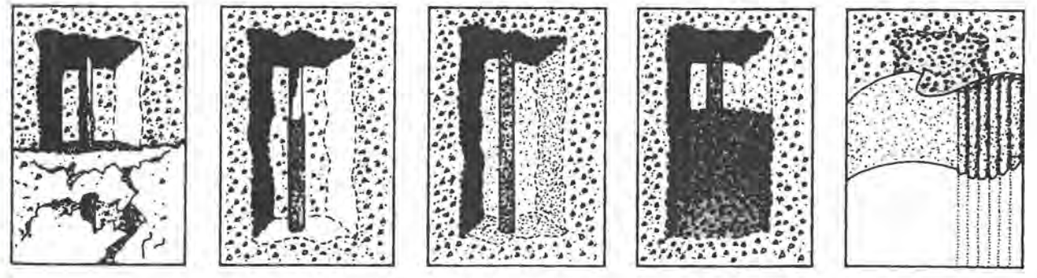
a) Detect and repair any damaged rebar and concrete.
b) Detect and circumvent any damage where rebar lies in exposed carbonated concrete. This will undoubtedly reduce the necessity for repairs in later years.
c) Form weathering details where these can be satisfactorily (i.e. discreetly) introduced.
d) Ensure that flat roofs drain adequately or, if this is not possible, waterproof to a tanking standard.
e) Apply protective coatings which will keep the concrete dry and yet able to 'breathe'.
f) Ensure adequate insulation, heating and ventilation.

It will be apparent from the above that the repair process is 'intrusive' in character. That is, the process of detecting, exposing, replacing and protecting damaged reinforcement and carbonated concrete involves removal of the outer surfaces of the areas concerned. Depending on the extent of the deterioration, the areas requiring repair may account for more than half of the visible structure.

The final stages of the repair process, in which typically a thin levelling render is applied to the entire surface in order to obtain a consistent and sound substrate for protective coatings, may be said to transform the act of restoration into one of improvement. To this must be added the predisposition to incorporate better weathering details, where possible, to upgrade the future envelope performance.

It is probably also relevant to mention that in the U.K. at least the fairly recent development of specialist concrete repair materials and techniques has largely arisen in

The typical concrete repair process



1. Test, expose & remove defective concrete. Expose reinforcement beyond corroded length. Replace rods if necessary, splicing to provide continuity.

2. Blast clean steel & protect with polymer modified cementitious slurry, 2 coats, second coat blinded with quartz sand.

3. Apply bonding bridge slurry, (sand/cement/polymer) as primer for whole area to be repaired, while still wet.

4. Place & compact repair mortar in layers not exceeding 25 mm. Apply further bonding bridge between layers if greater depth required.

5. Apply thin film (alkaline rich) levelling render (2 mm) to fill blow holes and provide substrate for protective coatings. Profile as required to match original. Apply coatings in min. three applications, thinning 1st coat.

response to public authorities' refurbishment programmes on deteriorating post-war estates and offices, i.e. non listed buildings, in which for both client and contractor soundness of repair is the overriding objective, (almost) regardless of architectural considerations.

This leads perhaps to the most difficult issue raised by restoration of 1930's concrete architecture - the question as to whether successful repair can only be obtained at the expense of authenticity of result.

Since the very nature of the remedy is likely to involve the renewal of the surface, it follows that the end product of 'restoration' is superficially a more or less new artefact. This differs somewhat from the restoration processes associated with traditional construction such as stonework or brickwork, where it is often possible to retain most of the original material and confine the renewal element to the pointing or only local areas of the visible fabric. It is perhaps more akin to the renovation of stucco buildings of the Regency Tradition where a repaired and decorated adherent mantle formalizes the underlying structural armature.

This may not be a critical issue in cases where the original building was brought to a high state of finish - e.g. Tecton's Penguin Pool at Regents Park, of Highpoint flats; or conversely, in slightly later Tecton buildings like the Finsbury Health Centre where the monolithic aesthetic has already been superseded by a more composite, modular envelope that offers more opportunity for discreet intervention. However in the case of Dudley Zoo, as had already been mentioned, the character of the original buildings reflects the fact that they were constructed quickly, simply and cheaply. The resultant 'irregulatity', which could be regarded as an integral feature of the architecture, is the very quality most likely to be lost in the 'restoration' process for the reasons outlined above. Conversely, and perhaps ironically, the recreation of some of the original surface effects, for example the highly characteristic corrugated formwork pattern, can now only be achieved by an extremely labour intensive manual cosmetic operation.

Having said this, it must also be stressed that concrete repairs do not necessarily always require wholesale rendering. Sika or other proprietary coatings can give adequate protection without that. Carbonated concrete gives no protection to steel, but in a dry environment steel will not corrode, so the minimum recommendation would be to ensure protection from water by utilizing the best coatings such as those manufactured by Ronacrete and Sika. This approach however leaves repair areas uncamouflaged, and is unlikely to provide such long-term durability as can be expected from complete recovering. At the outset of each building project it must be decided whether to remove and renew all exposed external concrete cover to rebar and thereby practically eliminate the necessity for repairs in the future.

The issue is likely to divide opinions, depending on whether priority is given ultimately to comprehensiveness of repair or authenticity of result. The very nature of the task however makes it difficult to define a hard and fast doctrine which can then be universally applied. The extent of the works undertaken will be the outcome of several factors including the state of deterioration, the desired longevity of the result and the amount of money available, and this indicates the need for judgement of each case on its merits in the light of all the issues.

Slide presentation and commentary

Featuring the Penguin Pool Regents Park, and Dudley Zoo.

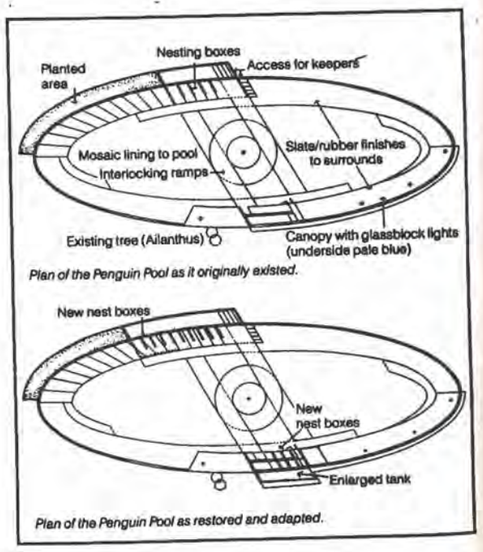
Conclusion

The restoration of a few zoo buildings in England may seem too peripheral or idiosyncratic a proposition to yield many object lessons for general application. I am well aware that our European colleagues have a considerably greater Modern Movement inheritance to deal with.

But certain common themes clearly emerge.

- The importance of detailed research into the building's original construction, materials and components.
- Understanding the intentions of the original designer.
- Discovering the history of use and maintenance of the building.
- Establishing a viable and appropriate programme of future use.

Comparative plans showing subtle amendments to meet current requirements



- Understanding the architectural implications or repair technology and determining the interface between sensitive restoration and legitimate intervention.

It is quite common for the owners of early modern buildings to be aware of, or unconvinced by, their interest and importance as works of architecture. They are understandably more preoccupied with the value of the building as an operational amenity, and may well find that its usefulness is constrained by the same characteristics that are the basis of its cultural significance.

As the Modern Movement proliferated and lost its early idealism, so also developed the process of alienation as between its practitioners and the public. Those promoting a new conservation initiative in modern architecture must be careful to prevent history repeating itself.

The best way of conserving a building is to use it effectively, but this almost invariably involves a shift in perception on the part of both building conservationist and building operator.

The interest of both these parties must be grounded in economic realities. A sentimental desire for Covent Garden to remain a flower market or the Gare d'Orsay to remain a railway station will stand little hope of success if economic and social realities dictate otherwise. Yet by reconciling the desire for conservation with the demand for change both these remarkable buildings have been saved.

There are no doubt bound to be model examples where total "archeological" restoration of a building is required as a matter of historical record and such projects are to be applauded. But I am inclined to regard them as uncontroversial in the sense that however difficult they may be technically, they are 'easy' philosophically. I also suspect they are likely to be the exception rather than the rule.

Our work always seems to arise in the muddier water of the hybrid problem where, in a paradoxical sense, a building can only be saved if it is changed. It seems to me that the challenge for modern conservationists is to respond to the needs of both building and operator, and devise ways in which by a combination of correct renovation and judicious adaptation these early 'monuments' may promise a viable new lease of life that engages the support and commitment of the users themselves.

After all, however preoccupied we become with the historical sub-text, or the minutiae of technique, we should not lose sight of the idea that inspired the original modernists themselves - the idea of progress.

Geoffrey Ashworth
Monk Dunstone Associates, London; Great Britain

Tecton's Finsbury Health Centre, a proposal for renovation

Given the limited time available, my paper should be seen very much as financial afterthoughts on what John Allan has so cogently described.
Monk Dunstone Associates have worked with Avanti on proposals for two Lubetkin/Tecton sites - Finsbury Health Centre and Dudley Zoo. What has emerged is a structured, team-based approach to the preparation of proposals. A modus operandi of physical survey and costing techniques has evolved which has enabled an understanding to develop between architect, engineer and cost consultant.
Particulary in the case of Dudley, with a number of buildings and areas within the site, it has been possible to focus on the detail of the proposed solutions and analyse the cost implications.
The feasibility reports on both Finsbury and Dudley have broken the estimated costs into two groups - essential and desirable. At Finsbury the balance between the two fell approximately in an 80/20 relationship whereas at Dudley, reflecting the varied use and condition of the buildings, the balance at 90/10 swings further towards essential works.

At the heart of the approach is the condition survey involving
- detecting
- exposing
- replacing
- protecting

Without modern specialist render techniques (Sika, Ronacrete, etc) it is a sad speculation that in many cases sympathetic restoration and repair would simply not be possible. The cost equation requires a balance to be struck between the long term security afforded by removal and renewal of all exposed external concrete and the additional cost involved.
Costs are presented in such a way as to permit permutation of

essential versus desirable
and
restoration and repair versus conversion for new/ improved use

At Dudley, each building considered separately (although there are obvious financial benefits in grouping the work into one or two contracts) and the cost analysed into
- concrete repairs
- slabs and floors
- roof
- extenal walls
- doors and windows
- internal walls
- internal finishings
- fixtures and fittings
- services
- external areas
- conversion (change of use)

The original construction cost at Dudley, of £40,000, when updated statistically generates a current figure of just under £2 million. Statistical updates over a 50 year span, particularly in the field of construction, are notoriously misleading and in reality such a budget would be inadequate for a similar project in the environment of the modern industry. Nevertheless, a current renovation estimate of £2.8 million for Dudley underlines a significant point which must constantly be borne in mind that the renovation and preservation of Modern Movement buildings requires flexibility in attitude and approach. The financial results of years of neglect place great strain on finances but one must constantly remember that the exercise is not simply about bringing a building back into commission for today but that its life is being extended. Cost limitations inevitably involve compromise whilst time, particularly where a building has been neglected, generates its own pressures. A fair financial analogy rests in the restoration of classic motor cars where the multipliers are frequently much greater than those we are considering here.
To digress, a fascinating historical sidelight to emerge from the Finsbury study was the considerable number of contractors, sub-contracters and suppliers who are still active in the industry or who were working within recent memory (whatever became of 'Harris the Sign King' one wonders?)

Finally, a brief word on grants; in the United Kingdom, the key to grant aid has been the listing process which, until recently, militated against Modern Movement buildings. A change in attitude towards these buildings is becoming apparent but there is much more to be done. Funding is likely to come from a combination of private and corporate patronage; much needed help could come from the EC and the Council of Europe. Considerable pressure is being brought to bear at European and national level but there is much to be achieved and speed is vital.

Peter Verhaeghe, Carmen Espegel, Gabriela Lee
Catholic University Leuven; Belgium

Documentation and restoration project for the newspaper plant Vooruit in Ghent (Fernand Brunfaut, 1931)

1. Introduction and scope of study

The Dagblad Vooruit was built in Ghent by Fernand Brunfaut in 1931, to house the printshops and editorial offices of a socialist newspaper, and it became a symbol for the emancipation of the working class and for the power of the socialist party at the time.

Our work consisted of a detailed study and survey of the front part of the Dagblad Vooruit (namely the 19th Century house with the additions Brunfaut made in it), maintaining at all times an overall view of the whole construction, for which we propose a master plan for new use.

2. Location and description of building

The Vooruit is located on a hill, in a former working class and industrial neighbourhood. Today this part of town is largely occupied by the University of Ghent and related activities, such as student living quarters and commercial and cultural activities.
The original site consisted of a 19th Century house with a large open field behind it, and rows of workers' houses lining a street that ran into the field. Brunfaut's Vooruit was an industrial building grafted unto the 19th Century building; a new structure was added unto it to support the new facades and light tower which were literally hung from it. Then the workshops were built on the site behind the building, and connected to it by a long corridor and courtyards.

Its most striking formal element is the facade, with its light tower and curtain wall which clearly shows the influence of the Russian constructivist movement, even if functionally it does not relate directly to the rest of the existing building behind it.

Later alterations blocked windows, built additional workshops where courtyards and lightshafts had formerly been, and drastically changed the original spatial concept of the building.

3. Formal and spatial characteristic elements

False facade: composition based on strong vertical and horizontal lines, the vertical being given by the curtain wall, oriel windows and light tower, and the horizontal by the ground floor and upper cornice; extensive use of red and black glazed tiles (colours of the socialist party); recessed and angled entrance landing.

Entrance hall and staircase: again use of red and black mosaics in the pattern on the floor; round columns; stained glass interior doors; black marble counter, with wooden piers and glass booths.

All new building by Brunfaut (workshops): extensive use of natural light through large windows and skylights; three large naves housing the machinery; use of apparent concrete structure; detailed iron work throughout the building in railings and fixtures; indoor spaces organized around outer courtyards.

4. Material and pathology

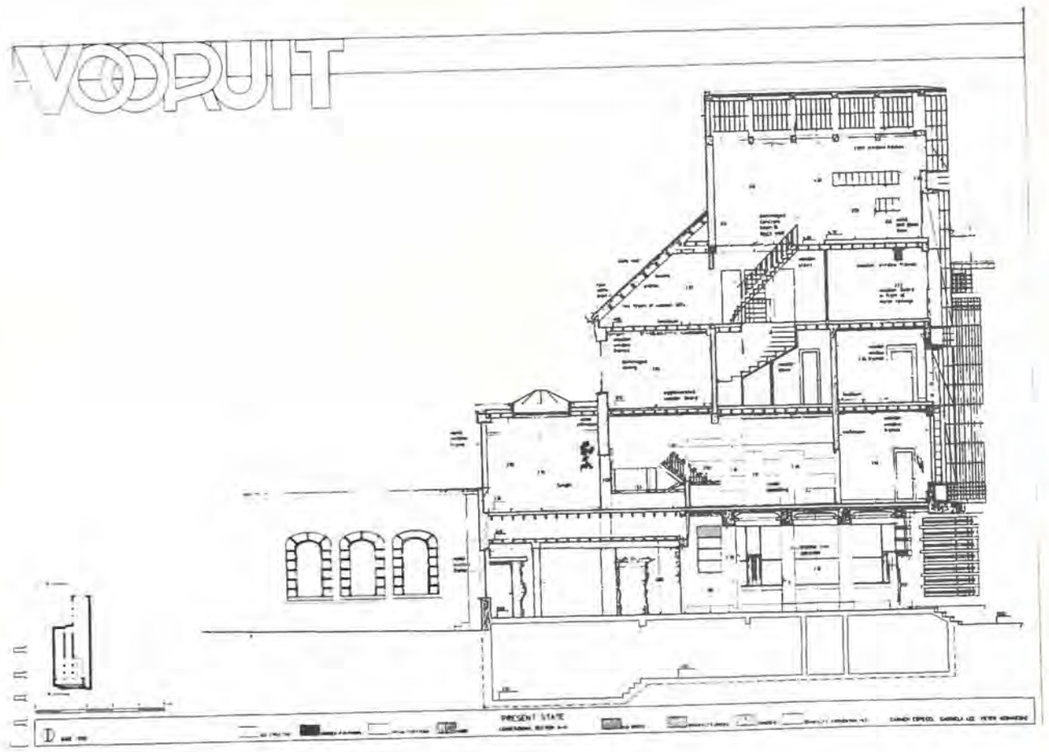
Structural damages: only in supporting beams of light tower and in wooden roof structure of the 19th Century house; the rest is in fairly good condition.

Facade: finishing layer of grooved cement between windows is falling off; glazed ceramic tiles were covered with clear varnish which dulls the colour and is flaking off the surface; steel window frames and structure are seriously rusted; most of the windows need to be replaced.

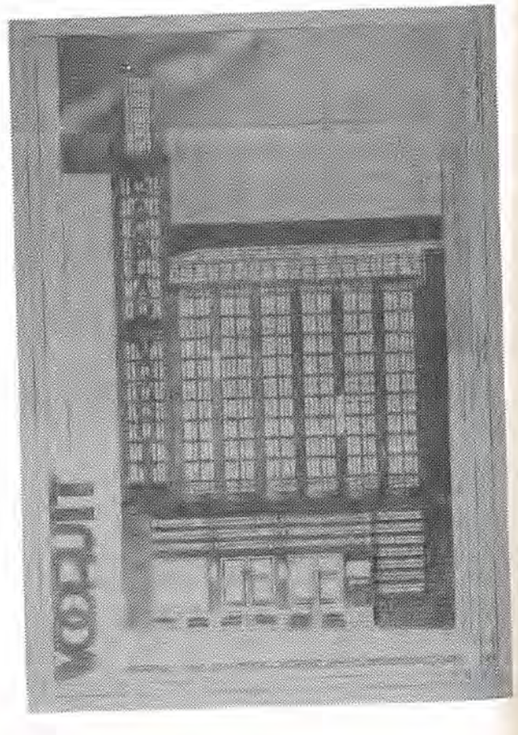
Finishings: in general all interior and exterior coatings need to be redone; some marble steps and panelling is dammaged, as are the mosaic floors in the entrance hall and landing.

5. Master plan and proposed new use: Badhuis Vooruit

We deemed it important to recover the building as it was originally conceived in 1931, with its main spatial characteristics, by removing all later additions. The



Dagblad Vooruit in Ghent
Longitudinal section in the present state



Dagblad Vooruit in Ghent
Main facade in the present state

proposed new use is a public bath house which includes all kinds of water, vapour- and heat baths, combined with recreational and fitness activities. These could re-use the large naves and make the most of the natural lighting available by recovering the lightshafts that had been blocked in the last thiry years. We think of our intervention as discreet, designed to enhance Brunfaut's building rather than overpower it.

6. Technical considerations

Structural dammages: repair wooden roofs and floors; install suitable waterproofing; repair damaged concrete elements where structural steel is exposed by cleaning it and covering it again with concrete.

Facade: cleaning by hot steam to remove old varnish on tiles; replace missing tiles; apply new kind of varnish or other product to avoid water infiltration through tile joints; removal of steel window structure to sandblast it and protect it against further corrosion.

Finishing: redo all plastering and paint; replace broken marble panels and steps as well as missing mosaic pieces on floors.

Het Dagblad Vooruit

Location:	St. Pietersnieuwstraat 128, Ghent
Orientation:	East-West
Client:	Gust Balthazar, head of the Vooruit newspaper
Architect:	Fernand Brunfaut (1886-1972)
Original use:	Headquarters of the Vooruit newspaper
Different building phases:	1931: Brunfaut's intervention, maintaining part of previous structure 1963: additions due to newspaper's expansion
Present owner:	Mr. Serge Elia
Present use:	Unoccupied, awaiting building licence to be turned into a theater and nightclub complex.
Basic figures:	Width of facade: 12 mts. Depth of plot: 140 mts. Total area of plot: 1526 sq. mts. Total built area: 2900 sq. mts. Number of levels: 6
Classification status:	Main facade and ground floor of front building: classified monuments under Belgian law in 1988.
Architectural features:	Building consists of 2 main areas: a 19th Century house with an intervention by Brunfaut (false facade, hall and staircase), and the new printing facilities for the newspaper, linked by corridors and courtyards.

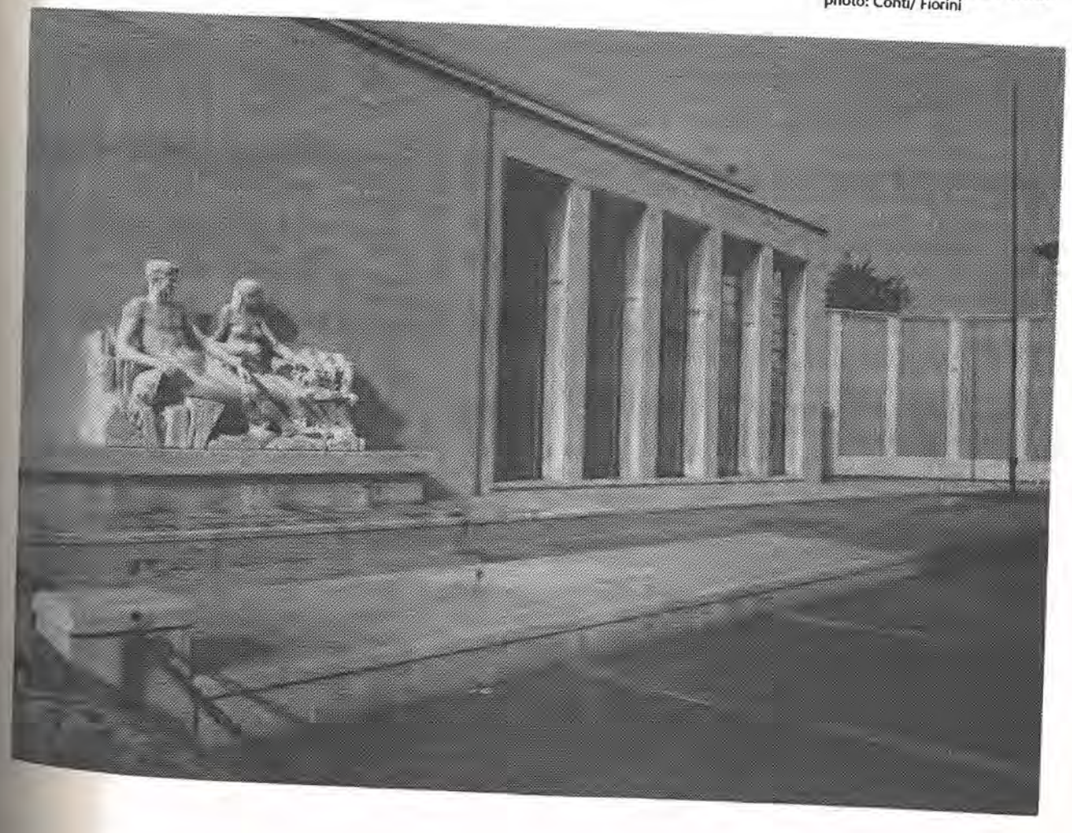
Alessandro Conti
Lidia Fiorini
University of Florence; Italy

Documentation of the Royal Pavilion of the Santa Maria Novella railway station in Florence (a.o. Michelucci, 1933)

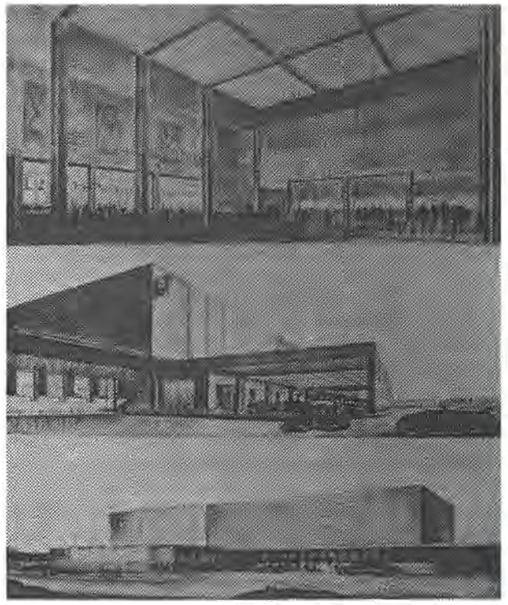
On 24th August 1932 was announced the competition for the construction of a new traveller's building of the Florence railway station. It was to be built in a central place of town, marked for the monumental presence of the S. Maria Novella church apse.
The jury reflected both the ideological and cultural tendences of Fascist regime and it included the supporters of academic architecture, that recalled the Roman empire, together with the promoters of modern architecture, that was belived more convenient for exaltation of "Fascist revolution". So the competition was influenced from clash between that tendencies about the cultural supremacy into Fascism (and there are many studies on it), but the real difficulty about a comparison with historical neighbourhood helped the success of a project that overcame such obstacles with a strictly functional organisation (it respected the strict orders of the competition announcement according to the railway organisation by eng. A. Mazzoni) and with the discretion of outside looks, that not competed or imitated the ancient architecture. This project was designed by the "Gruppo Toscano", including a group of architects who graduated shortly before (N. Baroni, P.N. Berardi, I. Gamberini, S. Guarnieri, L. Lusanna) co-ordinated by a young professor, arch. Giovanni Michelucci.
The external shape of their project was a rather low parallelepiped, not plastered and perforated by a regular sequence of windows to exhibit a formal adhesion to rationalism, but faced with "Pietra forte" like the Florentine palaces, and yet "scandalously" without windows and discontinued only by a "glass waterfall" and by large shelters according to entrance and exit ways. This unprejudiced and ironical use of traditional materials can give us a key for understanding the late assertions by arch. Italo Gamberini, who says that the Townhall in Hilversum, the Netherlands, by W.M. Dudok inspired their project. Although many oppositions, the Gruppo Toscano was declared winner on 29th may 1933, with the academic architect M. Piacentini as determinating (but interested) supporter, and was approved by Mussolini himself, who looked for the agreement of modern artists and intellectuals, like the futurist F.T. Marinetti (who was in the jury too) or the painter P. Conti, the architect G. Pagano, the engeneer L. Nervi and most favorable people.
The winning involved to supply executive drawings and the "artistic management" for the construction; so the competition project was detailed and partly modified. In particular the jury opinion recommended the architects to modify the lateral front and just emphasize the "Plazzina Reale" (Royal pavilion) - that was present also in the competition plan, but was not detailed - as a reception place and a right end for the station building. So, according to the reconstruction made by Vittorio Savi (even if our research in the original drawing archive have not found final proofs, but only some old study sketches without any sign), the team leader Michelucci (who was not really interested in the construction because he had a disagreement with the other architects) would prefer to draw up himself the Royal pavilion, according to the request of a "more Italian, less Florentine" style.
This was a difficult task because he was requested to use a monumental tone, but at the same time he wanted to keep a balanced relation with the whole station complex. So, here the "pietra forte" covering is replaced by the refined contrast between the "fior de pesco carnico" marble (with a pale pink tone) and "bianco de Carrara" marble of the window-posts. The front toward the railways, that can't be seen entirely from the platforms because it's covered by large shelters, is set-back to separate it from the other buildings, leaving a covered space with two colonial-style data-palms. Outside, the limousines had to go along a curved way to enter into a covered porch, and that inspired to built an exedra around a low fountain, with a composition that recalls the metaphisical "Italian squares" by De Chirico, with a pleasant abstract effect. The apparently asymmetrical fronts are designed in reality with a skillful concealing of symmetrical parts. Instead, the requirements for a monumental tone are satisfied with a strictly symmetrical plan that is redeemed by a functional distribution. The building, reinforced concrete framed, has two floors which centre is the double-height hall: the ground floor included the reception-rooms, the first floor was designed to include a gallery open on the hall. Probably, in the beginning the first floor was designed to include some private rooms for the royal family or the other guests, but we think that on the inauguration day the first floor was not finished and that later it was not completed, because nowadays none of the valuable finishes designed is there.
The "Gruppo Toscano", in a letter dated 31st October 1934 (when the structures were completed), accurately suggest materials and finishes to complete the rooms; later something was modified during works (as is to be seen in contracts) but the refined design is almost not altered. On 30th October 1935, during the inauguration, the Royal Pavilion shows a skillful use of materials, valuable or not, like different marbles, woods, rubber, burnished bronze and metals, mosaics and so on. They are used without any false decoration, but with refined proportions and with materials linked carefully together for colour and touch, according to their intrinsic qualities (as where the polished red marble is linked toghether with the golden musaic). Coverings and floors, different in every room, are put toghether or apart by means of carefully designed doors and sills, according to a definite intention. The same all-round planning is applied to the furniture, personally designed by arch. P.N. Berardi, interior designer of the whole station (but only a little part of his work is still there now). Materials and design, from lamps and tables to bath-furniture or curtains are obviously qualified for use, but furniture was designed consistently with the polished simplicity of architecture.
The art-works (that are foreseen by the architects themselves and are chosen by different competitions) appear now obsolete because they have a praiseful aim and use an academical and aulic style, without any connection with vanguard art (however at first fascism used futurism as a cultural reference). If we except the sculpture "The Arno river and his valley" (by I.Griselli 1935) that is obsolete but convenient for the tone of the space where the sculpture is, the bas-reliefs "The construction of the dome of Florence cathedral" (by G.Mannucci, 1936) and "Michelangelo builts Florentine fortification" (by M.Moschi, 1935) or the tapestries "Arts as earthly image of God: Florence in XVI century", "Here Italy stops on the way to Rome: Florence capital of Italy", "The empire light shines from Rome: Florence on 9th May 1936", "The Roman arms gave peace to the world" and "The Savoyard arms gave us Italy" (all by Pio and Silvio Eroli, 1936-1941) are now anachronistic and odd curiosities at most.

Now we will describe functions and most materials of every room, because we think that a close knowledge of materials is essential for conservation of every architecture, but here it has a special importance because, for instance, every substitution of marbles would be hardly possible because the veins of certain marbles are worked out and in any case it's difficult to find a similar veining or colour. Where it is possible, the description order follows the same order used by the "Gruppo Toscano" in descriptions at the building time.
- Honour porch: it's a covered way where the limousines could enter in, it's faced with "fior de pesco carnico" marble slabs; the floor, that initially was designed in

Royal Pavilion of the S. Maria Novella railway station in Florence
photo: Conti/ Fiorini



porphiry, was really made with rubber.
- Sheltered passage: it's a direct connection between inside and outside covered with "fior de pesco carnico" marble and floored with green serpentine.
- Outside lobby: the walls are partially lined with walnut wook, it's floors are in "rosso Levanto" marble. The steps of the staircase, that leads to the first floor gallery, are in "bianco di Carrara" marble, the rest, upto the handrail, is in "paonazzetto d'Arni" marble.
- Reception room: the base (upto 4.50 mt.) and the window-posts of the gallery are in "rosso di Castelpoggio" marble. The plastered spaces between the pillars on the base were designed to be painted in fresco, afterwards it was prefered to hang the tapestries already described instead. The floor has a pattern in walnut and oak woods, excluding a dais for the royal chairs in "rosso di Castelpoggio" marble. On the wall behind the dais, between two strips of the same marble, there is a niche covered with Venetian mosaic, with tesserae of different tones on a "old-gold" background that fades into a clearer tone from bottom to top.
The mosaic includes Savoyard knots and "F.E.R.T." monograms as patterns and a crown too. The room is lit by a skylight (but it functions only with lamps now) with a bronze frame and "Pulegon" glasses.
- Royal private room: it's entirely faced with walnut wood and it has a floor pattern with olive and walnut woods. The ceiling is partly plastered and partly covered by a ceiling lamp with opaline glasses in a wood frame. On a wall there is a window, framed with walnut wood and opaline glasses with a slide opening as in train windows, behind that window there is a glass-concrete wall as a safety device. Joined with the royal room there are three toilet rooms: their floors are in glass-paste tiles and their walls are lined with blue-and gold "Fontanit" glass tiles, a very unusual material.
- Minister private rooms: they are partly faced with wood and a part of the ceiling in one of these rooms is covered with a ceiling lamp like in the royal room is. Floors are in "giallo di Siena" marble, but, before 1935, they were designed in "rosso Levanto" marble and rubber. Here too toilets were designed with glass-paste tiles and ceiling lights, but in later years they have been almost competely renovated.
- Lobby (on platforms' side): it's partly lined with walnut wood, the floor is in "rosso Levanto" marble.
- First floor gallery: it was designed with a "rosso Levanto" marble floor and other finishes, but, as we have already said, we think that these works were not really executed, at least not in the parts that can be seen from the ground floor. Surely the first floor had different furnishings during time (for instance, a part of it was changed in a house for the keeper, with the addition of a staircase at the back). Now there is a school for railwaymen, and the arrangement is completely unconnected with the building nature.
- Sills and posts: almost all door-sills are in diorite, the window-sills are in "bianco tinta calda" marble (at the back facade they are in "Rapolano" travertin); door- and window-posts are in "bianco a tinta calda" marbles.
- Doors and windows: the reception room glass doors are in solid walnut with brass door-handles and finishings. The same doors are between the platforms and the inside



Competition Design drawing from
"Illustrazione toscana", March 1933

lobby. The doors at the ends of the sheltered passage, as the outside windows too, have a iron frame covered with burnished copper. The honour porch gates are in bronze. The inner doors, in the ground floor, are in walnut wood. Around the mid 1970's the building was conformed to safety standards and the glass doors were provided with escape door-handles.
- Roof: from the outside lobby it's possible take the service stairs leading to the flat-roof. This is surrounded by a high parapet that conceals the massive reinforced-concrete skylight structure. Nowadays it is lit only by an electric device, because its glass-concrete roof was waterproofed with bitumen sheeting. This, as the presence of other additions, proofs that, till now, maintenance was oriented only to the immediate problem solving, without any attention to appropriate restoration techniques.
- Fronts: they are covered with "fior di pesco carnico" marble, with white marble mouldings. On the Piazza della Stazione side, the exedra wall is in rough plaster with pilaster-strips in "fior di pesco carnico" marble. The floor is in stoneware tiles and squared by white marble strips. Along the way there is a porphiry pavement. The fountain plane is in "bianco a tinta calda" marble with a serpentine semicircle under the pennon. The fountain bottom is lined with little pale blue tiles. On the platform side, the sheltered space is floored with little red tiles and the ceiling is covered with dove-coloured tiles; walls and

pilasters are lined with "fior de pesco carnico" marble. The flower-beds around the palms are squared with white marble.

The Royal Pavilion during time has not suffered serious damages in its structures, but for a long time it has already lost its own identity strictly connected with its function. The building, designed for a single function, is divided in floors and only the ground one now and then is used as party- and exhibition-room. So, the absence of a frequent and proper use lead to a gradual disappearance of furniture and to careless maintenance. The only works that have been made were oriented to single problem solving, without a global project to maintain the buildings meanings. For instance, it was allowed that pollution could corrode the outside marbles (that now have lost their mechanical and physical qualities) and many vandalic damages occured. Besides, there is no up-to-date archive at the Railway Company with date and reason of every past work, so it's more difficult to do the work rapid and right. During this year too, on the occasion of "Italia '90 ", there have been some "make-up" works, that, in substance, have not resolved the main problems of the building.

This report is based upon a study by the authors toghether with L. Coppini and M. Rapallini for the course of Architectonical Restoration B/C at the Faculty of Architecture of the University of Florence in 1987/88, including a survey, the achievement of photographic documentation, archive researches and a check upon the building state with proposal for restoration. So, we heartily thank our teachers prof. arch. G. Cruciani Fabozzi and prof. arch. G. Rocchi, and our assistant-teacher arch. A. Crociani.

Essential bibliography

- R. Viviani and G.K. König, Origini e forma del centro civico in "Comunità" No. 64, 1958
- V. Savi, Ritorno alla Stazione di Firenze in "Rassegna" II, No. 2, 1980
- C. Pagani, La Stazione di S. Maria Novella in AA.VV. "Tre architetture degli anni trenta a Firenze", Società delle belle arti-Circolo degli artisti, Firenze, 1984
- V. Savi, De Auctore, Edifir, Firenze, 1985

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A neglected monument: the "Glasspalace" at Heerlen (F.P.J. Peutz, 1934)

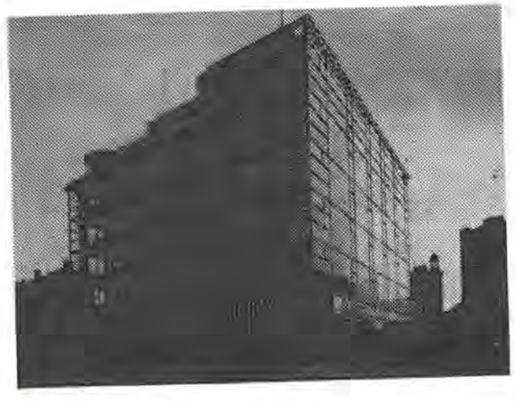
In 1934 the architect Frits Peutz designed the enlargement of the fashion department store Schunck in Heerlen. This building was one of the highlights of Modern Movement architecture in the Netherlands. After forty years the function of the building was changed into offices. At this moment there is not much left of the original appearance.

History

The fashion store Schunck had been established in Heerlen in the province of Limburg (between Germany and Belgium) in 1874. Through enlargements, in 1934 the store existed of a series of old buildings, without any corporate identity.
In spite of all the enlargements, in the early thirties Schunck wanted more space and wanted to change the sales-organisation. In former days the garments were sold from behind the counter, in the new building the products would be sold as in a market-hall.
The director in those days, Peter Schunck, travelled to France where he saw the Magasin Decré of the architect Henri Sauvage. This store became the example for his own shop.

Peutz very well understood the ideas and demands of his principals and he designed a building with a modern look and flexibel interior arrangements. With respect to the adjacent roman church building, the St. Pancratius, the design consisted of an abstract transparant block, which soon received the nickname Glaspaleis (Glasspalace).
On top of the store the family Schunck had their private residence.

Glasspalace, origanal appearance
photo: Mantz



In 1962 plans arose to extend the store. Unfortunately, the plan of Peutz to build a bigger Glasspalace was rejected.
In 1972 the store Schunck changed their location by lack of space. The building was sold to a broker, on the condition he would never use it as a store. This was one of the reasons the function of the building has been changed into offices, which it still is.

Description

a. Construction
The building consists in ten stories: two cellars, ground level with entresol, four shop stories and a two storey construction for the family apartment.
The reinforced concrete construction mainly consists in mushroom floors. The used system is highly developed and executed with round and octagonal columns. The round ones are used at places where they would be visible at most.
The foundation of the building consists in a concrete slab of 50 cm, designed as an upside down mushroomfloor. The reason for this was the bad condition of the soil and the unstable mine galleries deep in the earth (this part of the Netherlands was an important area for coal). This situation could cause subsidences. Because mushroom constructions have the quality of an equal stiffness in two directions, they can absorb possible shifts in the underground.
The apartment on top and the general facilities (stairs, elevators, toilets, etc.) are being constructed within a structure of rectilinear columns and joists.

b. Facade
The facade of the store is a curtain wall, made of steel, with large glass panels. At that time a system with large size glass panels and absent parapets was unusual in the Netherlands. That's one of the reasons why the appearance of the building was special.
From the first floor upto the roofgarden of the apartment, the facade was fixed to the reinforced concrete construction with steel supports, 50 cm in length, so natural ventilation was possible. Air warmed up by the sun, left the building through the windows or through openings on the roofgarden, which could be closed by glass panels. This ventilation system was a sort of experiment, because the optimal distance between the facade and the construction could not be specified. A year after the building was finished, Peutz admitted that 50 cm was too much.

c. Use
The building was very clear and satisfactory in its use for shopping.
Through its clarity, the division in the building in horizontal as well as in vertical direction was perceptible.
Horizontally there were two different types of rooms: the shop and those for general facilities, both with a different type of construction, independent of each other.
Vertically there was a division in public (shop) and private (flat), separated in construction by a thick floor for the noise and the different climates. An extra elevator was made for the family, which went from their own hall at street level directly to the fifth floor.
In the first years the terrace on the roof was also open for the public. Because the family wished more privacy and the house was enlarged at the cost of the terrace, it was closed later on.

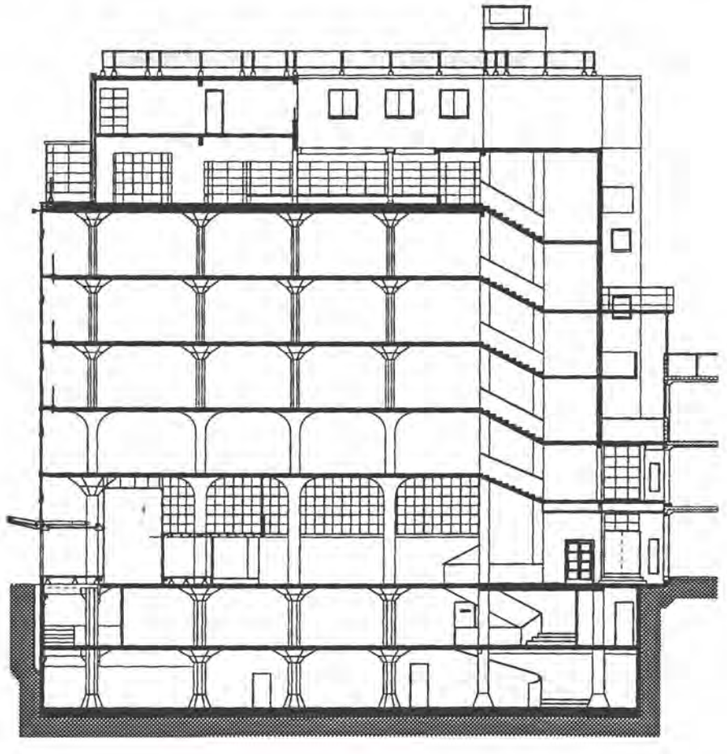
Taking together it can be said that the different parts of the building (facade, construction and ventilation system) complemented each other in an architectural way and created brightness, lucidity and openness, which made the Glasspalace so particular.

Analysis

An analysis of the building has put forward the following matters.
Through the experiment in building physics with ventilation, heating and cooling, the building turned out to have a much lower level of comfort as the designer intended.
With cold weather, cool air flowed along the facade down to the second and first floors.
Through its openness and differences in temperature, blasts of air went through the building and caused an inconvenient draught.
Research has proven that natural ventilation will cover an area of 5 m. along the facade inside the building. The Glasspalace has dimensions of approx. 26 m. by 28 m., so natural ventilation alone is insufficient.
The Glasspalace will not come up to the present requirements of fire security. In case of fire, the openness will cause a quick spread of fire and the two stairs next to each other are insufficient as emergency escapes.

All these reasons have caused, that the building has

Cross section of the building



changed unrecognazibly in 1972. The designer of that day has tried to solve all problems the easiest way, without taking into account the special architectural and historical value of the building.

Mutilation

During the reconstruction of 1972 the steel windows were replaced by an aluminum curtain wall, with sections much wider than the slim steel ones. The colour of the glass was changed into brown.
The space between facades and construction meant for ventilation, was closed with fire proof board. For the air-conditioning units with a height of 120 cm were placed around the floors, 50 cm from the facades.
The office-function demanded a partition of the floors in different rooms, so prefabricated seperations were placed between the columns. These partitions don't match the curved heads of the columns.
The building was enlarged 5 m. with a steel construction with concrete floors at the back. The enlargement was necessary to give the building a new facade at the backside and to increase office space.

Possible interventions

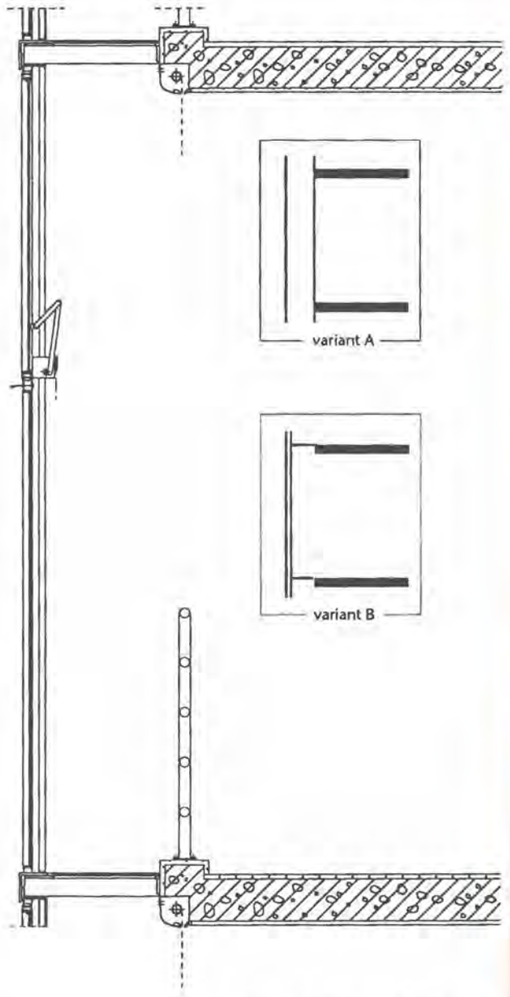
My research indicates some possibilities for interventions to make the building reusable as an office building, while at the same time the original appearance can be respected.

- The facade:
  1. reconstruction of the original facade in combination with a second facade inside the building at the edge of the floor construction (variant A);
  2. the use of a comparable steel facade with double glazing is possible in combination with security glass between the facade and the floor construction (variant B).
- An air-condition system is unavoidable. This should be fit between the orthogonal structure of the columns or under a raised prefabricated floor.
- The two present staircases should be disconnected, so two escape routes are possible. A supplementary staircase at the frontside of the building is also adequate.
- The reconstruction of 1972 looks rigorous, but all additions built during the years after can be removed.
- Just as important as all interventions is to find a function for the Glasspalace in harmony with the original design. Being a clear functionalist building, it does not match every function.

Policy

At this moment a Swedish broker is the owner and the future of the building is unclear.
Not probable is the demolition of the building, because this will lead to a strong opposition of the people of Heerlen.
Reconstruction of the original building within a few years is also not likely, because the municipality of Heerlen has no financial means to own the Glasspalace. What the municipality can do is to put the Glasspalace on a list of their most important architectural buildings, which will be drawn up this year, to give them a certain protection for a few years.
More likely is that the building will remain in this situation or in another unrecognizable one, depending on the plans of the broker.

What all involved parties hope, is that after the present tenants have left the building, the municipality will buy it anyhow (with financial help of the government), or that the owner would like to restore it in a respectable way, which might be achieved under pressure of the public opinion and DOCOMOMO.



Detail of the original facade with two schematic variants for possible intervention.

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The future of housing of the Modern Movement in the Netherlands: "existenz" or deterioration.

On several occasions the following theses were brought forward:

1. "The buildings of the Modern Movement were designed for a duration of life, that should not exceed the duration of practical use."

and:

2. "Not only every building of the Modern Movement was designed according to its specific function, but also every room in it was only fit for a special purpose."

In other words, we have to do with disposable tailor-made suits. It will be clear that on the one hand it is difficult to conserve disposable architecture and on the other hand it is perhaps even more difficult to find a new function for a building that like a machine originaly was designed for a very specific function.

An often mentioned example is the tubercolosis sanatorium of the architect Duiker in Hilversum.

And indeed that part of the building that was not renewed has fallen into ruins and since tubercolosis was eliminated in the Netherlands it turned out to be difficult to find a new function for the sanatorium.

In the first place I want to dispute the general validity of these theses.

In the second place I would like to stress the objectionableness of a strategy wich should lead to the deterioration of those buildings of the Modern Movement, for wich the validity of the theses are demonstrable after all.

I think it is important to say something about this because, if one should follow the consequences to the theses, the question arises why should one be concerned with the conservation of buildings of the Modern Movement anyway?

Thereafter I would like to discuss some specific problems in connection with a housing project of the Modern Movement in Amsterdam. As will be shown the argumentation in favour of the conservation of low-cost housing projects of the Modern Movement is of quite a different order than is the case with individual "monuments" or highlights of the Modern Movement.

The thesis that the architects of the Modern Movement designed their buildings for a duration of life, that should not exceed the duration of practical use is, according to the many texts produced by its representatives, not well tenable. Nowhere one can find a clear attitude in favor of disposable architecture. In spite of the fact that the architects of the Modern Movement at least in the initial phase never write in terms of designing for eternety and in spite of the fact that they are mostly negative in their opinion about the architecture of the past, one never concluded it should be better to design in such a way that their buildings should be worn out the moment their practical use was out of date.

When Duiker speaks about economy in connection with the use of materials in architecture, he seems to plead in favour of cheap architecture with a short duration of life, the more so as the physical condition of his tubercolosis sanatorium Zonnestraal gives cause to these kind of considerations.

That was one of the reasons why Berlage, the nestor of Dutch modern architecture, in 1932 sharply critizes the Modern Movement for lacking all sentiment and for building as quick and as cheap as possible. According to Berlage this capitalist attitude even was the cause of the loss of a universal conception of life like the middle ages and the renascence. Partly Berlage was guided by provocative slogans in manfestos of the Amsterdam architectural association "De 8" such as the one in 1927 in the perodical "I 10":

" DE 8 is realist in its aiming at immediate results
DE 8 stands only for facts
DE 8 want to be rational in the full sense of the word
DE 8 is non-aesthetical"

Berlage made a mistake judging these slogans and others in the perodical "De 8 en Opbouw" to the letter. Duiker reacted to Berlage denying that the Modern Movement, or "het Nieuwe Bouwen" as it's called in Holland, lacked all sentiment:

" It is a great injustice to deny the presence of intuition, feeling, inspiration, fantasy, artistry etc. of numerous scholars, chemists, engineers and others, although the spiritual development here has a more collective character than is the case with architects, composers and other artists (...). Is not the sublime effect of a medieval cathedral a pure economic phenomenon (...). Isn't Einstein eventually an artist by the grace of God?"

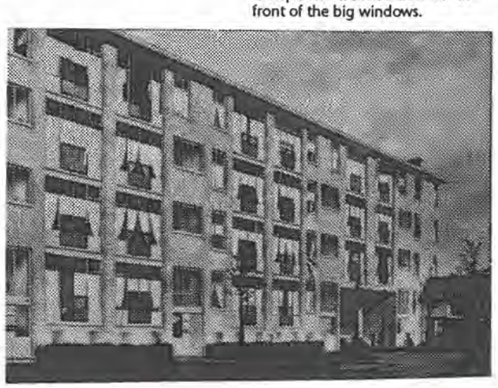
According to Duiker, who was already speaking about this theme in 1930, the cosmos was controlled by the leading principle of economy. This leading principle also underlied industrial organization. The Tailor system was the expression of this cosmic principle at the level of industrial production. Architecture - and Duiker talked specially about housing - staid behind. Duiker was not aiming at materialistic profit as Berlage suggested. The

resulting savings should - and this is very important - improve the quality of life at the level of material needs and at the level of psychic needs. Duiker agreed with the statement in the founding manifesto of De 8 "De 8 is opportunist on social grounds." It is obvious that Duiker in a period in wich the Vitruvian rules of harmony and proportion no longer constitued the natural background of architecture and in wich ornament accoording to Loos had degenerated into a crime or as Oud formulated it, into a universal medicine against architectural impotence, just as Giedion later in his book "Space, Time and Architecture" looked for a new regulating principle of cultural importance. This leading principle was the economic use of material. And it is this principle that underlies the architecture of the Modern Movement in the Netherlands and especially the architecture of Duiker as is the case with Zonnestraal wich in its original form was almost an immaterialized building. This has nothing to do with disposable architecture. On the contrary, it was amongst other things meant to be herald of the coming cultural period ruled by the cosmic principle of economy. In this sence Zonnestraal should be of equal importance as the great "eternal buildings" of the great cultural periods. There are of course other arguments to immaterialize this building such as the need to provide the patients with enough sun and fresh air etc. But this was not in conflict with the leading principle, on the contrary.

By the way it remains to be seen if the leaving out of material there where the concrete beams have their smallest bending load and the tapering upwards of the pillars on each floor, such as is the case with Duikers Open-air School from 1930 in Amsterdam, indeed resulted in a lower cost price. For it did lead to a saving in material but also to an increase of costs of shuttering. I think these kind of considerations played a much lesser role than the desire to make the cultural economy manifest. Or perhaps there was a combination of considerations of financial, cultural and hygienic nature.

All this explains the appearance of the many buildings of the Modern Movement characterized by their smooth seamless white surfaces, the use of light skeleton constructions and big windows with thin steel profiles. Sometimes these buildings look like modern factories or ships, such as is the case with Zonnestraal or with the school in Aalsmeer built by Duikers technical advisor Wiebenga. The reason for this is because one was condifent that the new culture already did excist there. Many are the passages in the writings of the architects of the Modern Movement in wich one is referring to the technical world.

Landlust streetside, original situation with thin steel profiles, doors and transparant "french balconies" in front of the big windows.



Van Tijen, the architect of some early apartment buildings in Rotterdam brings forward in 1937, a time in wich one starts gradually to call into question the ideals of the avant-garde of the twenties, the following question in a broadcasting programme:

> "Wich tendency is it, that is reflected in these buildings with their characteristic white facades, their big windows, their steel and concrete constructions and their curtain walls. Wich lasting value is represented by them?"

For eventually all the architects of the Modern Movement wanted to realize architecture of an everlasting cultural and social significance.

As Oud in 1921 already states relating to modern architecture:

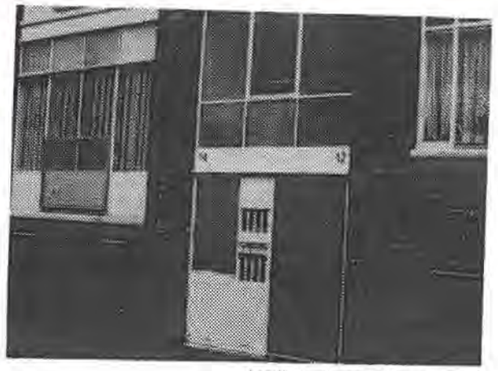
> "In summary one can conclude, that architecture which is rooted in modern life, will be in every respect in contradiction with present architecture. Without falling into dry rationalism, it will in the first place be factual, but in this matter-of-factness it will immediately experience higher ideals. (...) In this way the architectural development demonstrates a tendency (...) of pureness of proportions, of whiteness of colour and an organic clarity of form, wich will surpass the classical purity because of the absence of circumstances."

Also Van Loghem in 1932 in his book "bouwen bauen batir building" stipulates the lasting value of modern architecture. Provided that this architecture will be stuck to its educative value for the community, it will be able to compete with art from high cultural periods. Just as in the technical world a minimal use of material can provide a maximal result.

Finally I would like to quote Boeken who in 1936, referring to Giedions "Befreites Wohnen", writes in his book "Architectuur":

> "These days we need dwellings, that are completely in conformity with a feeling of well-being set free by sports, gymnastics and a healthy way of life ; light, transparant and transformable. It is evident, that these open houses reflect the state of mind of today."

Landlust courtyard, original situation: a public space to be used by grown ups and children.



Landlust entrance at the street side, situation before renovation.

Apart from that one thing and another was the root of the conservation problems with which we are confronted these days.

For briefness' sake I will only speak shortly about the second problem, concerning the thesis that the buildings of the Modern Movement were designed only according to their original specific functions and that each room was only fit for its special prupose.

For buildings throughout history are designed, almost without exception, according to their specific functions, we only have to consult Pevsners "A history of building types." And whoever studied medieval cloister architecture must conclude, that every room had its very specific function, based on the complex life within the cloister. In this sence the monk's habbit is the most outspoken tailer-made suit. But there are many other examples like pilgrimage churches, hospitals and palaces. The amount of specifity for function of the different rooms in architecture has more to do with the building type than with the building period. One even could say that many buildings of the Modern Movement are pre-eminently suitable for a change of function. For the use of skeleton constructions makes it possible to change the groundplan at random. At most one could say that curtain walls are a hindrance for the application of some functions.

Returning to the first thesis I would like to remark that, even if it were true that the architects of the Modern Movement deliberately choose for disposable architecture to prevent their buildings from surviving their duration of practical use, it would be objectonable with regard to the responsability of architectural history of the present day to respect this idea by allowing the buildings to deteriorate or by demolishing them.

By doing so one could also remove numerous art-objects from the museums like the art-products of dada, examples of conceptual art, registrations of happenings, performances etc. Of course it was logic from the point of view of some avant-garde movements, that one, protesting against offial art, preferred art that was not meant to be conserved in official institutions like museums.That was one of the specific characteristics of the avant-gardistic culture. We however should act like falsifiers of history if we should honour this point of view. It is our task to save also the products of this important fase of 20th Century culture, just as it is important not to remove important publications in the field of the natural sciences from the libraries, notwithstanding the fact that they are in the mean time absolute outdated. The same is true in the field of architecture, say in planning, for the conservation of archives wich in course of time had lost their juridical significance and wich were never intended to be preserved for ever. In other words; the responsability of the historian is of quite a different order than that the architect, the artist, the author etc.. The ambition of the architectural historian is to preserve the architecture of the past including the buildings of the Modern Movement, providing they have such a quality that they can give insight into its character. The reason for this is not per se to learn from the past. The aquiring of insight, the satisfying of curiosity and the confrontation with quality are sufficient arguments.

A problem in the field of the low-cost workers housing projects of the Modern Movement proceeds from the fact, that they generally don't fulfil the promises of Giedions "Befreites Wohnen". An explanation for this is of course the fact that the financial means were usually small. As a result one has to look at the white villa's with lesser financial restraints to understand the meaning of this

Landlust entrance at the street side, after renovation with synthetic profiles dominating the smooth facade.

'Befreites Wohnen." This is rather ironic when one bears in mind that that the avant-garde architects considered the improvement of the level of low-cost workers housing as their most important task.

As an example I will introduce here the Amsterdam Landlust housing-project from 1933-1937. It was realized by Merkelbach and Karsten, both members of "De 8". They built 208 apartment dwellings in a district of 700 dwellings in the western part of Amsterdam. In consultation with Van Eesteren and the town-planning department, the district, contrary to the originally planned parcelling in closed three- or four-storey blocks, was parcelled out according to the principles of the so called open architecture (in German "Zeilenbau").
The project figures in the municipal preservation schedule. However the arguments that had to be brought forward therefore could not be limited to the visual architectural qualities, as could have been the case with Zonnestraal and the Open-air school of Duiker or with the villa's and the Van Nelle factory of Van der Vlugt.
The qualities of Landlust are only understood when ones attention is drawn to the underlying ideas such as those formulated in the pamphlet "De organische woonwijk in open bebouwing" (The organic residential quarter with open parcelling) and at the fundamental rupture in the townplanning tradition, wich was characterized by closed blocks from the founding of Amsterdam until the southern extension-plan of Berlage.
In "De organische woonwijk in open bebouwing" the architects of the Dutch Modern Movement in 1932 presented their ideal of a healthy and agreable neighbourhood for everyone. One preferred a parcelling-system of open sun-orientated blocks. With regard to traffic there was a call for separation of local and through raods. Green should not longer wither in dark and sultry closed court-yards. It had to be made part of the total green-system of the district and to be visable and usable for everyone. The green of the surroundings of the city had to invade the housing districts by means of green-belts. In these green-belts schools and community-centers etc. should be placed. Old people's housing should be south-facing and shops should be north-facing along the through-roads. "De organische woonwijk in open bebouwing" was destinated for the new man, who had to find hapiness in these perfect, harmonious and healthy surroundings
Landlust of course does not fulfil all those promises. The restricted financial means and the clumsy narrow building-site, that was jammed between existing houses of the Amsterdam school and the central market, prevented this. Still this project with its smooth unadorned facades, its comparative big windows with its thin steel profiles, its steel doors, its light staircases and its open court-yards with green and playgrounds, recalls in a constricted sence the image of the Modern Movement.

In his book "Space, Time and Architecture" Giedion says about this project:

> " The architects desired to offer the tenants the greatest amount of comfort. The livingroom was given broad French windows at the front, so that the house could be trown wide open in the summer time, and to fascilitate moving. The cooperative societies maintain the gardens and play areas. The whole project gives an impression that the apartments were designed to meet actual demands. That this was recognized was clear from the sixteenhundred applications that poured in for the two hundred and eight apartments (of Merkelbach and Karsten) when they were opened."

This does not mean however, that the project stayed undamaged. When we realize that even housing-projects of considerably higher visual quality such as Kiefhoek and Oud Mathenesse in Rooterdam of Oud from the twenties are threatened or even demolished, this will be understandable.
Landlust will not be demolished, but also renovation can be disastrous, as we have been able to see recently. Especially when the thin steel profiles are replaced by modern and with regard to maintenance cheaper ones, this implies a direct attack at the image of the low-cost workers housing of the Modern Movement wich was rather weak anyway.
Also the transformation of the originally open and public courtyards affects the ideal of the "Organische woonwijk in open bebouwing", although the original parcelling has been maintained. When renovation of low-cost workers housing projects of the Modern Movement is considered it is necessary to analyse the underlying ideological ideas, the urbanistic system, the spatial relations, the green-system, the arrangement of public space and the architectonic quality which is the result of details, the use of material, proportion, colour, the relationship between open and closed surfaces etc. and - and I did not mention this untill now - quality of the ground-plans.
Here one is continually confronted with the recent legal demands in the field of housing, with the everchanging way of life and with the running-costs of the housing associations. However with regard to conservation it is absolutely necessary to pay attention to at least the highlights of the low-cost workers housing projects of the Modern Movement. For from the ideological point of view this category was - and this was the specific contribution of the architects of the Modern Movement to avant-gardism - from the time of the first real CIAM-congress with the theme "Die wohnung für das Existenzminumum" in the centre of their interest.

Landlust courtyard after renovation. It is closed for the public by an iron screen and its only function is to look at.

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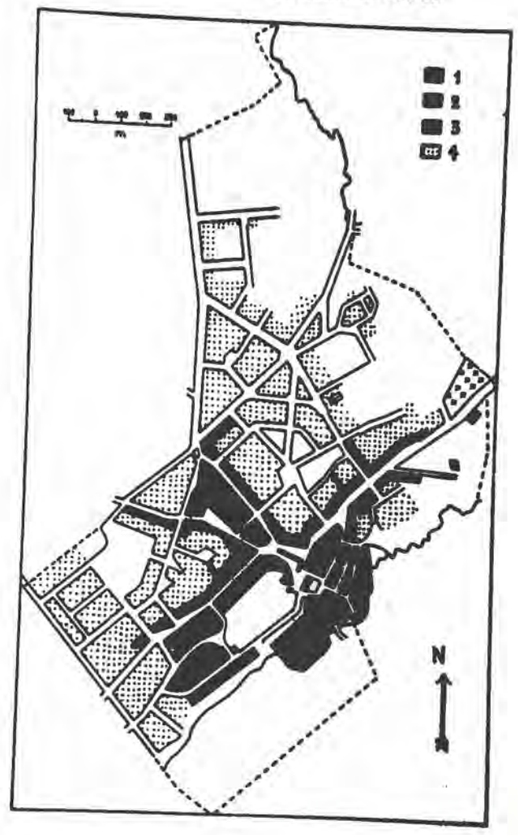
Russian monastery as a centre of a functionalist town

The principles of constructivism and functionalism gained wide acceptance in the Baltic republics (Estonia, Latvia and Lithuania) following the October revolution (1917) in Russia, as the result of which these republics emerged as independent states (1). The theories and practices of Modern Movement proved, in many ways, to be consistent with the spirit of building a new society of a bourgeois-democratic kind. The town of Kaunas (Lithuania's capital at the time), with its practically all-out adherence to Modern Movement architectural forms, may be justly considered the "capital" of Baltic functionalism. Functionalist traits are predominant in many districts of Tallinn, as well as in small Estonian (Parnu, Tartu, Viljandi) and Latvian towns.
While in the 1920's Modern Movement architecture in Baltic states coexisted with retrospective styled architecture, the 1930's saw the establishment of functionalism as the predominant architectural method in the region.
Interaction of innovative trends and deep-rooted regional traditions was one distictive feature of Modern Movement in the Baltic region. The architectural history of an ancient Russia monasterial town - Pechory (Petseri) - situated in the western part of Pskov Region, on the border of Russia and Estonia, can serve as a unique example of how the ideas of functionalism found their way into Eastern Europe.
Owing to certain complicated political games in which the young Soviet government was engaged at the time, this town, in accordance with the Tartu Peace Treaty, was, under the name of Petseri, a part of independent Estonia from 1920 through 1944 (2). "The Estonian period" is characterized by considerable urbanistic changes resulting in a dramatic transformation of the town's general appearance. During that period of time the town's area increased threefold. The adjacency of a medieval monastery and blocks of houses where the traits of European functionalism predominate, so uncommon in small Russian towns, remains to this day a distinctive feature of Pechory. The project of reconstruction of the town's historical centre, recently worked out by the LenNIITAG Institute, is based on the principle of conservation of the town's urban structure that took shape in the 1930's.
The present urbanistic situation in Petseri reflects the highly complicated history of the town. From the 16th to 18th century the town was developing on the lines of a traditional monasterial settlement centered around the Pskovo-Pechorski monastery (founded in 1473), a major orthodox stronghold and a powerful fortress on the border of Pskov Region and the lands belonging to the Catholic Livonian Order. By the end of the 18th century the main components of a traditional Russian settlement had sprung up around the monastery - the "gorod" (monastery-fortress), the "torg" (market-place) and the "posad" (craftsmen's settlement). These were closely

Petseri: the proportion of the town of 15th to early 20th Century (1 - 3) and the town of 1920-30.



Petseri 1936: View to the new ("Estonian") part of the town from the church bell-tower

connected with the rural districts. The market-place with the drive-up tracks formed the framework and the most stable component of town structure. In 1872 the settlement was granted the status of the chief town of the district (till 1808). In 1785, within the framework of an all-embracing campaign of total "readjustment" of Russian towns carried out on the orders of Empress Catherine II, the first masterplan for Petseri was drawn up. The plan outlined the prospects of the growth of the town along the lines of classicist town-planning conceptions. Unlike the overwhelming majority of Russian towns, however, Petseri was not to see a total "readjustment". At the turn of the century the town had a population of 2.200, remaining a semi-rural woodenhouse settlement with a medieval street network.

In 1920, following its incorporation in the independent Estonian state, Petseri received the status of a chief town of a frontier district. The task of making up an objective picture of how the town developed, architecturally, in 1920-1940's was found to be a difficult job, indeed. This "disputable" region has, in fact, not even been considered in modern publications (including Estonian ones) dealing with the history of architecture. The archival urbanistic materials were lost in the helter-skelter of World War II (3). For all these reasons, the historico-urbanistic analysis was carried out mainly on the basis of scrutinizing local newspapers, as well as ethnographical and local lore publications of 1920-1930's kept in the Scientific Library of Tartu University (4).

A new Petseri was planned and built by Estonian specialists using the principles of modern architecture as they were being successively introduced into the town-planning practices in the republic. The northern part of the town was designed in 1922-1924 on the basis of the "garden city" concept which was very populair with Estonian town-planners in those years. The first structure of the "New Town" (as this part of Petseri came to be called later) was the Lutheran Church of St. Peter (1923-1926, designed by A. Podchekayev and Krümmer). Built from red bricks in the simplified basilical forms, the church had a monumental bell-tower 40 metres high which counterbalanced, in the spatial composition of the town, the pinnacles of Orthodox churches in the Russian section. A two-storey school building (1926) and a spectacularly functionalist House of the Clergy with an assembly hall (1932) formed a small group of educational and charity institutions next to the church.

The principles of Modern Movement were always interpreted with regard to the local urbanistic situation, landscape, and cultural traditions. Along the central ray of the "New Town" (the shortest way to the railway terminus) there emerged the ensemble of representative public buildings. Among these, the first to be built was the Humanities Gymnasium (1925-1927, designed by Rosenberg and Allas?). Rationalist in design, the building is decorated with a central part designed in retrospective baroque forms bearing a striking resemblance to the palace buildings in Tallinn. Near the Gymnasium, facing a small square, there was built the Malev House (1926-1929, architect Krümmer?). The asymmetrical composition of the building, with parts having different heights, is combined with the use of simplified neoclassical motives in the design of the facades. The Malev House was to become the first Estonian "maison du peuple" in Petseri. This is testified by the nature of the rooms in the house (theatre hall, assembly hall, rooms for club activities) typical for such houses starting from the beginning of the 20th century.

The biggest structure of the new public centre is the Estonian Bank (1929-1930, designed by F. Adoff), incorporating the Bank proper, Municipal Court, post-office, shops and the dwelling outbuilding. The L -shaped plan of this complex composed of three virtually independent parts reflects its' multifunctional structure. Functionalist in its' structure, the building is decorated with big-scale "Gothic" details.

Adjoining the public centre was the zone of a prestigious residential area situated along annular passages. Two-storey mansions were built from wood or using new construction methods, namely combining wooden frameworks with brick facings. Spaced-out dwelling houses and open courtyards (without continuous fences and outhouses typical for traditional Russian rural architecture) created a wholly new image of the town bringing about a cardinal change as compared to the way it looked at the turn of the century. As the first town guidebook published in 1931 notes, "While in pre-Estonian times Petseri looked like a typical Russian village, the former peasant huts and wastelands are no more, having been replaced by stylish buildings, streets, and boulevards." (5)

About the same time a zone of cheap dwelling houses (one-storey wooden structures) sprang up in the southern section of the town. By the mid-1930's the concept of a "garden city" had been fully realized. The space between the public buildings and blocks of dwelling houses was occupied by the town park with an artificial pond.

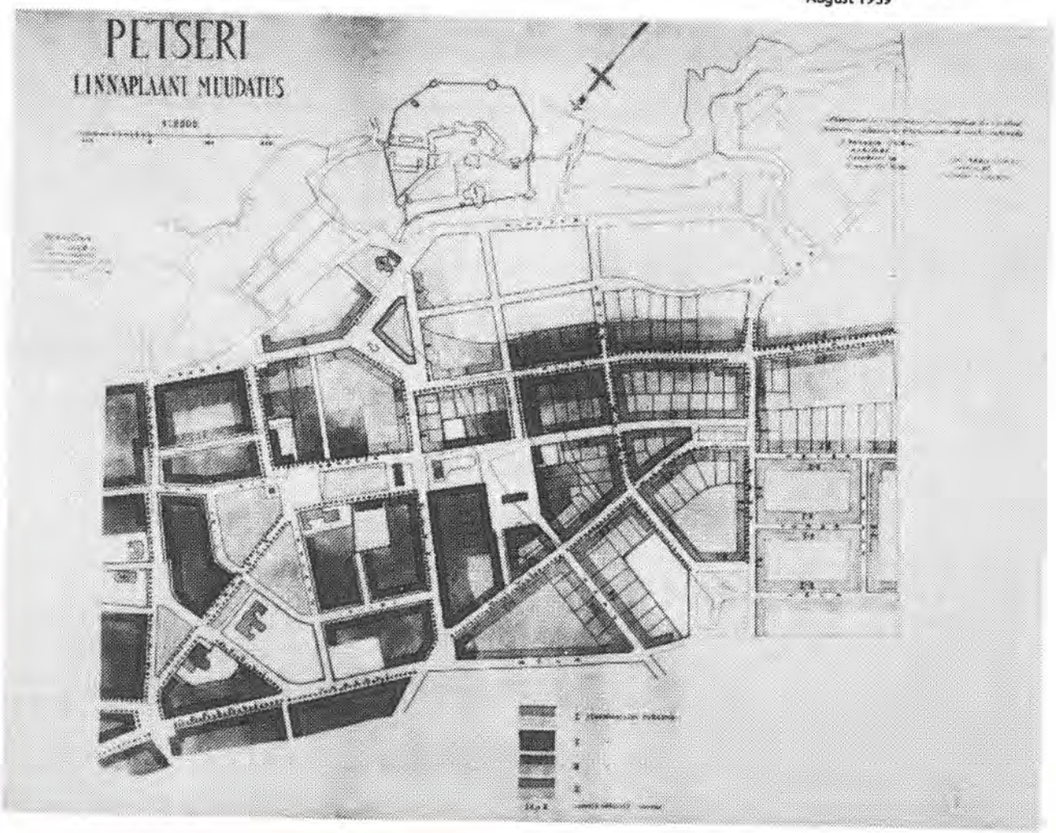
The great fire of May, 1939, devastating as it was (about 260 dwelling houses were destroyed) provided an unexpected pretext for further urbanistic changes in the city. A team of economists and communications ministry's specialists led by the well-known Estonian town-planner A. Soans made an urgent visit to Petseri to evaluate the losses and define the nature of possible state aid to the hard-hit town. Subsequently, a decision was made to work out a new master plan where in the prospects of the town's growth in the capacity of a district centre might be considered. The plan, prepared by the architects I. Wendach and Pikkov and approved in August 1939, envisaged creation of an open esplanade of public squares with a view to expand the public centre of the "garden city", delicately connecting the ancient monasteria nucleus to the "New Town", as well as further readjustment of the street network. Formal decision was made to adhere to a "definite modern style", building mainly two-storey brick houses with two- and three-room flats (6). In the autumn of 1939 work was started to lay out new streets and squares (this work proceeded through 1941). Along these were erected nearly 50 stone and wooden buildings often in a "pure" European functionalist style. The realization of the 1939 plan was interrupted with the advent of World War II and the incorporation of the town into the USSR in 1944.

In 1989 a plan of reconstruction of Petseri's historical centre was worked out by the LenNIITAG institute. Following its' final approval in July 1990 this plan became the principal document defining the town's development during the coming decade.

In accordance with the regulatory enactments now in force in the USSR (7), the project includes a voluminous section dealing with historico-urbanistic research. Work on this section made it possible, for the first time, to evaluate the "Estonian period" as the most important urbanistic stage which has given the town its present definite aspect.

Research into Petseri's urbanistic history has led to the

Petseri new master-plan,
Architect J. Wendach, Pikkov
August 1939



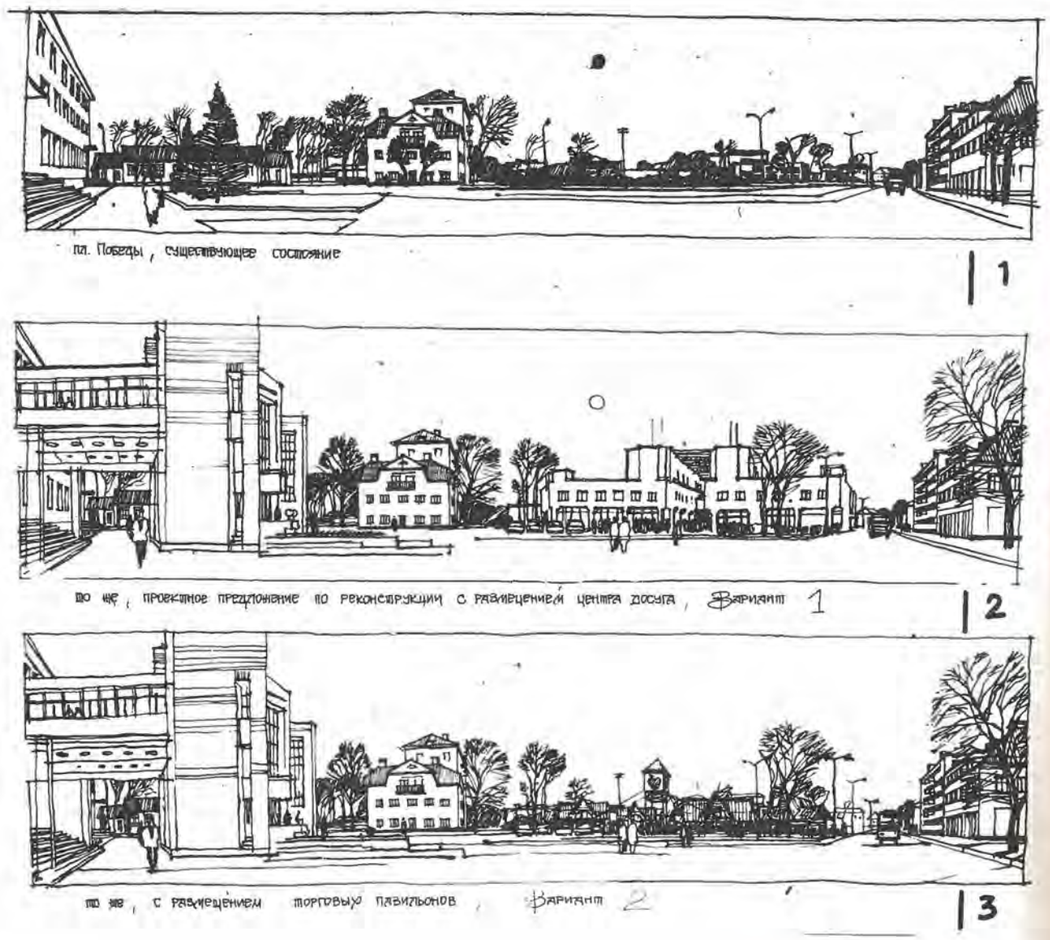
drawing up of a "conservation zones project" - a document to serve as a guideline for local municipal councils in their current construction work. The conservation zones project provide a flexible system of formal limitations (of bounderies and regime) to be used by laymen. While these limitations present no obstacles to the natural process of the city centre development, they have been introduced for the purpose of preserving the most important elements of urban and architectural heritage and landscape.

Conservation zones with five different regimes and corresponding boundaries have been proposed for Petseri. The historical centre of the city, Pskovo-Pechorski Monastery, is to be surrounded by a complex conservation area of 48.3 hectares. The now functioning monastery will continue its work within this area. Monasterial buildings (of which 15 have been officially proclaimed architectural monuments) are to be restored, while any new construction work will be strictly limited. Besides, the wooden buildings of the former monasterial settlement are to be renovated, and the natural landscape, as the principal aesthetical component of the conservation area, is to be restored. (For instance, the 110 volt electrical substation and the overground electransmission line are to be removed from the area).

The site of the former market place adjacent to the monastery was singled out as a zone of strict control with the possibility of an active regeneration of former construction (6.8 hectares). The street network, formed in 17-18th centuries, is to be preserved, and the most dilapidated structure may be overhauled and partially renovated.

That part of the historical centre which has the biggest surface area and corresponds with the boundaries of the town in the functionalist period has been included in the zone of strict control with the preservation of

Petseri: modern situation (1) and the proposals for the renovation of the 1939's squars
(1989, arch. V. Belnik)



environmental characteristics (51.9 hectares). The latter, implies preservation of the garden-town's street network, readjustment of the lay-out taking into account the unrealized proposals of the 1939 master plan and, finally, securing for this part of town the role of an administrative and public centre. It has been recommended to put the main functionalist structures under state protection as architectural landmarks and to restore them.

The perimetral part of the centre has been included in the zone where limited new construction is permitted (118 hectares). For this area the lay-out oulined in the 1939 plan and the dwelling nature of the place are to be left intact. New construction work, including the use of old block space for building new houses, is allowed under the conditions that dwelling houses will have two storeys or less (up to 8 metres). The ecologically injurious meat-processing plant built on the site of the stadium that existed here in the 1930's is to be removed to another place, and the site will be used for sporting activities.

The intrablock area which was badly damaged in the great fire of 1939 and sustained further losses through ill-considered town-planning policies in 1950-1970's, has been assigned to the zone of active regeneration (14.8 hectares). New (compensatory) construction is allowed here, with the height of the buildings limited to 7-10 metres, granted that the existing scale characteristics are left intact. Compensatory measures also included prospective proposals regarding the elimination of discordant features in the housing pattern of the city centre which appeared in the 1970's when construction of 5-storey standard brick houses was carried out on a large scale.

In view of the fact that practically no scientific archeological research was carried out within the town area, the project provides for an archeological conservation zone to be created around the monastery Construction and earthwork may only be carried out after preliminary archeological research is done and permission of state bodies of conservation is procured.

Once the project of the reconstruction of Petseri's historical centre is realized, the town is supposed to regain its' erstwhile role of a major religious and spiritual centre in the north-western part of the Russian Federation, as well as a centre of a constantly growing tourist industry. Confirming the possibility of putting to good use the architectural and urbanistic heritage of the 1920-1930's, the project is another striking demonstration of the universal character and flexiblity of the functionalist method, as well as of its' utmost importance for creating a new type of a 20th century small European town.

Notes

1. The Baltic States. The years of independence. Estonia, Latvia, Lithuania, 1917-1940. University of California Press. Berkley and Los Angeles. 1974.
2. (in Russian and Estonian - not translated)
3. The lack of archival materials about construction works in Petseri during 1920-1940's prevented us from getting reliable information as to who were the actual author of principal projects.
4. The most detailed ethnographical study of the town may be found in: Piipenberg E. Die stadt Petseri in Estland. Publicationes Instituti Universitatis Tartuensis geographici N 21. Tartus. 1933, 27 p. (in German).
5. Petseri. Linn, Klooster, Ja Umbrus. Eesti Turistride Petseri Osakonna valjaanne. 1931, 30 p. (in Estonian).
6. Petseri ahervartele Tuba nägisens undol hooned. - Elu. 31 mai 1939, p.1 (in Estonian).
7. (in Russian - not translated)

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Neighbourhoods of the 1920's and 30's

Premises for policy making

Introduction

'Now that we live in a time, in which the differences between the classes are abolished, it is nog longer practicable to allot certain quarters to labourers, middle-class or other-class people. Considerations of a social nature and of beauty plead against. Deviding the city in poor and rich neighbourhoods is no longer done'.

These words of the architect Berlage, written in 1920, give a good impression of the new building task that had arisen in the beginning of this century and of the way social engaged architects and townplanners looked at it.

Building for the masses had already become a new phenomena; creating a worthy living environment was the new task that especially in the 1920's and 30's resulted in great achievements in the field of architecture and urban design.

In my lecture I will try to point out what in my opinion is one of the most essential, but at the same time one of the less discussed aspects of the Modern Movement: the social-historical side of the matter.
The Modern Movement heritage is not only of importance because of the architectural or art-historical aspects, but also because of the social idealism that played a prominent part.

In the light of a recent study in Amsterdam, I will try to give you the relevance of this socio-historical aspect for the actual policy-making with regard to these neighbourhouds.

In the last decade the conservation policy in the Netherlands has evolved from a predominant art-historical directed protection and restoration activity to a wider approach, aimed at the permanent integration of cultural-historical elements in the changing environment. The large-scale national inventory of townplanning and architecture dating from the period 1850-1940 that is now going on, must therefore not only be seen as a contribution to a future conservation policy. It is also meant to be an important source of information forming the base for a historically conscious policy with regard to physical planning, conservation and urban renewal.

The part of our environment that dates from the period 1850-1940 is about four times as large as the built environment from before 1850, the traditional domain of the world of conservation. To achieve the intended integration, the traditional heritage approach and tools are no longer sufficent. New methods and means for conservation policy have to be found to be able to give the historic dimension of our built environment a fully fledged position in the planning of future developments. In this context the town extensions and public housing complexes of the 1920's and 30's involve a special responsibility.

The Netherlands Department for Conservation tries to get hold of this specific issue bij conducting case-studies in colaboration with the Physical Planning Department, trying to develop a joint policy where possible.

Allow me to give you a brief outline on the history of housing and planning in the Netherlands in the first half of this century.

Public housing 1915-1940

The realization of the Housing Act and the rise of the Dutch public-housing tradition in the beginning of this century, are based upon the miserable living conditions that arose in the 19th century, in the cities as well as on the countryside. Images of frequently occuring social abuse, child labour, insanitary living conditions, recessed dwellings and overcrowded, pauperized inner-cities are well know and to be found in many publications on the subject of social history at the turn of the century.

In the Netherlands, the liberal economic and political culture was not easily impressed by the necessity to intervene in the uncontrolled growth, especially in the cities, where the housing conditions became more and more unacceptable. From the mid-nineteenth century the possibility existed to set up a public-health commission, but the municipalities were very reserved to do so. Besides, until 1901, legislation to provide in an adequate housing was lacking.
The rise of the labour movement was still too limited at the end of the 19th century to be a political factor of importance.

The first high standard achievements on the field of public housing were private initiatives, most by idealistic industrialists. But they were too occasional to be seen as the prelude to the upspring of the Dutch public housing tradition. First the political basis had to be laid.

The city-fathers felt far from responsible: statements as 'the working men themselves know not how to appreciate the benefits of a good home; they prefer to coninue living in the bad but cheap dwellings they live in', or 'these people do not know how to live and maintain a household in a proper way' and other open doubt about the sense of public responsibility for the housing problem, are heard regularly until the early 1920's. These voices outnumbered those of the zealots for moral and social uplift. It will be obvious that this scepticism on the official side was not very stimulating. Especially not for the private sector to invest in public housing projects.

Even after the establishment of the Housing Act in 1902, it lasted a long time untill the effects were noticeable. The public housing production under the Housing Act started to increase not before 1912. In that year still only about 5% of new houses was built by the public sector (including building corporations). In 1920 this number had increased to more than 80%. Private housing decreased proportional. The result was a new task for architecture and town planning, the arise of a new culture in building and planning: had building upto that period practically always been a matter of private initiative, now a strong collective movement took the lead. The many labour housing corporations that originated from the social democratic movement played a major part in that process.

One of the exceeding results of these socio-democratic ideals, joined with esthetic objectives, is the architectural movement of the so called Amsterdam School, that set the tone for many urban and housing-developments in the early 1920's.

Although I am at this moment not pleading to involve the Amsterdam School in the Modern Movement it is my opinion that the Amsterdam School, though it is an ornamental style, marks the start of the Modern Movement in the Netherlands. Here I am only using it as an example to illustrate the concept. The architect Oud wrote in 1921: 'It is not about creating beautiful facades, but about the realisation of functional dwellings, fit to modern living demands'. The Amsterdam School was the first to combine both aspects.

It will be obvious that the architectural or historical valuation of the neighbourhoods that were the results of this fruitful period, is not merely to be seen from an art-historians point of view, but cannot be seen apart from the underlying social democratic culture.

That goes not only for the early 1920's but in fact for the whole period between 1920 and the Second World War.

The Modern Movement, wether it is functionalism, 'De 8 en Opbouw' or certain representatives of 'De Stijl' we talk about, they all have one aspect in common: the unmistakable social relevance that gave a new dimension to the Dutch building tradition in the 1920's and 30's.

Recent developments

In the last 10 to 15 years, the efforts of the municipalities in the field of urban management and renewal, in general were concentrated on the inner city and the 19th century town extensions. Recently the post war suburbs have been added as a new issue. The neighbourhoods of the 1920's and 30's, that represent an extensive part of the residential stock, have not been in focus much, but are increasingly acquiring attention.
Improval of privately owned dwellings and large scale renovation activities occur continuously. Especially the housing complexes that are owned by corporations, being at the end of their first life-cycle by now, are handled at a fast rate.
The applied external insulation of facades and the replacement of iron and wooden windows bij pvc-windows are often radical architectural changes.

Amsterdam, "Admiralenbuurt"
photo: Department for Conservation

But not only in a technical sense, also in social respect problems occur. A recent case-study in one of the Amsterdam districts from the 1920-1940 period, the 'Admiralenbuurt', showed that this neighbourhood has the highest residential density in Amsterdam, predominantly existing of small low-cost dwellings and very few private property. The population consists of low-income groups (30% under the minimum wage) and a large percentage of foreigners. Social and economical circumstances are aggravating.

However, research performed by the University of Amsterdam shows a declining appreciation of the neighbourhood and a growing social instability. The neighbourhood is more and more becoming a temporary station for ethnical minorities and young people, starting their housing career, who are not planning to stay longer.

The situation in other cities will be more or less the same.

The cover of the report of a symposium, organized by the residents of the Amsterdam 1920-40 neighbourhoods, gives you the problem in a nutshell. Above, the original situation, in which above all the emptyness is striking; below the present situation, with radical architectural interventions, a street full of parked cars and on the sidewalk careless and at random dumped glass-containers.

At that symposium, the residents appeared to be rather cynical about the possibilities -but above all the willingness of the authorities- to advance renovation. Some of the officials even made a plea for demolishment, in spite of efforts by the private sector to stimulate refurbishment, as the Crittall advertisement on the opposite page shows.

'A fully restored old-timer may be splendid, but will still not be an adaquate mean of transport in modern traffic, was the no-nonsens, but in my opinion short-sighted message. The general rejection is not incomprehensible however.

Present situation

The public open space is extensively used for purposes it has originally not been designed for. More over, it is dominated by ever increasing traffic and parked cars. Garbage bags, litter and a jungle of bicycles on the pavement are the symptoms of the present alarming development and decline in environmental quality.

On the other hand, these neighbourhoods still represent potential high standard living conditions, if the necessary technical quality, social structure and suitable arrangement and use of public open space would be provided.

In the before mentioned study in Amsterdam, a survey was made of relevant factors on the level of decision making. It showed that the problems in these neighbourhoods do not score very high on the local political priority list. And if they do, the dispersed ownership, the lack of co-ordination and adequate instruments for urban management often stand in the way of an effective approach. In Amsterdam we found about fifteen different institutions involved in the management of the neighbourhood. In an attempt to bring some coherence, a supervisor was appointed, whose task it was to look after all aspects of esthetic building control in the 1920-1940 districts. One man, doing one job in one specific part of the town seems to be working out fine up to a certain level. But what is far more important, is obtaining public and political support.

Recommendations

Involvement and participation of a representative part of the population is essential, not only to contribute to improvement projects but also to acquire sufficient public support for the maintenance of the improvements made. Neighbourhood promotion and upgrading the neighbourhoods' image by an active public relations policy, can do wonders for the necessary public coherence in that respect.

To obtain the public's interrest and good-will, setting the example by the municipality itself is indispensable. Therefore an adequate level of public service must be maintained. By regular collecting of garbage and cleaning of streets and public gardens, by sufficient police patrol, by a quick repair of damaged public property (removal of graffitti and replacement of shattered windows of bus shelters for example) and an active consulting role in the preparation of private housing improval or renovation plans, the people can be given the feeling that the municipality cares. This feeling of togetherness is an indispensable condition for a succesfull preservation of spatial and architectural qualities.

Technically spoken it is not so difficult to do the job right, finding the right materials, paying attention to the characteristic details etc. During this conference you will see many fine examples of architectural conservation.
Whatever approach you choose, the most essential factor is working within a clear policy and having the necessary public support.

We should analyse the originally intended qualities of public open space; and we should try to re-establish a public open space that is usable for current needs.
A strong colaboration between the conservation office and other municipal services cannot be missed. Political commitment with the improvement of the physical qualities of the living environment is equally important. Attention for the architectural and urban design should become a self-evident part of the decision-making. Too long the decision-making process has been dominated by administrative and financial rules and regulations; architectural quality deserves full attention too. The municipality, being the largest principal or supplier of finance, has the opportunity and the obligation to be directive on the matter of spatial quality. Not only to effectuate protection of the investments made, but as a keeper of the underlying ideals.

The municipalities' financial efforts should preferably be concentrated on those issues that are not picked up by the private sector. Granting should be complementary. Improval of the public open space has first priority. Not only because the municipality is the only one responsible for the public realm, but above all because it is vital for the appreciation of the living environment and by that for the willingness of the private sector to invest.

Finally, it is recommendable to initiate exemplary projects. These are helpful to kindle the public with enthousiasm, to show the technical and financial possibilities and to set the standards. Together with accompanying public information and residents excursions to comparable projects ellswhere, they can have a mayor spin off.

Conclusion

The secret for a succesful approach of the neighbourhoods of the 1920's and 30's lies in a permanent dialogue between historians, planners and decision-makers, never forgetting that all research, planning and discussion serves only one purpose: rehabilitation of the functional qualities. It is not the architecture itself, it is the people we are all doing it for, wether we like it or not.

The main issue is to rehabilitate the originally intended high standard housing for the low income groups. Fit to modern demands, but with respect for the social-cultural ideals that were the roots of the public housing tradition in the Netherlands.

The world of conservation should always be concious of the social relevance of the Modern Movement heritage, in order to continue its' historical meaning.

My lecture was called 'Neighbourhoods of the 1920's and 30's; premises for policy making'. The keyword is neighbourhoods. Policy making should be aimed at creating liveable places, to give people a chance to become neighbours again. The conservation world can help and at the same time serve its' own purpose. The neighbourhoods of the 20's and 30's were intended to benefit neighbourship. This may be one of the key-issues for future policy making. Public awareness and support are the main tools.

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Translated from German

The New Frankfurt and its neighbourhoods

With your permission I would like to devote part of my presentation to a recapitulation of the polito-cultural situation as well as the social living conditions in the 1920's and the principles of the new architecture in Frankfurt.
It is not possible in a summary of events simultaneously to describe an extremely complex opposition, to work out the meaning thereof, to offer solutions for abuses of architectural preservation or singlehandedly present the total potential of this avant-garde movement in Frankfurt. For this reason, the housing estates and individual buildings not mentioned here are no less significant in terms of the collective picture of this new movement.

As early as 1916 Frankfurt had a town councilman, Ludwig Landmann, a left of centre politician like Naumann, who had already started a comprehensive national social housing programme during the war, promoting public interests and contributing expertise. Landmann ran for the office of mayor during the 1924 elections and, as a result of his well-known abilities, was elected with the support of the Social Democrats.
In the very first months of his term of office he established a comprehensive housing programme based on his monograph published in 1919: "Das Siedlungsamt der Grossstadt" [Metropolitan Housing Administration].

The basis of his reform of administrative organisation in physical planning and building lay in the bringing about of a single large department under one controlling authority.
As the head of this organisation he was able to win over Ernst May, the head of planning from the home county of Schleswig, who was well-known in professional circles, who shortly before had made a name for himself during legislative proposals for a decentralised expansion of the Breslau housing plan. Besides his professional duties, May also made a further important contribution by holding office: born and bred in Frankfurt, he was familiar with the local situation and did not require any "breaking in" period for the job. May had studied with Theordor Fischer in Munich and thereafter worked at the London offices of Raymond Unwins where, naturally, he became familiar with the concept of the garden-city.

Landmann gave May comprehensive responsibilities: he was put in charge of the combined building programme of the city. Included in this were the following bureaus: bureau of housing estates, city planning, regional planning, garden developments, administration of property ownership, housing society mortgages, building codes authority, building administration with the department of building projects, housing construction standardization and building consultancy.
On a par with him Martin Elsässer, whom Landmann had enticed away from the School of Arts and Crafts at Cologne, was brought in as artistic head of the bureau of building for the city's own building projects.
The mood and enthusiasm for renewal was fascinating and, seen through the eyes of today's bureaucracy, solemnly carried out - resulting in a totally new city building and housing policy in the brief space of a few months, one which had a careful theoretical and practical basis (because of this May was constantly looked upon by people such as Le Corbusier in CIAM as a persistent, realistic representative of the new architecture in Germany).

The creation of a new Frankfurt in the short period of five years would not have been possible without the mainly youthful group of architects and planners who were willing to work together in this unique situation. Highly qualified and dedicated male and female architects came from all over the German-speaking world. At that time Frankfurt was an example drawn from reality and easy to grasp, which served as an alternative to the Bauhaus whose endless theoretical discussions and contortions disappointed many of the youths returning from the war.
It was precisely the violence of destruction released by the technology of the First World War that had left an impression on this new generation of architects and the use of technology for such human ends as mass produced housing formed an important aspect of their work.

Frankfurt became the centre of a young, politically motivated generation of architects. Those who came included: Wolfgang Bangert, Eugen Blanck, Anton Brenner, Herbert Boehm, Max Bromme, Max Cetto, Walter Dexel, Berhard Hermkes, Eugen Kaufmann, Ferdinand Kramer, Hans Leistikow, Grete Schuette-Lihotzky, Adolf Meyer, Franz Roeckle, C.H. Rudloff, Franz Schuster, Walter Schwagenscheidt and Mart Stam.

A general all-purpose building plan was eventually set up. While this contextual plan for the placing of the housing estates and metropolitan development over the next ten years was being carried out, together with his fellow workers and followers May founded the Metropolitan School of Art, making the art historian, Ganter, and the historic building conservator, Wichert, responsible for handling the publicity. In 1926 the first edition of the young movement's publication, "Das Neue Frankfurt" [The New Frankfurt] appeared with the provocative subtitle, "Monatsschrift für die Fragen der Grossstadt-gestaltung" [Monthly periodical for questions relating to Metropolitan Design].

In this periodical architecture was presented as part of a comprehensive new living design in which the new architecture was optimistically regarded as a classless social force. The periodical served as food for thought for a local forum dealing with contemporary questions of design and related reform issues in the community. The publication, which appeared monthly until 1931, shows that the avant-garde movement of the new architecture in Frankfurt did not operate in isolation but formed part of a larger, comprehensive concept of cultural change. This encompassed educational reform, the new photography, the radio, the Russian revolutionary films of Mayerhold and Eisenstein and the Piscator theatre, mass sporting events and new methods of travel - up to and including labour-union oriented popular cultural movements.

The readership of Das Neue Frankfurt was made up of men and women who represented various artistic and polito-cultural points of view, who were joined together in a common cause. They were able to cross national barriers and unite for a highly practical purpose the cultural side of existence with the needs of the time as these related to life in society, to rehabilitate and to activate them.
In the autumn of 1925, shortly after May had been installed in office, the city proposed a housing construction plan that anticipated the housing needs for the next ten years.
The key point of this plan was the General Plan, based on the large funds resulting from taxes on housing rents and special programmes. The General Plan defined the lower boundary of the housing estates in the centre of the Old City, their relationship to each other and to the free areas, for the first time actually putting into effect a metropolitan city and regional operating plan. For the landscaping May was able to obtain the services of Leberecht Migge who in 1928 produced a comprehensive proposal.

May's Frankfurt plan has been persistently described in professional journals as a satellite model, a concept occasionally used by May himself.
As a result the New Frankfurt, in addition to creating new living areas on the edge of the city or in the suburbs, remained concerned about the city centre itself which, by means of a strict advertising ordinance and the planning of public buildings, such as through the building council for private construction interests, emphasised and expanded the central feature of the inner city as a

Stuttgart, Werkbundausstellung
Frunkfurter Slabconstruction

metropolis.
May had a vision of Frankfurt as one large festivities centre stretching from Wiesbaden in the west to Hanover in the east, from Bad Nauheim in the north to Darmstadt in the south. Such a development would have justified his aims.

If one considered the housing estates as a wreath around the city, the impression was immediately created that the satellite concept in this regard was to be developed as part of a careful new structure and design, of a kind that until the First World War seemed to have "outgrown its garments" and come "unravelled". May himself speaks of the housing estates as "white, walled spaces" which frame and contain the green surfaces between them and the metropolis. There is the conviction "that, demonstrating a determination based on trust in the people, responsible men in an age of heterogeneous viewpoints which deserve recognition, for centuries had resulted in a uniform cultural will, which produced a total harmony of the city in all her parts".

The enthusiasm for planning in the New Frankfurt is concerned therefore with providing contemporary, dignified living accommodations. The housing estates and building projects are also a means of giving a dilapidated city a new design, in terms of avantgarde city building.
And how does it look now, this ambitious plan which would be carried out in the five years between

1925-1930, when the funds provided by tax on rents dried up and May and his brigade went off to follow the call of the Soviet Union?
If in 1925 there had been a question and answer period relating to planning and design work held in the Bureau of Building, the following measures might have been taken:
The significant social and economic problem of a shortage of living accommodations has to be resolved. The social accord rests on this.
Rationalization and mechanization of building construction. Social housing will be tackled as an organisational problem. An indication of the means of doing so: the advanced stage of capitalist production methods in the mass production of types and standards which can be applied by the building trades. A house, a dwelling and the house council are mass consumption items, consumer products, requiring the occupant to reexamine and to re-order his life. Modern dwellings are opposed to common, quasi individualism. The dwelling is an instrument, not a work of art. The new dwelling contributes to the rationalization of the household.
The new architecture cannot be separated from experimentation. Construction mistakes are considered to be part of the bargain. The new architecture does not offer any hitherto common decoration on the houses. There is no ornamentation.

Allow me to select two contrasting examples from the melange of 26 housing estates, which show the diverse, experimental nature and the search for new forms of housing estates inherent in the architecture. I consider Römerstadt to be the most unique and outstanding examples - one which, during what might be called the organic-expressive phase of 1927-1928 with Westhausen as the final stop and boundary of the New Frankfurt (and perhaps also with a view toward this), became known by the catch word functionalism.

Römerstadt Housing Estate

Period of construction: 1927-1928
Conception: E. May; Associates: H. Böhm and W. Bangert.
Architects: E. May, C.H. Rudloff and the architectural firm of Blattner, Schaupp, Schuster.
Contractor: Gartenstadt AG.
Current owner: Limited Company for Small Dwellings.
Number of housing units: 1220.

From the very beginning Römerstadt, more than the other examples in Frankfurt, was considered to be a successful instance of the design principles of the housing estate experiment. The unique design of the estate contributed to its international fame.

The complex was the most successful example of existing national efforts to incorporate design into community housing projects.

The pleasant area between the old Landstrasse and the River Nidda was carefully transformed from a refuse-ridden terrain to one pleasantly characterised by inspired terraces. The peculiar distinction of the design concept is the expressive inspiration which, with the dynamism of the flight of a whip, adds to the structure of the housing estate a sense of motion. The whole conception is rhythmic, inspired. The rhythm of movement in the flat S-curves of the Hadrianstrasse is a response to the inspiration of the eastern bastions lying opposite.

The extended inspiration of the double rows is interrupted and enhanced by wide, planted boulevards and flights of stairs forming a transverse line of communication, flowing into the grand motif of the crescent shaped bastions. The bastions are the nerve centre of the estate to the northwest, a radial system carefully interrupting the rows without disturbing the grand design.

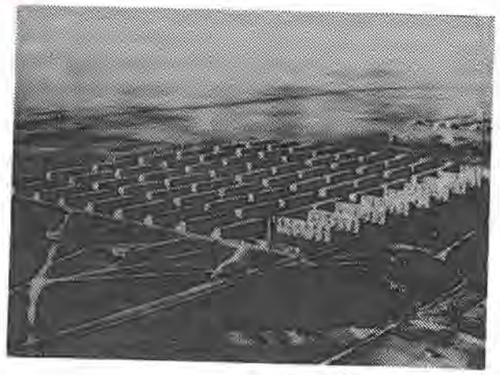
From the aerial photos the dominance of Migge's utility garden concept, the layout and planting of which enhance the architectural effect, stands out clearly. The centre of gravity and backbone of the complex are three-level blocks erected on the north side. This most differentiated separation of building elements in upper blocks and lower rows of attached houses, carefully adhering to the previously mentioned strong points of the building plan as well as to the demands of nature, the most impressive aspect of which was the blinding white vision of each walled space offered to the future metropolis - contribute an exemplary value to this housing adventure.

Westhausen Housing Estate

Period of construction: 1929-1931
Conception: E. May, associates: H. Böhm and W. Bangert.
Architects: E. May, E. Kaufmann, F. Kramer, Blanck, the architectural firm of O. Fucker, F. Schuster.
Contractor: Gartenstadt AG and Nassauische Heimstätte.
Current owner: Nassauisches Heim und ABG
Number of housing units: 1532

In this final, concluding housing estate project in the New Frankfurt the construction of single-family, attached dwellings was continued. In contrast to Praunheim or Römerstadt and contrary to the accepted rules of diversion and care, the exteriors were comprised of rows of identical houses (almost like soldiers standing at attention) which did not fulfill the metropolitan architectural requirements of the southwestern boundary of the Niddavalley project.

The architectural purpose of metropolitan complexes is founded on principles which were established at the various international congresses for the new architecture, based on practical applications from the theoretical writings which discussed insights and architectural requirements.



Frankfurt am Main
Siedlung Westhausen
Photo 1930

Pure functionalist considerations such as the calculation of functional, economic and hygienic requirements - new scientific insights which were imposed upon and greatly influenced the architectural concept - got the upper hand. In this sense, Westhausen can be seen to be historically "correct", since it demonstrates rather drastically for the first time that fulfilling functional requirements on a purely mathematical basis has as its corollary the suspension of other architectural possibilities.

The Ganghäuser [the houses forming the entrance to the estate of which the individual dwellings can be reached via outside corriders on each floor], built by Ferdinand Kramer in association with Eugen Blanck, offer a new variation on the theme of economical housing units. The four-level blocks are positioned in a straight line alongside the housing estate in the direction of Niddavalley. The startling white colours set against the dark-framed windows of the "army camp" with its rows of brick-red plaster, gave the estate at the time a distinctive appearance and a uniquely aesthetic form, quite different from the synthetic approach to colour used today.

The Ten Year Plan adopted in 1925, which in any case would increase living accommodations in Frankfurt by 11% by 1930, was predicated on the mechanization and standardization of housing construction. At approximately the same time as Gropius' building block system in Dammerstock, in 1926 in Praunheim the technique of assembling with pumice-stone sheets which was used for the first time.

The difficulties and disasters brought about by such a new method can only be touched upon briefly here.
Obviously, progress was also made in developing blueprints and related aspects of construction requirements. There were model drawings for the fittings, windows, doors which, in terms of renovations today, if one could make use of them, would make the task much easier.
The model blueprints and specifications of the Frankfurt Register, which was used by the Frankfurt construction company, Hausrat GmbH, which produced massive,

Frankfurt am Main
Siedlung Westhausen
Preservation 1988

inexpensive furniture for the housing estates, fulfill a special role within the new architecture which in itself could fill a complete list.

One aspect of the housing in Frankfurt had obtained world-wide fame even outside professional circles, in which like no other could influence the rationalization of everyday life - the kitchen.
It was now seen to be the economic heart of the household, in which a new, practical philosophical attitude would manifest itself - that of the freeing of the housewife from time-wasting and unproductive housework.
The new kitchen, designed by the female architect, Grete Schütte-Lihotzky, who had moved from Vienna to Frankfurt for professional reasons, stood at the forefront of the battle to replace the live-in kitchen with the built-in, working kitchen. At the same time new kitchen designs were presented by Le Corbusier, Oud and Hilbersheimer for Weissenhof and Gropius for Törten in Dessau. But none of these was so logically thought-out, so compact as that of Lihotzky, of which an incredible 10,000 units had already influenced the lives of thousands of housing estate families.

The most important supplementary feature of the housing estates which can be mentioned are the community facilities, the central laundry rooms, the kindergartens, the vegetable gardens, schools, central radio system, shops, libraries and swimming pools.
Only a few of these facilities, which in May's view were necessary in order to create a cultural and communal entity of the estates, came into existence due to lack of funds, something which was particularly disturbing for those who had taken part in the planning.

The international reputation which the accomplishments of the New Frankfurt commanded, and its special role within the new architectural movement, resulted in the fact that the Second International Congress of Modern Architecture, following its establishment in La Sarraz, was now held in Frankfurt in 1929, on the then very emotional topic: "Living Accommodations for a Subsistence Minimum". This was a theme for which the city of

Frankfurt could provide pertinent, mass-produced examples. At this congress papers were given by Giedion (Zurich), May, Gropius, Le Corbusier as well as Jeanneret, Bourgeois (Brussels) and Hans Schmidt (Basel).
These then leading representatives of the new architecture in Europe came to Frankfurt, studied - and spoke out with recognition and esteem for - the solutions provided by the city.
In 1930 after the end of the tax on housing rentals, the carrying out of further planning developments, such as the large housing estate of some 40,000 occupants in Goldstein, had become impossible. Ernst May and some of his associates were drawn to the Soviet Union, where the planned development accomplishments of the New Frankfurt had made a special impression. The Frankfurt housing estates, which had already come under heavy attack at the time by reactionary and fascist elements, were not torn down after 1933 as many had predicted, nor were they given tiled roofs, the minimum "correction" demanded by the district leader. In spite of systematic surveillance of the estates by spies, the National Socialists had little success and, following the militarization and subsequent war, they were more or less forgotten.

What became of these internationally renowned avant-garde accomplishments in Frankfurt once it had been liberated from National Socialism?
Following reparation of the war damage, which had afflicted the inner city housing estates more than those on the edge of the city, the dwellings continued in use relatively unchanged until the 1960's.
It was the task of the most recent era to question their functionality and social qualities and to consider the rent paid in the intervening period by housing estate agencies which had little capital as full amortization and the estates themselves, as ready to be torn down.
In the mid-1970's the main buildings of the Hellerhof Housing Estate by Mart Stam, the remaining example of the "Subsistence Minimum Living Accommodation", were to come down. After strong public protests a poor compromise was reached: one row would be torn down to make way for a new, "adjusted" building on the
Alterheims Platz; the remaining rows were to be professionally renewed with the participation of the historic building society.
Since this scandal of partial destruction of one of the most significant accomplishments in the realm of small housing construction in the 1920's, in Frankfurt no further demolition has taken place. A large section of the housing estates and individual dwellings have been formally placed under the protection of the historic building society which, however, says nothing of their condition.

Without exaggeration it can be said that most of the housing estates are currently in a state of deterioration. Usually only the most obvious repairs were made: replacement of doors and windows in the context of the energy-saving hysteria with synthetic materials such as plastic and aluminium - with the resulting visual consequences of important building details. The preservation of historic buildings has for a long time only been able to be applied to individual cases with the unanimous approval of outside experts in terms of maintenance using authentic building parts, namely: material substitutes of the same dimension, those which could be shown by the housing estate agencies to be energy-reducing and architecturally "easy to preserve".

From personal experience I can attest to the fact that virtually none of the housing estate agencies had understood either their obligation to maintain this heritage, or their own history, and were generally not prepared as a matter of self-interest to cooperate in the conservation of these buildings. The threat of an obligatory architectural preservation is required in order to achieve anything at all. As to the quality of the architectural measures which could only be imposed by means of official actions and carried out unwillingly, I need not go into this in detail.
Despite this pessimistic situation sketch, in closing I would like to present three "survival" projects.

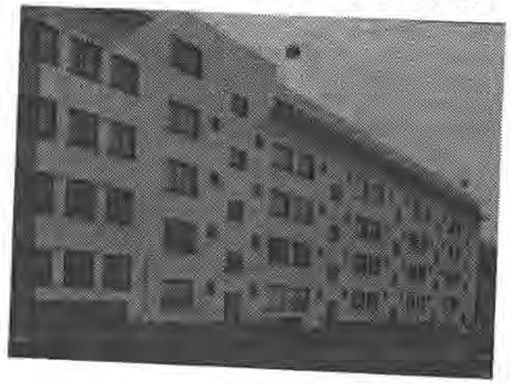
During the renewal of the Ganghäuser dating from 1928-1929, carried out by Anton Brenner in the Praunheim Housing Estate in the years 1986-1987 involved, in addition to the renewal of the damaged plaster dating from 1953, the cleansing of the stressed concrete frame, which indicated serious damage. In this case architectural preservation was able to prevent the planned encasement of the buildings with thermal sheets, applying a conventional plaster reconstructed from residues on hand in the composition and colour breakdown using mineral-based paints. The original surface of the stressed concrete frame, with its regular structure of wooden planks, could not be retained, since all existing concrete cleansing systems, once the damage repair and drying has been completed, require application of a film-producing sealing agent. In any case, it was possible to reproduce the original colouring and improved gardening methods resulted in enabling the climbing plants, especially Glycine, to resume their original, architecturally supporting function. The problem of the windows and doors remained unsolved. Some of the originals were overlapped with a series of different types of white windows and doors, which had been made of various materials between 1950 and 1970. Reconstruction of the original, dark-gray windows was desirable but, at the time, was not taken into consideration.

In the Westhausen Housing Estate, in spite of early opposition from the agencies as well as from incited tenants, preliminary scientific studies based on the principle of renewal were carried out in the first instance on one sample row of houses in the estate.
The study which is carried out under the auspices of the historic building society is directly concerned with questions relating to architectural preservation, including the problems of furnishings and modernization.
The painted exteriors up until 1986 on the row of twelve dwelling units which were the subject of the study, were comprised of soft, granular plaster of the kind used after the war, which had been applied to the original plaster dating from 1929-1930. The plaster was loosening. The flat roofs which had been in desperate need of repair since the war, were no longer water-tight. The windows which had been built during the war as well as the few remaining original windows had rotted due to lack of care.
The immediate objective was the renewal of the building exteriors. Based on preliminary restorative studies, a triple layer of new plaster plus a mineral-based paint was applied which brought about a striking resemblance to the original shade. A demonstration area was set apart to conserve and display the original plaster and paint application. The windows were rebuilt using examples of wooden windows dating from 1930 with a collapsible light on top, the first step being to paint them in their original gray-green shades. The rusted door elements were given a manual overhaul and a normal coating.
During the course of these undertakings both the occupants as well as the representative of the housing estate agency became convinced, as a result of intensive, on-the-spot discussions, of the necessity of preservative care, with the unusual result that they ended up accepting the architectural renewal process. Since then, the row has served as an example to the remaining 95% of the Westhausen estate for future renewals.

The final measure which I will show you involves a building maintenance measure, most certainly one of the first of its kind since the beginning of the 1950's in the Bornheimer Hang Housing Estate, which was built between 1926-1930.
Today, the estate is a dirty, colourless miasma of granular-plastered, post-war exteriors with white-painted windows and beige and brown doors.
The first renewal measures to be undertaken, which would affect the whole estate through and through, to restore the neighbourhoods in terms of architectural conservation, were based on the premise that restoring all the housing estates to their original colours was more important than the whims of the "rule" of the housing estate agency or the preferences of the bureaucrat in charge.
That which could be presumed to be, based on the black-and-white photos, proved to be the case when the findings came to light: set in unusual contrast to the brilliant white inner walls of the estate deep blue windows and doors transform the block of houses in a workers' quarter of Frankfurt into the clarity of a Mediterranean village, the kind which has so inspired many an architect of the Modern Movement.

As you can see, when it comes to modern buildings, architectural conservation has not yet reached a breakthrough of the kind that their objective quality and great numbers would surely indicate. The question that remains is: in community housing which is directly dependent on the politics of community housing and the new housing programmes presented from time to time, in ignorance of which, from the outstanding examples presented in this area, will they understand that it is worth it to preserve them, and act accordingly?

Frankfurt am Main
Siedlung Bornheimer Haug.
Preservation of the exterior 1989



Ronald Gill
Delft University of Technology; the Netherlands

Urban conservation in Indonesia:

Bandung and Medan, a shared urban and architectural heritage of the Modern Movement

Introduction

Western architecture is not a phenomenon experienced in western countries only. With European overseas expansion over centuries, colonial powers brought their architecture to their colonies. This created a new architecture within a different context of both alien cultures and in most cases a tropical climate. In Indonesia numerous cities still bear the marks of Dutch colonial rule in their urban architecture and town lay out. Especially the innercity areas of the main cities and towns which were centres of the Dutch administration like Jakarta, Bandung, Semarang and Surabaya on the island of Java, and Medan on Sumatra, are a permanent display of the architectural styles which subsequently were used for the design of their colonial buildings. The mixing with Indonesian culture and adaptation to the tropical climate often resulted in Indies architecture radiating the flavours of the West and the East alike.

Many cities however are increasingly threatened by indiscriminate urban development in efforts to cope with increasing population, progressive city growth and unrivaled high densities in their inner city areas. These phenomena combined with efforts to provide basic urban services have affected the city fabric and its' urban architecture to the extent that city areas and buildings of an even recognized cultural and historical value have been damaged and even demolished.

Fortunately, awareness among professionals, within universities and within central and local government bodies in Indonesia is growing to preserve one of the largest pools of historically and culturally valuable townscapes and buildings throughout Southeast Asia. This growing awareness is based on a sound understanding of the meaning and the potential values of the urban architecture of cities in Indonesia. Firstly,almost every city in Indonesia has components of a Dutch-Indonesian heritage. For some cities, like Bandung, this is substantial and strongly marking the city's identity. Secondly, Indies architecture has played a substantial role in the development of modern Indonesian architecture and townplanning. Thirdly, it has a tremendous potential in its' contribution to tourism development by the quality of both its' Indies residential and urban architecture and its' architectural pluralism from traditionally Indonesian oriented architecture to imported architectural styles and their hybrid specimens.

Bandung and Medan, a shared heritage

Focussing on the architecture of the Modern Movement in Indonesia, the cities of Bandung and Medan, because of their character and age, are typical examples of colonial cities which reflect the architectural styles and movements of late 19th and early 20th Century Dutch architecture. Both cities by their age belonging to the group of "young cities" display parallels in their coming into being and their urban history. Also in their function as cities within the colonial administrative and production system and in the way the cities were inhabited by the various ethnic groups, such as Europeans, Chinese, Arabs, Malays and Indonesians. Bandung and Medan have acquired the majority of their building stock in a relatively short period of time during their main booming years in the first quarter of this century. Therefore both cities possess the largest share of Modern Movement architecture as compared to other cities in Indonesia. The bulk of the modern architectural and urban heritage of Bandung and Medan is in a still relatively flawless condition, concentrated in their city centres. This has led to the development of an inner city area with a specific identity of modern architecture of those days. At the same time this poses an imminent threat to its urban architecture because of the increasing pressure on the inner cities caused by change and development activities.

Bandung, a cool mountain town in central West Java, originally was the centre of extensive tea, coffee and tobacco plantations surrounding it. Attracted by the cool mountain air, an influx of Europeans occurred at the turn of the century. Later on, Bandung as a centre for cultivation gradually changed its function to becoming a centre for the Dutch government administration. In the twenties Bandung was coined the "Paris of Java" because of the lifestyle displayed by the European population group in the "most European city" in Indonesia. Bandung's urban structure reflected the condition and lifestyle of its population groups. The Chinese lived close to the commercial centre, the Indonesians in dense kampung, urban villages, mainly south and in small pockets in the north, while the fewer Europeans had extensive uphill residential quarters in a garden city lay-out covering more than half of the city area of Bandung. Each ethnic district had its own urban and architectural expression. Modern Movement architecture obviously could be found in the European shopping and commercial areas in the city centre in the Braga area and in the luxurious residential districts around Dago where the Europeans lived. In the Chinese quarter, the architecture of the shops and shophouses demonstrate a blend of styles of the Modern Movement and traditional elements.

Among the architects who shaped the image of Bandung as a Modern Movement town in the tropics were A.F. Aalbers and C.P. Wolff Schoemaker. Aalbers designed the Denis building in 1935 at Jalan Braga by the creation of urban space in front of the building, a curved facade of horizontal sunshading elements and a vertical landmark. In 1939 prestigious Savoy Homann Hotel followed, using the same concept of architectural and urban design. With an elegant curved facade of balconies stretched along its full width and topped by a conspicuous needle-shaped landmark, it is all too often labelled as presenting the city's identity. Other designs by Aalbers include an urban villa called "de Driekleur" (the tri-colour), and a variety of dwellings and villa's in the Dago district. Aalbers' architecture was truly western in its concept. Within this concept he integrated local tropical conditions and elements. Wolff Schoemaker's designs which made a lasting contribution to Bandung's image as a Modern Movement town are those of Preanger Hotel (1929) and Villa Isola (1932). Both buildings although quite different by design, refer to the architecture of Frank Lloyd Wright.

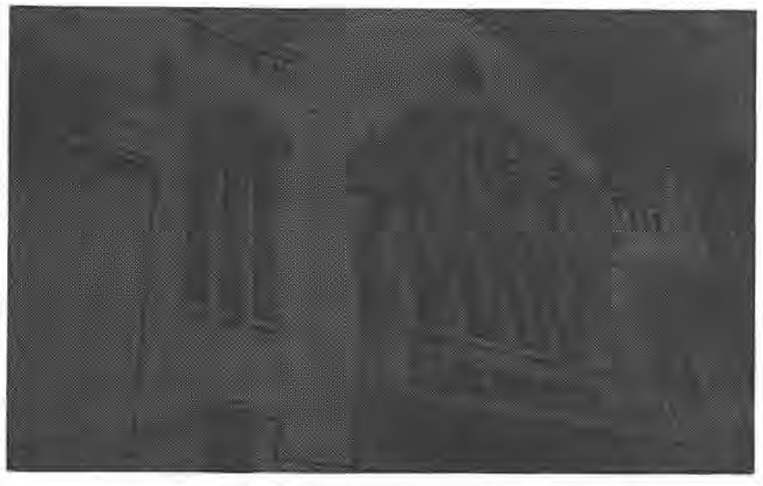
Bandung: large roof overhangs and ample ventilation, mark the luxurious houses in the spacious residential district where the Europeans lived.
photo: R. Gill

Bandung: Denis building at Jalan Braga designed by A.F. Aalbers
photo: R. Gill

Other architects were in search of an architectural concept which took traditional Indonesian architectural concepts as the basis for their design. This is demonstrated in the design for the Bandung Institute of Technology by notable Henri Maclaine Pont in 1920, quoted by famous Dutch architect Berlage as "a successful proof of an Indies architecture", a composite Netherlands- Indies architecture.

Medan in North Sumatra started as a plantation settlement around 1860, set up by the privately run Deli tobacco company which acquired concessions from the ruling Sultan of Deli. Right after its' establishment as a municipality in 1909 the cultivation of rubber started and boosted Medan's development. Chinese, Indians and Javanese were brought to the Medan area as indentured labourers. In a few decades offices, hotels and houses were built to accommodate the trade companies and their staff. The urban structure of Medan featured similar components as Bandung, like an "alun-alun", a large green square, and specific districts for the various ethnic groups like the Chinese and the Arabs in the city centre. The European district again was spaciously laid out in the Polonia area on well drained land between the Deli and Babura river. However, because of ample supply of land and a proper land distribution policy by the Deli Company, the kampung or urban villages of the Indonesians were not found as small pockets inserted between the quarters of other groups, but had their own areas on the outskirts of the town. The buildings which can be found in Medan follow the city's function as a centre of cultivation and trade in plantation produce. In the town centre only a few monumental buildings are found, while offices abound. The shophouses in Medan's Chinese quarter by their type and morphology are quite similar to the Chinatown shophouse in Singapore. The dwellings of the Europeans initially resembled the plantation staff houses of the Deli Company in the rural areas outside Medan. For the urban counterpart tiled roofs and white plastered brick walls replaced the thatched roofs and woven bamboo walls. But the pattern remained with a spacious front porch and a ground floor on stilts. The main urban area established in the decades of rapid urban development and containing the bulk of urban architecture referring to the Modern Movement, lies between the Deli river and the railway. Here former Kesawan street, equal to Bandung's Braga street, still boasts flawless street facades of an architectural style which is a mixture of functionalism and tropical Art Deco of the 1920's. Residential architecture in the tropical version of the Modern Movement is found in Polonia where the Europeans lived. Typical for Medan's architecture of those days is the work of architect Han Groenewegen. After a short period in the Netherlands he practised in Medan from 1927 until 1942. After the War Groenewegen continued his architectural practice in Jakarta, but kept stretching his building activities to North Sumatra. The volume of Groenewegen's work is impressive, as is its' quality. He designed a variety of buildings, ranging from offices, hotels, banks, to schools, churches, numerous residences and villa's and even a swimming pool and various hospitals. The Sint Elizabeth Hospital in Polonia which he designed in 1930 is the most renowned one. It features a rational design of a system of pavilions adapted to the tropical climate and making proper use of local building materials and architectural form giving the building complex a functional and traditional appearance at the same time. In 1939 he made a rebuilding scheme for a swimming pool, a design important because of its' functionalist tropical architecture and its' innovation in building construction.

Today, both in Bandung and Medan, transformations pose a continuous threat to the urban architecture of the cities. These transformations range from indiscriminate rebuilding of individual buildings and urban infill projects with an incongruous architecture to sweeping functional changes in the urban fabric. Guidelines for urban rehabilitation and conservation for both cities which are based on the cultural historical dimension of their urban



Medan: detail of facade of an office building in former Jalan Kesawan shows a mixture of functionalism and tropical Art Deco
photo: R. Gill

architecture are still lacking. Development of proper guidelines must be considered a first priority to save a valuable architectural and urban heritage stemming from a western and eastern culture. Urban heritage research can perform this task.

Urban heritage as a field for research

From what has been put forward in the case of Bandung and Medan, it is clear that a framework for co-operation for the study of the common Dutch- Indonesian heritage should fit a variety of requirements. In order to set up a platform for discussion, to identifiy the major problems and to formulate objectives for the joint study of the urban heritage of cities in Indonesia, the conference "Change and Heritage in Indonesian Cities" was held in Jakarta in 1988. As a follow-up to this conference formal co-operation was set up between the Indonesian and Dutch architectural societies and among the architectural and planning faculties of Indonesian and Dutch Universities i.c. Delft University of Technology. Objectives for co-operation were among others:

- Documentation of urban architecture and town planning representing a specific cultural and historical value.
- Setting up joint research projects on the urban heritage of particular cities in Indonesia.
- Develop programmes for support and exchange between Indonesia and the Netherlands for further dissemination.
- Promotion of awareness of the public with respect to the heritage of their cities by professional organizations, universities and central and local government bodies.

Currently joint research programmes between Indonesian universities and Delft University of Technology are implemented. Research subjects vary from the identification of cultural-historical and architectural values, the formulation of conservation guidelines for residental districts featuring a specific value and identity to fight rapid commercial infiltration of these districts, to the identification and revitalization of valuable townscapes and proposals for the re-use of buildings with distinct heritage characteristics.

But apart from Indonesia, a study of urban architecture with a distinct Dutch or western architectural heritage in other overseas regions like the Netherlands Antilles and Surinam, is becoming a necessity, The quality and uniqueness of the modern architectural heritage in these regions is proven by among others the design for a children's home by Gerrit Rietveld in Curaçao, Netherlands Antilles in 1950. Research and conservation of valuable architecture overseas can draw from an impressive building stock throughout the world. Architectural and urban heritage goes beyond the national boundaries of today.

Literature and further reading:

- Akihary, H,
  "Architectuur en stedebouw in Indonesie 1870 - 1970" Rijksdienst voor de Monumentenzorg, Zeist, 1988.
- Leerdam, B.F. van,
  "Henri Maclaine Pont, architekt tussen twee werelden" Delftse Universitaire Pers, Delft, 1988.
- Passchier, C.,
  "Bandung, groei en ontwikkeling van een stad, 1900-1942" in: H.M.v.d.Berg (ed), De stenen droom, Opstellen over Bouwkunst en Monumentenzorg opgedragen aan prof.dr.ir.C.L.Temminck Groll, Zuthpen, 1988.
- Passchier, C.,
  "Architecten en het bouwen in voormalig Nederlandsch- Indie", Plan (1984), no.8. pp.9-10.
- Berlage, H.P.,
  "Mijn Indische reis, gedachten over cultuur en kunst", Rotterdam, 1931.
- Gill, R.G.,
  "Het Indische bouwen en de Architectuur in Indonesie", Vitrine (1990) no.2, pp. 11-16.
- Gill, R.G.,
  "Cities within the City, Jakarta's urban develop ment from Jayakarta to Jakarta Raya", Delft University of Technology, research paper, 1990.
- Gill, R.G.,
  "The Architecture of Rietveld on Curaçao, a sense of place and people" in: H.E.Coomans, M.A.Newton, M.Coomans-Eustatia (ed.), Building up the future from the past, studies on the architecture and historic monuments in the Dutch Caribbean, De Walburg Pers, Zutphen, 1990.
- Jessup, H.
  "Four Dutch buildings in Indonesia", (on the architecture of Henri Maclaine Pont and Thomas Karsten), Orientations 13 (1982) no.9, 10, 11, 12.
- Wieringa, P.C.; Dun, P.van; Gill, R.G.
  "Istana Bogor, An approach for restoration and a proposal for a new function of Bogor Palace, Indonesia, Netherlands Conservation Department and Delft University of Technology, Zeist, 1989.

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Modern heritage; conservation or integration ?

While my speaking time is very brief, I am obliged to skip the history of the governmental interest in the so called contemporary built environment in the Netherlands, by which the built environment from the period 1850-1940 is meant. I must refer to the abstract, published in the congress synopsis, and in short to the following review (sheet 1).

Sheet 1

Built environment 1870-1940

Town extensions 19th century
Building activities 1920-1940
Social housing
Industrial buildings
Infrastructure
Modern Movement

Response:
Conservationists:
fear, obstruction, traditionalism, nationalism
and from 1984 a broad inventory system.

Planners:
Housing act, reconstruction of decayed urban area's, physical planning,
urban renewal
structural architectural quality support

- **Built environment 1870-1940**
(in the Netherlands it is the period of the first large town extensions after the 17th Century - dominated by the building activities from the period between the two world wars, with new phenomena as social housing, industrial buildings, infrastructure and Modern Movement.)
- **Response of the traditional conservationists**
(at first fear and obstruction, traditionalism, nationalism and - later on - with a broad inventory system, the so-called Monuments Inventory Project.)
- **Response of the planners**
(housing act, reconstruction of urban areas, national reports on physical planning, urban renewal and structural architectural quality support.)

I will now step to the conclusions from this review (and the mentioned abstract) which supplies us with the following recount (sheet 2).

Sheet 2

Conclusions 1990

1. Traditional conservation not equaled to modern architecture.
2. Modern Movement does not fit in the traditional conservationists way of thinking, managing and operating.
3. Modern Movement does fit in government activities of planning future development of built environment.
4. Modern Movement/modern architecture can not be part of conservation policy, but must be part of development policy (planning policy).

- **Traditional (art historical) conservationists way** of dealing with historic buildings and town scapes is not equaled to the task of maintaining the Modern Movement, let alone stimulate a further development.
- **Modern Movement**, due to its special social relevancy - does in fact not even fit in the traditional conservationists way of thinking, managing and operating.
- In order to keep Modern Movement in the picture it can succesfully be fitted in in government-activities concerning the general management of the built environment, physical planning, revitalisation and financing.

Modern conservationists can participate in this overall management by offering services in the field of inventories, analysis and expertise. And legal protection of buildings and townscapes should - only on request - be handled as a special administrative support to the planning scheme, not to exclude them from 'normal' building and reconstruction activities. Let us not insult the Modern Movement by safeguarding its architecture as protected monuments.

- So: modern movement and modern architecture are not to become part of a conservation policy, but in order to keep them alive: a part of the planning policy.

After these theories of policy building we proceed to the elaboration (sheet 3) of policy making.

Sheet 3

Planning
1. Analysis — social and economic
   town planning
   architecture

2. Desires — social/economic development
   environmentol quality
   public space + architecture
   protection

Financing scheme
Political approval

Plan of execution
Tools

- Planning.
  In today's Netherlands the National Report on Physical Planning of 1986 is a legal base for local and regional planning. This report states amongst other things that desired economic renewal and extension must take the existing qualities in the built environment into consideration. Therefore the broad inventory scheme, therefore also a obligated collaboration between the Departments for Conservation, Physical Planning and Housing.
  The planning process therefore has to start with a:
- social and economic analysis,
- town planning analysis,
- architectural analysis.

Besides these analysis', (for the latter two the Monuments Inventory Project supplies the needed data), one needs to know the social and political desires in the field of:

- social and economic development and environmental quality
- public space and architecture,
- protection.

Analysis and social desires put together supply a Plan of Execution which is not complete without a
- general financing scheme and last but not least a
- political commitment and approval (public acceptance, that is).

In the Netherlands, where (physical) planning is a responsibility of the local and regional authorities, the last mentioned element means in practice formal approval of a so called Development Plan by the towns' and provincial councils, by which the plan becomes part of a democratic decision-making proces.

In order to direct these political decisions in harmony with the Physical Planning -and other so called Quality Reports- the central government supplies execution tools to be used by local authorities.

What kind of tools ? (sheet 4)

Sheet 4

Tools:

1. Department for Conservation:
   inventory (MIP, listed monuments)
   analysis
   (decentralised) regulation

2. Department of Physical Planning:
   expirimental plans
   revitalisation schemes

3. Department of Housing:
   development schemes architectural quality

4. Finances:
   overall scheme (not project aimed)
   income versus expenses

- From the conservationists (Department for Conservation): inventories, analysis, (decentralised) regulation, grants, approvements, planning control and plan guidance.
- From the planners (Department of Physical Planning): (financed) experimental planning for special situations, urban renewal schemes for revitalising existing built-up area's.
- From the field of well-being (Ministry of Housing) structural development schemes for architectural quality.

Finances for maintaining and development.
The traditional way of financing conservation and maintenance activities (aimed at individual projects) is not suitable in the field of the Modern Movement, as many disappointing examples have proven.

When, however, a planning scheme as above mentioned (including political commitment) is followed, a model of financing for the planning area as a whole can be designed.
This model must include of course all expenses, but also all sorts of income (subsidies, but also housing rents, and for instance, parking space rents and so on) and must also take into consideration the capitalization of the capital gain of the whole planning area in reconstruction.

All figures put together shown either a profit (for the area as a whole) or a deficit. In the latter situation the local authorities can make use of all kinds of central government financing systems as there are:
urban renewal fund,
conservation fund,
all kinds of private investments funds,
and so on.

The local authorities must be free in handling the funds in their way as long as they are used for upgrading the social and material qualities of the built area.
This policy has in the case of urban renewal of the historic 17th Century inner-cities proven to be very succesfull.
In the Netherlands this formula is now being further

Townhall, Hilversum
Architect Dudok, 1924-30)
photo: Department for Conservation

ESSO-building, The Hague
photo: Department for Conservation

worked out for the built environment of the period 1870-1940. Of course in collaboration with the other building departments and institutions.

All developments in this case are still in an experimental stage, but we are already convinced that the experiments will turn out to be more succesfull than the traditional way of conserving. The following examples show why:

Hilversum, Townhall (Dudok) - traditional way, stopped due to lack of money;
The Haque, former headoffice of Standard Oil of New Jersey ESSO in the Netherlands, but originally planned to be a town hall for Hilversum (instead of Dudok, but the Hilversum council preferred Dudok), transformed for some years to a collective lawyers' office and financed by private means. Restored and renovated within a period of three years, and now functioning as a modern office building with its own specific appearance.

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Policy-making: the Dutch way by MIP

Introduction

It seems quite contradictory to deal with the creations of the Modern Movement as if they are historic monuments, but we cannot deny that this young architectural heritage deserves special attention. Knowing the aims of DOCOMOMO, I think that all members will agree with this statement. In my lecture, however, I first would enter the question how we should interprete this 'Modern Movement' and its heritage,especially in the Netherlands. Then, I shall discuss how the national government is taking care of this matter.
For instance, do we accept only the work of the members of the 'De Stijl-group' and of the '8 en Opbouw-group' as the only 'modern monuments', or can we also include the buildings by the Amsterdam S chool-architects and W.M. Dudok Hilversum? Looking at the program of the post-conference tour we do not neglect Dudok's Town Hall at Hilversum at least. And what about the Dutch counterpart of the Victorian architecture or the Art Nouveau? Is there a convincing reason to take an exclusive point of view in favour of the avant-garde architecture of our age, without any attention for the other buildings dating from the same period and forming their cultural context?

The government and the 'younger architecture and townscapes'

For the Netherlands Department for Conservation these are not mere academic questions. Until about ten years ago nearly all our documentation and conservation activities were concentrated on our heritage dating from before the Industrial Revolution. The hard work of listing about 40.000 monuments and 350 historic townscapes took more than ten years. Although our Monuments Act does not make any difference between 'old' and 'young monuments', the heritage of the younger period (1850-1940) seemed to be outlawed[1]. Many typical buildings from this period, like railway-stations, factories, water-towers, offices, churches, hospitals, cultural and social institutions were pulled down because they could not function anymore in their original setting. In the younger quarters of the town extensions the process of urban renewal and renovation has its effects on many complexes of social housing. These 'younger monuments' have to contend not only with a great lack of knowledge and appraisal, but also with their special problems of maintenance caused by their monofunctional design and the (experimental) use of new building technics and materials. Besides, the number of buildings from our first industrial period is far greater. How could we manage a justifying investigation and selection of the many potential monuments from this in between old and new period? The answer got two ways: one being a selection of the most important landmarks of the modern Dutch architecture, known already in professional literature; the other being an all-over investigation in the field. The first operation was set up with special regards to the heritage of the Dutch Modern Movement. Its selective approach lead to the official registration of about sixty 'modern monuments', including such famous buildings as the Van Nelle-factory and the former sanatory Zonnestraal. So, concerning only the aspect of preservation, there is no reason for having an exclusive DOCOMOMO working-party, in my opinion, but that will be in discussion later on.
The other way - and this will be the main theme of my lecture - is a national inventory campaign, called MIP for short, being the abbrevation of Monument Inventory Project.

MIP and general policy

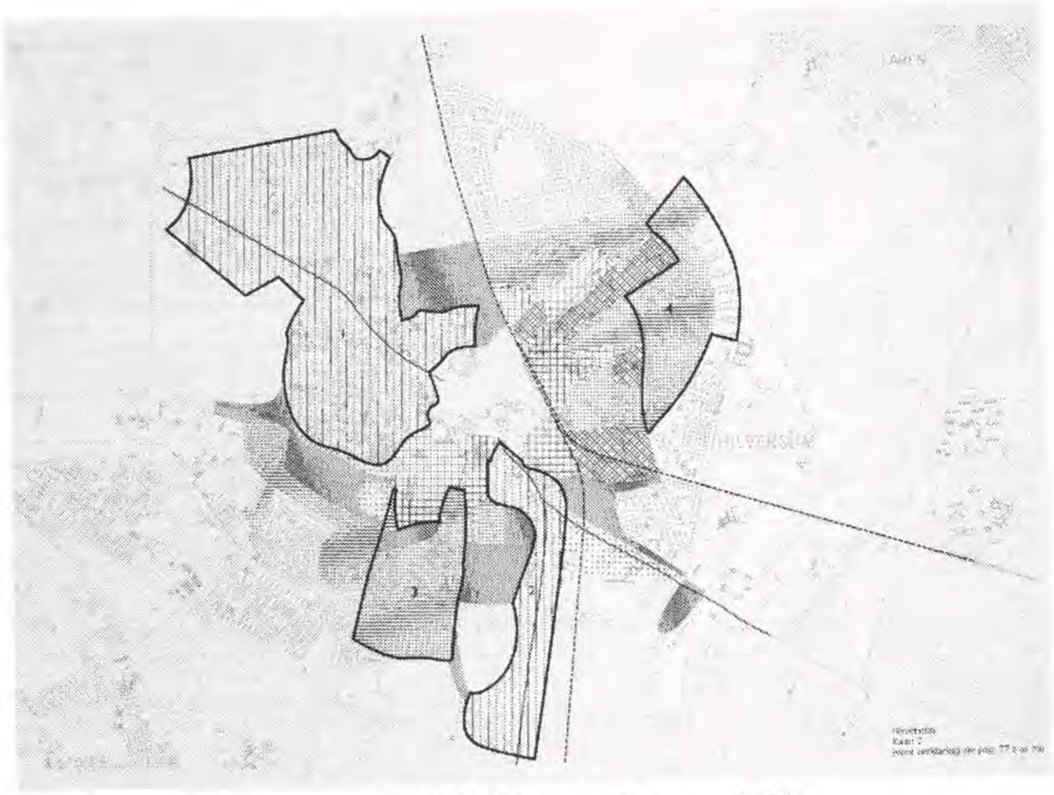
The MIP-campaign has the aim to investigate the still present architecture and townscapes dating from the 1850-1940 period over the whole country in a systematic way. The first purpose of this project is to overcome the lack of knowledge about our 'younger heritage' and to get a broader appraisal of its specific qualities. Another purpose of this campaign is to advance an integrated policy for the control of our built environment as a whole. This means that we should not formulate our inventory standards too restrictive, only pointed at qualities of 'modernity', but that we also should pay attention at the buildings and areas with more social or cultural historic values rather than mere architectural merits. Many of the witnesses of our modern past are still unknown, and many of them are threatened to be demolished before any form of documentation can take place. On the other hand, it often occurs that the actual appearance of the better known buildings differs totally from their original design. Needing badly an all over and consistent survey of our 'neglected heritage', we decided after several pilot projects to start our inventory project, focused on determined regions, and carried out with the help of many temporary assistants.[2]

MIP-organisation and methods

The project is planned to take five years, ending in 1992, and to be carried out like a relay with different terms for all partners: our twelve provinces and the four largest cities. The national department contributes the general budget, methodical instructions and supervision. The central idea is to investigate the whole country on a declining scale, starting from the level of one region to the level of the municipalities and ending with the individual buildings.
Each of these regions should be described in a general way, beginning with the geographical aspects (nature and use of soil, drainage), then the infrastructure (roads, waters, railroads, militairy works) and ending with the structure of the settlements, ordened in a typological manner, and the scattered buildings.
Besides this regional description there should be made a more detailed description of each municipality within the same "inventory area" according to the same division of contents. In case of large extensions or other interesting developments, there should be made a so-called "urban typology", which means that there should be made a specific map showing these developments according to a general standard. For instance, when a garden-village has been built, it should be marked apart, just like an industrial zone or a green belt.
Then there could be made a step further in the estimation of the present values of the investigated town and village extensions by applying a general scoring list in order to assign so-called "areas with special town planning values". This distinction is important for two reasons, one for the futural (or even actual) town planning and control of housing complexes, another for the following phase of the project: when making the inventory of buildings, the fieldworkers have to inspect these "special areas" intensively (just like the historic centres), while they can work in a more rough way in the other parts of the settlements.[3]
These "special areas" can vary from rather planless reclamation villages like Griendtsveen in the southern high moorlands to a carefully planned large town extension project like H.P. Berlage's layout for South Amsterdam or a specific garden village like 't Lansink at Hengelo or the company town of Heyplaat at Rotterdam.
Although we intend to assign these "special areas" not too narrowly limited, also the smaller housing complexes like the Papaverhof at The Haghue by Jan Wils or the Kiefhoek at Rotterdam by J.J.P. Oud can be distinghuished as such. Moreover, it is not necessary to restrict these "special areas" only to residential quarters. In our view, for example, the penal colony of Veenhuizen can be considered as well as a "special area" as the whole area of the Loosdrecht wood where the aftercare colony of Zonnestraal has been built, including not only the famous main building and two paviljons by Duiker and Bijvoet, but also all the minor outhouses and their peculiar setting. These examples illustrate the broad approach of the inventory campaign, based on a cultural-historical point of view in the very first place. The preponderation of the obvious architectural (or town planning) qualities will be in discussion during the next stage of selection. Being halfway through the project, we are estimating that there will be about fivehundred "special areas" to be distincted and around 200,000 buildings to be documented.
The investigation of all those buildings can be considered as the most labour-intensive part of the project, but this is not the most problematic part, as far as concerning the methodical aspect. After several joint instructions in practice there arose some consensus about what buildings should be registered and those which should not.
The fieldworkers have to take pictures of all those buildings being of interest for the MIP and to fill in a standard form, answering questions about address, architect, date of construction and so on. New, however, is the aim to file all these data in computers for creating a central data bank later. We are also studying about the possibilities of computarized storage of the pictures and maps, but at the moment the available systems are too expensive and too complicated to apply them.
The fieldwork, in its preparation as well when in progress, has also an impact on the public relation affairs. First of all, each inventory team contacts the local authorities and local press in order to explain their tasks and the importance of investigating the "modern heritage". Secondly, by publishing in the local papers the inventory work becomes also generally known by the public. This matters greatly because most people are strongly attached to their privacy.
Often they are not aware of the peculiar architectural values of the houses they live in (or the office-buildings, shops, factories they work in). For instance, when the block of studio appartments - built in 1933 by Zanstra, Giessen en Sijmons - at Amsterdam had to be renovated, recently, the owning corporation did not realize that they were tackling a listed monument. So in the beginning they planned to rebuilt the block in the actual way of renovation, respecting more the costs of maintenance rather than the historic architectural values. Later on they had to change their plans and to find their way in the rules and possibilities for granting in the unknown area of historic conservation.

MIP and Modern Movement

In that case the conservation of a "modern monument" came to a happy end. I also mentioned other examples of well-known "DOCOMOMO-monuments" on purpose, to demonstrate that they are fitting in very well in the whole MIP-campaign and that they also can take advantage of its publicity and policy-making. It was no coincidence that when the MIP started at Rotterdam, its introduction to the press took place in one of our DOCOMOMO-buildings, being the Feyenoord stadium by J.A. Brinkman and L.C. van der Vlugt. Often these conferences are combined with small exhibitions and publications in order to inform the local authorities and press about the importance and specific qualities of our younger architectural and townplanning heritage. These presentations, at the start as well as at the completion of each partial inventory,offer



Type
1. Urban zones
1.1. General

Description
Function: residential/ mixed
Both planned and unplanned developments
Street pattern often simple or based on pre-urban structure
Metalled streets, no front gardens
Mainly continuous building
Some planned complexes of variable size

2. Suburban zones
2.1. General

Function: residential/ mixed
Both planned and unplanned developments
Street pattern often simple or based on pre-urban structures
Front gardens usual
Little continuous building
Few planned complexes

2.2. Garden suburbs

Function: residential
Planned developments
Some distinctive street patterns
Tree-lined avenues, front gardens
Mainly half-open blocks or strip development
Planned complexes

2.3. Villa estates

Function: residential
Both planned and unplanned developments
Frequently distinctive street patterns
Tree-lined avenues, large gardens
Little continuous building
Few planned complexes

Zones of special value or interest

3. Zone in first of Dudok's development plans, 1915

4. Dudok's partial eastern expension plan

1. Villa estate between Hilversum and 's-Graveland

2. Villa development on Utrechtseweg and Soestdijkesestraatweg

Type
3. Non-residential zones
3.1. Industrial zones

Description
Function: commerce/ industry trade/ transport (airfield, railway yard)
Layout and building often related to location and function (port, mine, water undertaking)

3.2. Green zones

Function: outdoor recreation (parks, sports grounds), cemetries etc.
Few buildings
Layout and buildings often related to location and function

4. Other zones

Other symbols

Linear developments — Function: residential/ mixed
Planned and unplanned developments

Principal infrastructure

Road
Waterway
Railway
Zones rebuilt after 1940

good occasions to convince the officials that the registered buildings and areas from our first industrial age are deserving special care and attention. In this way the MIP can give a real contribution to an integral policy in favour of our "modern monuments" in the broadest meaning of the word. Then it is essential to preserve not only the highlights of the Modern Movement, but also the other typical younger buildings and areas, against which pioneering architects like Duiker, Van Loghem, Rietveld and others agitated, for understanding the whole context of their struggle for a real new way of building and town planning. For instance, the enforced hidden position of the First Open Air School for the Healthy Child at Amsterdam because of its radical character can only be experienced if the original surrounding housing block with its restraint interbellum architecture is still around. Both should be covered by the MIP and its follow-up.

After MIP

The inventory campaign is just one step in the long way to getting more attention (and money) for the conservation of our "modern heritage". Roughly, there are four tracks to be followed after MIP:
1) realizing a national data bank;
2) publishing the MIP-results;
3) advancing an integral policy of quality control;
4) selecting the potential "national monuments".

Next year we hope to create a special MIP-study in our Department. As soon as November the first book in a popular publication range of the MIP-results will appear, written by one of the former MIP assistants about the city of Utrecht. We are also involved with other plans of publishing, but these are now only in outline.
Thanks to the MIP-campaign the local and provincial planning and conservation departments have begun to exchange their information, most of them haphazard, and seldom by a firm co-operation. At the moment, several ways of getting a better integrated policy concerning the maintenance of our built environment are being investigated. One of the possible instruments will be the so-called Long-range Plan of Cultural-Historical Quality Control. This plan intends to cover all valuable younger historic buildings and areas, whether they are listed monuments or not.
Nevertheless, there are some buildings and areas of such high value that they have to be registrated as a listed monument (if they are not already). Therefore, we shall start another co-operative campaign in the next year. This Monument Selection Project (MSP) will be executed in the same way as the MIP, but according to stricter standards.

In the near future we also have to tackle our youngest heritage, the veritable modern architecture and townplanning, because we cannot afford another gap in our preservation policy. Learning from our encouraging experiences during the MIP-campaign, we are thinking of a continuation of this form of co-operation, but these plans are in a very preliminary stage.
The heritage of the Modern Movement can be one of the great stimulants to set up and to continue all these projects of documentation and conservation. However, for all the involved departments it is clear that they should continue the broad approach of the cultural historically oriented MIP-methods and that they cannot take care of a selective group of avant-garde buildings and areas. Maybe, after all, there is a place for DOCOMOMO, if not operating too exclusively.

Notes

1. The first Monument Act came into force in 1961. Since 1989 a new Monument Act (1988) came into effect, keeping more or less the same definitions for listing a historic building or townscape, and, in spite of many administrative changings and discussions, including the limitated age of fifty years.

2. For instance, in the seventies a large selection of Neo-Gothic churches has been listed, a small selection of railway-stations and a great number of our historic lighthouses. After a small selection of 'modern monuments' in Amsterdam, a systematic investigation of the younger heritage within the historic centre has been executed in 1979-83. Other pilot projects dealt with the former mine-and southern districts in Limburg, the Peel-area and Twenthe.

3. See for more details our manual (Handleiding MIP, 1987)

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Translated from Italian

Rome 1932-1942: ancient and modern

Introduction

In the context of the Roman experience, the course of modern architecture has often followed tortuous paths, marked by sudden turns, flights of fancy, exceptional points, true and apparent discontinuities, and genuine interruptions. The fate of "modern style" as a homogeneous cultural horizon has been broken, fragmented and distorted by the diversity of the emerging personalities, by the dissonance of the propositions, and by the fragmentary nature of the situations in which, depending on the nature of the project, it passes over into those of architecture. And yet beyond all these considerations, those of personalities, of groups, of the non-existence of a true and genuine school and therefore of recognizable masters, Rome possesses a modern architecture. A common stylistic metaphor, a particular linguistic declension, a simple dialectal inflection ... It is difficult to precisely define the non-finite traces of this state, of a specific condition which turns a movement and an architecture into the lasting components of this place and this time; but it is certain that the architectural styles to which references are made here would make no sense elsewhere, could not receive significant, expressive force and value in another place. In fact the particular features of the Roman cultural development in the years which interest us - and by a ready extension and an obvious logical continuity, the years in which we are presently living - consist of the widespread lack of quality, of continuity, of values which are evident and publicly acknowledged; but it is this very fragility, this general discontinuity, that allows the growth of a tension and cohesion, which defines its resistent structure and the opportunity to outline its own massive profile.

What has architecture been and what has it become in Rome? What can it be other than the accumulation, stone upon stone, ruin upon ruin, in a succession of contrasting events, in a sequence of chance occurrences, of occasions, of personages great and small, mediocre or brilliant, banal or seductive, all gathered together in the uniqueness of an experience which nevertheless sees architecture, whatever it may be, as giving substance to a city which is never the city hoped for, but is always that which is feared, while ultimately it is still the one true city, with its wiles and its acts of heroism? City of stone, of stucco, of brick, of cement, or simply in drawings, in the flux of a history which it would be too easy to observe in terms of the simplistic and reassuring perspectives of evolution and progress. This Rome is a city which, more than others, has the ability to resist the passage of time, the accelerated corrosion of fashions, of isms, of trends, of recurrent faiths and fantasies, because it possesses the qualities which derive from long life, from inertia, from the thousand occasions of daily survival and opportunism, but also from the professional qualities and crafts, from culture, research and irony, which it has made its own.

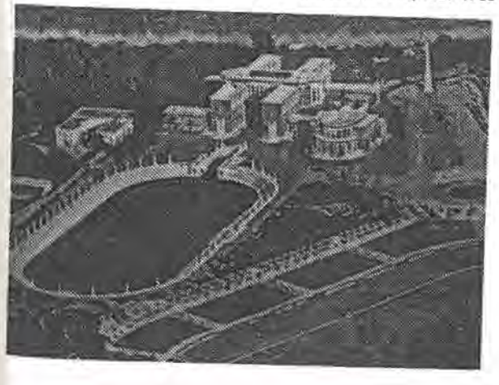
From "minor" baroque to the 20th Century

This is not the place to retrace the history of the architecture of Rome during the last few decades in all its details and particulars. Nevertheless it seems appropriate, when placing the contemporary situation in context, to refer to some important developments in the culture of Rome during this century. The reference is to notable examples which have seen the city of Rome and more comprehensively its architectural culture, come to terms with problems of the modern city. There were two subjects which imposed themselves on the planners of the capital city of Rome in the first decades of the century. On the one hand the problem of a persuasive image, qualified and decorative, for the residential districts (often in an advanced state of decay) of the historic centre; on the other, an equally convincing, consistent and above all "modern" image for the new suburbs being added on the periphery, in the new residential architecture for the lately urbanized classes. We know the significance of the late 19th Century intervention in the heart of the city: it is enough to mention among all the examples the construction of the Tiber embankments and of the monument to Vittorio Emanuele II, to remind ourselves of the extent to which the city has been subjected to a foreign culture, born and raised elsewhere. From another point of view, analyzing proposals aimed at solving the problems of metropolitan expansion, it can be seen that there are external models, Anglo-Saxon above all (with reference to the themes of the garden city and the new town) which need to be applied. Not, certainly, in an uncritical manner but of necessity coming to terms with an urban reality which would have difficulty in explaining its organic relationship with those themes set in a socio-cultural context of the historic city. In one of these instances we come across one of the most interesting personalities, relevant to our subject, that the city has produced. In his work for the Aniene garden city, Innocenzo Sabbatini found one of his best professional opportunities, collaborating with Gustavo Giovannoni and others in the design of the service core of the community. Retracing the cultural history of Innocenzo Sabbatini is the best way to introduce a specific element of the Roman architectural culture, as it is through the works of a number of important personalities that it has developed the concept of architecture and the idea of a city.

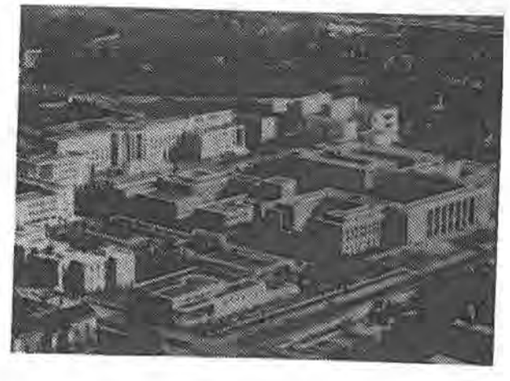
Through the decades, these latter ideals have developed but not been displaced and, indeed, they have maintained in a number of unaltered respects certain very particular and specific connotations, decisively making their mark on the future "contemporary Roman architecture". It is interesting to see how Innocenzo Sabbatini - trained in a school which, though not Roman, was very close to the themes of material culture and of "materials", to the culture of a professional stratum aware of the problems of construction and of the physical structure of the building - found the way to define a personal stylistic signature in the twenties and thirties. Sabbatini succeeds above all in establishing a formula of project execution which is of great interest relative to so many common elements of Roman architecture, the occasion of dispute or of denial on the part of history or criticism. We need only analyze the buildings put up by Sabbatini in the Aniene garden city and later in various parts of the Trionfale district to realize how he wished (like other architects following this trend, inspired by the texts of Gustavo Giovannoni) to combine the element of the figurative Roman tradition with those of the Roman building tradition in terms of minor structures. This is one of the central points which unfolds from the district of Montesacro, via the Trionfale parcels to Sabbatini's master work: the popular housing of the Garbatella. This community, driven by a policy of experimentation promoted by the Institute for Popular Housing of the Province of Rome grew out of a series of competitions in which the youngest and most brilliant architects of the time faced one another. However, the chapter signed by Sabbatini (the great popular houses for those evicted from the old city centre) finds the way to become, in the Roman hinterland of those days, a point of reference for the potential and the contradictions which were developing side by side in the architecture of the late twenties. In the "red houses" we notice the broadness of elements, feelings and sensations which are typically Roman and markedly neo-Borrominian and which the planner seeks to insert in these works. On the other hand, taking account of the other side of the same buildings, it can be seen how the neo-Borrominian elements are flanked by neo-futurist quotations which, especially in the prefabricated elements of the stairwells, are clearly revealed. In these same years and with the same metropolitan impulse Sabbatini designs various buildings: from that of the piazzale delle Province to that of the viale delle Milizie. His relationship to Roman culture is not negated in these buildings, charged as they are with greater significance and value, particularly in the elements of confrontation with the centre of gravity of the European culture of those years and thus with a number of fragments of expressionist imagery.

In the Clodia fortifications of 1927 Sabbatini definitively abandons baroque elements still visible in housing. The period from the mid-twenties to the mid-thirties constitutes an important transition for Roman architectural culture. From rather conventional attitudes, linked to the use of stylistic motives derived either from minor baroque or from the secession, there is a move towards the definition of an innovative model of design, in contrast to the modern culture which was developing in the central European area. The events leading to the regulatory plan of 1931 are well known of; typical of the period is the dispute between modernists and conservationists, between those who of necessity were out to apply the canons of a weary academicism and those who pursued the goals of the new town-planning techniques. The debate was long-lasting and remained unsolved for decades. The regulatory plan of 1931 led to professional opportunities, of a typological and of a

The buildings of the Accademia Fascista (Facist' Academy) and the Stadio dei Marmi (Marble Stadium) by E. del Debbio.
Foro Mussolini in Rome, 1927-1936

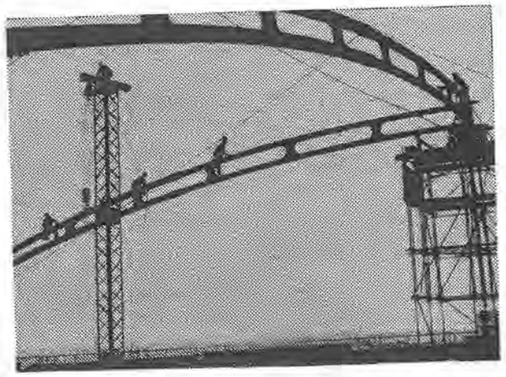


Areal view of the Città Universitaria (University City) in Rome, designed by M. Piacentini with a number of collaborators.



morphological nature, which the city took upon itself to propose and elaborate in greater detail, adding conditions and offering the designers ample opportunities to initiate innovative processes, especially on the figurative level. The regulatory plan of 1931 is essentially the application of a typology of building, the "palazzina" or low-rise apartment building, which from then on became the basic cell of the structural fabric of the capital. Without once again going into the merits of an old dispute relative to this structural typology, there is no doubt that, on the strictly architectural level, the apartment block offered rich possibilities, not only of a design nature but also in symbolic and sociological terms (if one goes beyond the level of a reading in terms of property speculation), which undoubtedly on a figurative level often gave an opportunity to express oneself in a variety of elements of notable interest. Constructing "palazzine", the younger architects who were on speaking terms with modernism (from the mid-twenties onwards) and with the exhibitions of MIAR (in 1928 and 1931) managed from 1930 onwards to perform experiments on the living body of the city to test the potential of their theoretical research. The personalities which emerged run from Adalberto Libera to Mario De Renzi, through to Mario Ridolfi and of very many others active in those years; it was the subject of the Roman apartment block that gave these architects the chance to express innovative ideas. One need only look at the apartment block which Ridolfi presented at the MIAR exhibition in 1931 or the small villas constructed by Adalberto Libera at Ostia to understand how a subject of this nature could have offered opportunities of the highest quality.

But it must not be forgotten that if on one hand the new generation was moving forwards to consolidate in finished work experiments which generally gave scope to the trends expressed in important international exhibitions (such as that in Stuttgart in 1927), other significant figures stayed with the tradition of Roman structural culture, maintaining a dialogue that was by no means irrelevant. Typical in that sense was Mario De Renzi who had had the opportunity, working for the governorship of Rome in the building of the viale Andrea Doria, to demonstrate the possibilities of a mediation between the traditional culture of the Roman house and experimental movements in contemporary architecture. The example of the building in viale Andrea Doria remains an important point of reference in those years; the work of De Renzi from that time on, became a precise dialectical term for the group of young artists who were seeking to develop a discourse on architecture in terms of such difficult mediation. The work perhaps most symptomatic of the period, but also the most ambiguous and controversial (even if the least discussed, perhaps because it was virtually rejected by its author), is the apartment block which Mario De Renzi designed about 1930 on via Panama. By constructing a symbolic house, "a manifesto house", De Renzi erects a manifesto of reaction, which with conviction and consummate art, seeks systematically to demolish the recent and still acerbic certainties of an emergent international Modern Movement. The work is of exceptional interest; the principal facade gathers together the elements of anti-modernist provocation: it is



The Conference and Reception Palace on the EUR grounds designed by A. Libera.
View of the building site.

full of columns, caryatids, pilasters, ashlar facings and all those decorative elements capable, from the symbolic and linguistic point of view, of convincing contemporary Italian architecture, and Roman architecture in particular, and obliging it to square accounts with its classical roots and with the models of national tradition and history. Naturally, it is not the sole occasion on which Roman architecture had to settle its accounts with the classic inheritance. Other important examples testify to this attitude: there is the example of the two stages of the mother house of the cripples, signed by Marcello Piacentini; there are the "fancies" and the "caprices" of Limongelli; the apartment blocks of the Busiri-Vici, where the subject is linked with a more abstract and rigourous reading of elements of the contemporary international culture. It would suffice to consider the work of Aschieri, in a word, to understand how the theme of classicism could be modified into a series of deliberate references to contemporary culture. At the same time, in those very years a "culture" of the Roman apartment block emerges which the most gifted young people will render so much in harmony with the impulses and goals of the relationship between return, speculation and profits on property, as to succeed to highlight a variety of models capable of becoming prototypes for subsequent construction. It is the moment in which Roman architecture is confronted in the most convincing and extensive manner with the figurative culture of the Italian 20th Century, which had acquired the capacity to expand on a mature level in the works of Giorgio De Chirico and of Mario Sironi in particular. The works of Giorgio De Chirico, above all, will be found to underlie the hypotheses of figurative rearrangement which the Roman architectural culture attempts to give to the executed projects of the period. The classical quotations, the references to the "Roman house" which De Chirico had been making for some time, could not fail to affect the young designers who, precisely on similar subjects, attempted to capture the potential in suspension between ancient and modern, between classic and contemporary: to convince, what they needed was the intervention of a figurative support of quality. If this was true in the ranks of the profession and of the private clientele, it held even

more strongly for the problem of an agreement with the Roman classical heritage on the occasion of the public experiences which filled the thirties up to the outbreak of the Second World War.

The great opportunities

There are three great cycles of modern architecture realized at Rome between the First and the Second World Wars in respect of which a series of works of renovation or restoration are currently in progress or at least in planning:
The Foro Mussolini, 1927-1936; the Città Universitaria, 1933-1934; and the quarter of the Esposizione Universale di Roma (E'42), 1937-1942.
These represent three key movements in the development of the contemporary city and constitute some of the most important nuclei of modern architecture , even at the national level.

In the first case, that of the Foro Mussolini, we are dealing with a series of buildings, sporting facilities and parks integrated into an urban sector fronting the river Tiber in the north of the city.
Within this part of the city are to be found buildings and structures of great relevance, including in particular the "Academy of Physical Education" and the "Marble Stadium" created by Enrico Del Debbio, which represent the most typical meeting point between the classical culture of the Roman School and the most recent European initiatives, and the "House of Arms", an early work by Luigi Moretti, which represents the most elevated point of Roman rationalism in the thirties. All these works, in particular the last, have been subjected in the course of time to far-reaching alterations which have distorted their significance and functions and necessitate urgent restoration work.

The case of the plan and the designs for the layout of the Foro Mussolini (the present day Foro Italico) is a good way to understand how, from the end of the twenties onwards, a lively and contradictory debate should have developed within the Roman culture between the academic approach, summed up in the emblematic person Enrico Del Debbio and the modern approach, symbolized by its most brilliant exponent, Luigi Moretti.
Inside the Foro Italico these two dimensions, so remote and so much in dialectical contrast, find the opportunity for incisive expression. The buildings of Del Debbio are important; in them the neoclassical is combined intelligently and with detachment to the requirements of a relatively modern image which the fascist party wanted to give of itself, located within a rustic setting of high relief ... recalling many 18th Century villas, the memory of which was still living and operative. It is of the utmost interest to see the efforts of Moretti to initiate a dialogue between the most radical effects of contemporary architecture and the figurative elements surviving in the Roman classical heritage.
The House of Arms of Luigi Moretti (now sadly destroyed, or rather, put to a completely inappropriate use) is witness to the architectonic quality which the author achieves with a first work, mediating between modernity and classicism, between ideas of volume, scale and figure which are decisively modern and an ultra-sophisticated use of the most traditional and most "Roman" of materials: marble.

The organization of the site and the choices of figurative style adopted in the competition for the Foro Mussolini show a fruitful partnership between the most traditional techniques and the most innovative ones, from the use of classical materials like brick, marble and plaster to the introduction of the most modern materials such as reinforced concrete and the new metallic alloys to define the image perhaps the most typical and characteristic of Italian architectural culture in the thirties.

Another central episode in the architectural culture of Rome in the thirties was certainly that of the new Città Universitaria (University City), designed in its entirety by Marcello Piacentini who engaged to collaborate with him a number of the most prestigious Italian architects from Michelucci to Ponti and Pagano and, where the Roman architects are concerned, individuals such as Foschini, Minnucci, Aschieri, Capponi, Muratori and others.

The new "University City" of Rome thus constitutes as a whole one of the central occasions of verification of the state of the debate about "the modern" in Italy and represents a unique opportunity to confirm the level of the best national work of the period. Unfortunately even in this case the alterations made to single buildings are extremely numerous as are the town-planning changes suffered by the entire complex seen as a whole.

In this context too we see the use of both "classical" and "modern" materials. Marble is used with great lavishness and freedom even in buildings of a less monumental and representative nature, while there is in general a reinterpretation of some of the themes dear to international modernism, particularly those of Central European and Scandinavian origin.

In the case of the Città Universitaria we also see, for the first time at Rome, the contemporaneous realization of a series of buildings by non-Roman architects, placed in direct contrast with the best representatives of the new generations locally and with some representatives of various trends expressed by the Accademia. This body in fact employs the most interesting personalities of the new generation and, for the fist time at Rome, interpreters of the western architectural culture.

Giuseppe Pagano and Gio Ponti, representing "Casabella" and "Domus" had the force to bend the operation in political architecture carried out by Marcello Piacentini in some measure towards figurative subject-matter of which specifically the buildings signed by them are explicit examples.

The third subject for reflection is the district of the E'42 subsequently rechristened EUR, site of the Esposizione Universale di Roma (Universal Exhibition in Rome) programmed for 1942 and never realized on account of

the outbreak of the Second World War.

Within this district, subsequently completed after the war, a number of the most significant pieces of architecture are found expressing that "idea of a city" which Italy of the forties was defining in opposition to rationalistic and internationalistic tendencies of the period, dominant elsewhere. This is therefore an urban nucleus laid out on a grand scale, organized according to assumptions of a monumental, ceremonial and distributive nature placed at the disposition of classical town planning, within which were placed buildings of noteworthy symbolic significance such as the "Palazzo della Civiltà Italiana" (Palace of Italian Civilization) designed by Guerrini, La Padula and Romana, the "Palazzo dei Ricevimenti e dei Congressi" (Palace of Receptions and Congresses), a work by Libera, the "Palazzo degli Uffici" (Palace of Offices) by Munnicci, the "museums" of the "Piazza Imperiale" (Imperial Square), a collaborative effort of Fariello, Muratori, Quaroni, Moretti and others, the postal building by Banfi, Belgioioso, Peressutti and Rogers, the Museum of Roman Civilization by Aschieri, Bernardini and Pascoletti, the "palaces" of the social security services INA and INPS by Muzio, Paniconi and Pediconi, and the Church of Saint Peter and Paul by Foschini.

All these are buildings of significant figurative and typological interest and are the subject of important projects of restoration and re-use whether at the level of the entire urban ensemble or at the level of individual buildings.

The Conference and Reception Palace on the EUR grounds designed by A. Libera.
View of the east entrances.

Currently, among the myriad difficulties and the many contradictions due to the time and manner in which the exhibition district was executed, the debate is developing around the central themes of contemporary architecture. The unique and unrepeatable opportunity of E'42 made a profound mark on the architectural and town-planning culture of Rome.
This was just the occasion when the discussion on Roman contemporary architecture most heated up, arousing material for debate and encounters between different factions which made the Exhibition a pretext for a contrast of approaches which was not easily resolved. Marcello Piacentini being the leading interpreter and mediator of them.

The occasion of E'42 thus came to be of substantial importance for the architectural culture of Rome over and above the consistency and the structural quality of the most famous creations. It remains in fact to mark the definitive and profound break between one period of Roman culture and the subsequent post-war period, the period of reconstruction and neo-realism. It is to be the point of departure for a clear break between two worlds, two cultures, two strains of the same culture in the same city.

In this context, the edifice which was to assume the role of symbol of the expositive event, namely the Palace of Civilization, became the occasion for carrying to extremes the formula of abstraction from classical architecture, related in other cases to the metaphysical approaches to the early De Chirico. And on the other hand in the same district the building of Libera, the Palace of Congresses, while drawing the justification of its own certainty from the same ideal principles also found the opportunity to experiment (with the love of detail, the finesse of its technological choices and certain highly sophisticated solutions suspended between high technology and neo-classical philology), using the elements of discovery which this architecture carried within itself.
Undoubtedly the most important work of Libera, the Palace of Congresses, testifies to the maturity achieved by Italian architecture of the period and effectively synthesizes the diametrically opposed points of the debate discussed up to now.

Conclusions

At this point the question might spontaneously arise whether there exists or has ever existed for architecture - at least during the years of which we are talking - or for the other figurative arts a plausible notion of the "Roman School". At that time many painters and sculptors were active at Rome, artists who produced, outside the circuit, a substantial corpus of work, the subject of close analysis recently. The names of Biagini, Dazzi, Fazzini, Ferrazzi, Francalancia, Donghi, Guidi, Mafai, Melli, Mastroianni, Oppo, Pirandello, Socrate, Spadini, Tamburi, Ziveri and many others form part of this group which has led to a relatively little-known but rich artistic phenomenology.

Coupling the names of the architects cited (Giovannoni, Piacentini, Aschieri, Moretti, Libera, Ridolfi, De Renzi) with those of Fasolo, Fiorini, Marchi, Limongelli, Monaco, Tufaroli, Loreti, Frezzotti, Rapisardi - and others could be added - would probably lead to a similar situation: a large number of structural creations, an entire city constructed by the canons of a professional correctness, fraught with interesting figurative and cultural meanings. Up to the present day the phenomenon has not been the object of systematic analyses, even if there have been many contributions attempting to shed light on particular individuals.

The work of some architects has a privileged status, emphasizing their role at the heart of national or international culture but above all creating a touchstone, demonstrating how little of the international luggage has been carried by the Roman culture, evidence of differences and distances from recognized cultural centres of gravity.

We do not agree with such an argument, indeed it seems to us that the discussion on the city and on architecture, on the quality of city spaces and individual pieces of architecture, has been tackled by minor and major personalities working on the Roman architectural scene up to the Second World War with awareness and attention in respect of operative levels and the moments which architecture cannot deny itself without denying its own cultural consistency. Many individuals have used their work, often obscure, to synthesize the relations of organic interpenetration between architecture and the figurative arts, without regard to the quality of the individual architectural creations. For example, the rapport between sculptors, decorators and plasterers, usually read as a regressive element leading towards traditionally and anti-historic formulas, appears on the contrary to stand as one of the qualifying elements of this design attitude. If personalities like Cambellotti, Dazzi, Arceri, Biagini and other sculptors or decorators (particularly active in the twenties and thirties) can work on simple, poor apartment blocks, there seems no reason why architects such as Aschieri, Sabbatini, De Renzi or Piacentini should not articulate their architectural language beyond the limits of a modern-style banality common to so many of their colleagues at that time.

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Some questions on the restoration of constructivist buildings

illustrated with the restoration of Le Corbusier's Centrosoyuz-building in Moscow

Introduction: restoration versus reconstruction

It is hard to speak about the restoration of functionalist buildings in the USSR, mainly (but not only) because architects have not really dealt with this problem. Since 1960 it was noted from time to time that the buildings of the twenties needed to be restored or repaired. The restorations that are to be carried out, are supervised by the Commission for Inspection and Protection of State Monuments. This Commission is the owner of the landmarks and leases them to organizations that use the building. The Commission is responsible for the state of the landmarks and can force the organizations to restore the buildings. It also gives tasks to the architects who restore the buildings. The organizations using the buildings must finance the restoration and the building process. In extreme cases, for instance when the organization has not got the money, the City Soviet will finance the restoration. But in spite of this the architects and restorers have not yet reached a common opinion on this problem.

We can see two trends in the restoration of functionalist buildings in the Soviet Union. According to the first the whole appearance of the building, including the main facade and the interior space, has to be restored to the original design. This approach suggests the use of the original materials. The second trend implies the changing of frames, the redesigning of the interiors and the modernization of sewages etc.; here we should talk of reconstruction of the building rather than restoration.

The two concepts differ not only in their degree of attachment of the restorers to the original design. In every case a decision should be made about the aims of the restoration. For instance, it is very important whether a building is restored for touristic or religious purposes, or for private or public purposes. When the function of an architectural monument has changed, we talk in terms of reconstruction.

1. Modern monuments

In 1986 about 50 buildings of the Soviet period were declared landmarks. They got the protection of the Commission of Inspection and Protection of State Monuments. Several constructivist buildings were among them. Strange as it may seem, this raised new difficulties. According to the regulations they had to be restored. But in the eyes of the professional restorers this was not supposed to be applied to the buildings of the twenties and the thirties. They think these buildings are not old enough and without professional value. Because of this rejection by the professional restorers, the restoration of constructivist architecture has to be carried out by architects who are dealing with modern design. And probably because they are architects themselves and not restorers they tend to think it is possible to change the plan and the structure of the building. This freedom which is taken by the architects, is to some extent the echo of one of the principles of the constructivists themselves. According to the constructivist architects themselves only one function should prevail in any functional building: beyond this function it fully depends on the social claim. Nowadays, modern architects are eager to fulfil the new tasks and they want to bring new life to the building, so to say a "new process diagram" to the previous shell.

It is necessary to understand the attitude of the constructivists towards the problem of both design and the building process in general. From a theoretical point of view the constructivists proclaimed the methodology of constructivism as a constant search for a new form, performed with the help of new equipment once the function had been defined. In other words, the design process is endless. Today this method can be used for the restoration of functionalist buildings. Since the functions of many buildings have changed over the years, this method means it is possible to replan the interior, to change the main facade and the treatment of a constructivist building. But such attitude towards constructivist landmarks goes against the standards and principles of the Commission for Inspection and Protection of State Monuments. And it contradicts common sense as well. But it corresponds perfectly to the standards of constructivism.

2. Materials

Maybe more than in other countries the original materials of buildings of the twenties and the thirties create an important problem. Again I think it is useful to tell something more about the opinions of the constructivist architects about the use of new materials.

In 1934 M. Ginzburg, one of the leading constructivists, wrote in his article "The dwelling which deals with the tasks of the housing construction in the USSR":

"The problem of dwellings is going to be solved: in a barack for a seasonal worker, in a temporary or a durable hostel, in a flat, or in a communal house. The leading role will be played by new materials and constructions. (.....). When we build housing, we must give up heavy materials and massive constructions while favouring the use of lighter and consequently cheaper materials as much as possible. (....). This task comes from richness, not from poverty."

In practice this meant that materials which were traditionally considered to be suitable to the Russian climate such as brick, plaster and wood were eliminated.

As an example for the use of these new materials I'd like to present a housingblock in the Osipenko-street in Moscow. The building has been already pulled down. It was built at the end of the 30's and was not included in the list of landmarks preserved by the State. Evidently it can't be classified as a landmark of the constructivist period, though it had been designed by the Stroikom (Building Committee) under the leadership of M. Ginzburg.

In the construction of the housingblock a new material was used together with brick: slag-blocks of porous stone. This material is much lighter than brick. It has a porous structure and differs much from the traditional materials in respect to thermal-physical characteristics. The ground floor was made of brick and the upper one of the slag-blocks. This combination of two incompatible materials turned out to be destructive for the building. The seasonal fluctuation in temperature influencing the materials in different ways and consequently, cracks appeared. The upper floors, made of slag-blocks, became wet. The building acquired the emergency status. It has not been inhabited for ten years before it was pulled down in the spring of 1990. Nobody was able to find a possible solution to reconstruct it, since a whole new structure was needed.

I presented this example because many of the Moscow buildings from the thirties are in very bad condition and the reason for this is the use of untraditional materials. For instance, the famous Commune House by M. Ginzburg, Dom Narkomfina, has slag-blocks in its structure as well.

3. New type of housing.

The constructivists not only were very fond of new materials, but also their concept of the way people should live was new as well. The housing problem was of great importance in the USSR in the 1920's. The creation of a new type of dwellings was one of the most significant tasks of the Association of Modern Architects, OSA, the organization of constructivists. The Association of Modern Architects developed its activity in the course of several stages, beginning with the design of communal houses. In such communal houses (called "dom communa") the individual space for families should be minimized in favour of large communal rooms. In 1927 the OSA supported the conception of the building of communal houses, but five years later Ginzburg himself criticized the standardized way of living as extremely utopian projects. In the end the only "dom communa" that was built was a student hostel, designed by I.S. Nikolayev. The building is clearly divided into zones. The dwelling zone consists of special two-tiers cabins for sleeping. The public zone consists of a space for collective studies, space for individual studies, a gym and a collective cafetaria for 1000 people.

The communal house by Nikolayev was one of the first Soviet buildings to get the landmark-status. But this monument is in a very bad state now. Already in the thirties Nikolayev was criticized for providing uncomfortable student rooms, for lack of individual space and for a public zone that is out of scale. As a result of this criticism the interior space was redesigned, and partitions appeared. Thus the life-style which had been intended by the architect was destroyed.

In this communal house the constructivist directive to use new construction materials was fully realized. Strange as it may seem, the inner partitions were made of earth, namely of fire-proof bricks with earth as main component instead of clay. In other places, like the floors, materials such as straw with glue were used. Wood was also widely used in the constructive floors, frames and in the roofs. In the thirties the new materials were not properly tested. Therefore, disavantages came to light during the last fifty years. A great moisture-capacity is regarded as the basic trouble in constructivist buildings. The consequence is that it is very cold in these buildings in winter. The same materials have a high heat-conduction and that is why it is very hot in these buildings in summer.

What is the implication of the use of such materials for the restoration? It is evident that the restoration of most constructivist buildings according to the original plans is not desired. This implies not restoration but reconstruction of most of the constructivist buildings. The problems and contradictions, which are created by the reconstruction of the constructivist buildings, have become very clear in the restoration of the Centrosoyuz-building. But before I am going to describe the restoration of this building of Le Corbusier, I want to tell something about the history of the building.

The Centrosoyuz building

In may 1928 the All-Russian Society of Civil Engineers held a competition for the design of the "Dom Centrosoyuza" (The House of the Central Union of Cooperatives). On the initiative of this society the design and construction of this building was commissioned to Le Corbusier. The Soviet architects felt it very important to let the "architect of the century" participate in the building of a new Socialist Moscow. The Centrosoyuz-building was intended to become a new type of social house.

The building consists of 3 blocks and a club. The height of the building varies from three to eight storeys. It is the first large public building to which Le Corbusier has applied his 5 principles of modern architecture: a structure of reinforced concrete, supporting pillars, a roof-garden, a free plan and strip windows. The walls were finished with "tuff-stone" on the outside. The inside was finished with

small pieces of marble and granite. Le Corbusier didn't have the opportunity to supervise the construction. All the work in Moscow was directed by the Soviet architect N. Kolli. The construction of the building is worth noting, because it has implications for the restoration. (As a digression I'd like to inform you that the Shchusev Museum of Architecture is in possession of the architectural drawings of the building by Le Corbusier and a stenographical record of the discussion on the project, held by the Competition Commission. The working drawings of the period 1932-1937 are kept in the State Archives GLAVADU in Moscow and in the personal archives of the architect Leonid Pavlov).
The function of Le Corbusier's building already changed a few years after the design had been made. Since 1933 it was built not as the "dom Centrosoyuza" that is not as a building in which the main spaces were reserved for the administration and exhibitions. At the time the construction started, it was called "Narkomlegprom", the Ministry of Light Industry. Narkomlegprom wanted only an administrative building without social functions. The changes in Le Corbusier's project took place during the construction period. The administrative part of the building, though, was built in 1934 and consisted of three blocks, that were different from the original project. The club was completed not earlier than 1938. It may have been the reason why up to the 80's the facade on the Kirov Street was considered as main facade instead of the façade with the club that Le Corbusier intended to be the front.
I suppose that the location of the building in the city is not quite exact. Le Corbusier counted on a new avenue to be built according to his plan for the reconstruction of Moscow. That is the reason why he placed his building between two streets - the Kirov Street and the Novokirovsky Avenue - and a boulevard connecting those streets. In that case the building would have got free spaces on all three sides with parking-lots on the ground-floor. But the Novokirovski Avenue has been built only recently and the connecting boulevard has never been built. Thus, the conclusion is that Le Corbusier's conception was realized incompletely.
The changes made during the construction were applied to almost everly possible part. Interiors were rebuilt, new partitions were made, doors, railings and lifts were changed and the two lower floors were completely redesigned. According to the original design, the building was intended to stand on columns and there would be a parking lot downstairs, which was never realized. The roof was also never realized according to Le Corbusier's plans.
It is important to know that the building was constructed during a turning point in the Soviet architecture, when constructivism was challenged by the so-called "mastering the legacy of the past". By the middle of the thirties constructivism had disappeared.
It is not by chance, therefore, that at the end of the thirties the columns were built in Greek style and got a basis. The patterns of the pseudo-classical mosaic floors, found in Kolli's working drawings of 1934-1937, are not accidental too.
The main difficulties faced by the builders were connected with the lack of building materials. According to the design of Le Corbusier the three blocks had to be frame buildings and the club ought to be built out of monolithic reinforced concrete. But unfortunately, there was not enough concrete. As a result floors were made of wood. In addition to this disadvantage, a great mistake took place during the design. According to Le Corbusier's design, all the facades of the three blocks should have double glass windows. The heating in winter and the cooling in summer had to be provided by conditioned air running inside the double glass windows. This heating - and cooling system would also have increased the danger of fire. The main objection to the system, however, was the overheating and cooling due to the climate in Moscow. In short, the heating system planned by Le Corbusier was never realized. In 1933 Soviet architects designed the local ventilation and heating. Vertical pipes passed through the floors with holes in every room.
During 30 years the building was used by different State organization. It is now occupied by the TZSU (Central Statistics Administration) which altered the interiors according to its own taste.

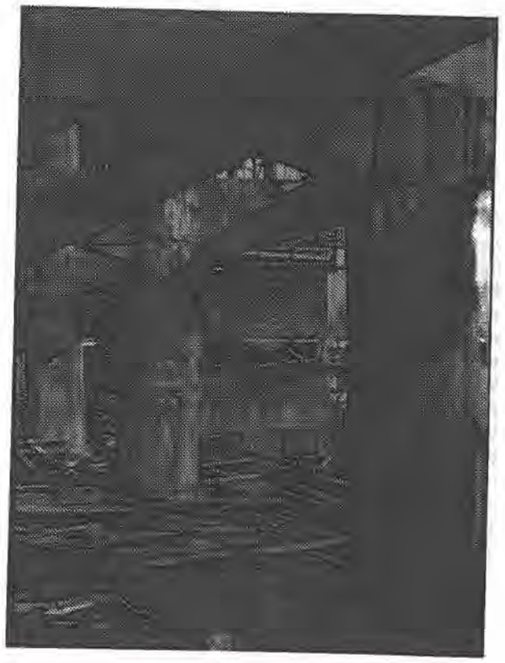
The reconstruction

The reconstruction of the Centrosoyuz building started in 1983. It was promoted by the Commission of State Monuments. At the start of the restoration the building was not recognized as a landmark. But soon architects and historians of architecture understood the significance of the Centrosoyuz-building for Moscow as one of the major monuments of constructivism. It was after all the first large building by Le Corbusier. The reconstruction was led by the Fourth Office of the "Mospromstroyproject" under the leadership of L.N.Pavlov. I have already mentioned that the reconstruction of functionalist building in Moscow used to be performed by practising architects and not by professional restorers. The reconstruction was trusted to the Fourth Office because I.N. Pavlov had taken part in the construction of the building. Pavlov possessed all the working drawings, letters and notes by Kolli concerning the period of construction of the Centrosoyuz-building. Probably this is only a rare case of a practising architect using the constructivist methodology to reconstruct a functionalist building (Pavlov was a member of OSA in the twenties). But his method did not meet the requirements of the Commission of State Monuments and as a result the relations between Pavlov's Office and the Commission were not as good as they should be.
In 1983 the design task included the restoration of the facade to the original appearance. The first stage of the reconstruction concerned block A. The structure of the building was not taken into consideration and therefore the result was only decoration: the plaster was renewed, the metal parts were repainted and the facades were cleaned and restored.
A first step to a more complete restoration was the demolition of the brick wall, which prevented the passage from one street to the other under the building. This wall was respondible for the broken appearance of the Centrosoyuz building. In 1984 the Commission of State Monuments asked to restore the other blocks as well as the interiors.This meant the elimination of the partitions,

the removal of the extant plaster, the restoration of the floors, repairing the elevators, the light equipments etc. etc..
I'd like to draw your attention to the fact that the requirements made by the Commission concerned only the design. The completed project might differ greatly from the requirements, because the research work can bring many surprises.
In 1988 the relations between the Commission and the designers became worse. The working group formed by representatives of the Commission stated:
"The work in block B is not the restoration of a prominent landmark, but only the adaptation of the building to the functions of the department using it."

The greatest protest was caused by placing the cafetaria and the kitchen in the main lobby. According to Le Corbusier the lobby should have been two floors high, being the compositional centre of the three entrances of the building. The architects restored the plan of Le Corbusier but they added rooms all over the free space. I don't want to justify the modern architects' high-handed treatment of the original project. I'd only like to mention that even at the beginning of the thirties, when the function of the building had been changed, both on the ground floor and the first floor buildings were added and later on the skylight was eliminated.
In 1988 the working group of the Commission wrote that:
1. It would be right to move the kitchen block and the cafetaria from the main entrance hall;
2. It is necessary to make sure that the design and construction process is led by the organizations specialized in the restoration of monuments;
3. It would be reasonable to change the functional use of the monument according to the conception of Le Corbusier.

Two years have passed now. The Centrosoyuz building is still being reconstructed by the same office. The functional use of the monument has not been changed and the cafetaria probably will still be placed in the main hall, only in another part.
What about the positive ideas of this reconstruction process? I have already explained that some floors were made of wood. Now the builders are correcting this change and because of the removal of the old partitions the lay-out will provide a better answer to the project. But the problem of heating has not been solved. The old blowers are changed but they are too big. And though the new blowers are not beautiful they should be kept in order to achieve a standard temperature inside the building.
The reconstruction of the Centrosoyuz building is being carried out very slowly, but there is still hope the building will be organized well. We hope that in the near future it will be possible to visit the Centrosoyuz building and that the lost public functions of the club and the free passage of people under the building will be restored.
As a conclusion I would like to go back to my starting point, namely the two concepts: restoration or reconstruction. At present it would be more correct to define the work carried out in the constructivist buildings as reconstruction. Unfortunately, this process is by no means regarded as a complete restoration of those buildings.



Two photos of the reconstruction of the Centrosoyuz building in 1990

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The protection of architecture of the Modern Movement in Hungary

The most valuable buildings of the historic past are protected by law in Hungary - like in other countries. The greater number of these protected buildings were built in the previous centuries, but some examples of the Modern Movement can also be found on the list of the historic monuments.
It is well known that Hungarian architects and artists - like M. Breuer, F. Molnár, L. Moholy-Nagy etc. - also took part in the work of the Bauhaus. Their example in creating modern architecture influenced the Hungarian architects even in the unfavourable economic and political conditions. The fact that the architecture of the Modern Movement is protected in Hungary earns the attention to outline the main steps in the development of our organizations of historic monuments.
In 1872 the Temporary Committee for Monuments was established in Budapest, which followed the work of the Viennese Central Commission. The first Hungarian law for historic monuments was issued in 1881, the same year, when the National Committee for Monuments was established. This organization was working for nearly seven decades. At the turn of this century the Committee took buildings into consideration as monuments only after their existence of at least 200 years. This general comprehension of the time was reduced by one century between the two World Wars. A new law was issued in 1949, which reflected the important changes about monuments. The age of the protected buildings was extended to the latest period, so the examples of the Modern Movement were also mentioned on the official list of monuments. In 1957 the National Inspectorate for Monuments was established - completed by another authority for the territory of the capital. The latter is a department of the Budapest City Council. The duties for the protection of monuments have belonged to the Ministry of Building and Construction on higher level. The collective signature of the minister of Cultural Affairs and the minister of Building and Construction was to declare buildings as historic monuments. It is necessarry to mention that rules can probably change by creating a new system in our country. The modernization of the 1963 law for monuments has already been started. The law declares the owners' and users' obligation to restore or to keep up the conditions of the protected monuments. Permission must be given by the mentioned authorities to start with restoration works. The process must also be controlled by them.

In Budapest there are 116 buildings of the 20th Century under the protection of this law; 35 items belong to the architecture of the Modern Movement. More buildings are protected by an order issued by the Budapest City Council in 1974, the centenary of the uniting of the capital. This order commemorating the development of the city in the past 100 years aims at the protection of the architectural values of that period. By the help of this order many more buildings can enjoy the conditions of the "local" protection. Some hundred items form this list including examples of Modern Movement as well.
The law for monuments protects a part of the cultural heritage of the country and it wishes to promote the existence and survival of their material and aethetical values. In Hungary the law and practice of protection follow the basic principals of the Charter of Venice (1964). This process is controlled and organized by the two inspectorates in everyday life.
The protection of modern architecture is characterized by some special features. Here, I'm not going into detail about the importance of researches and documentation, but regarding the practical side of protection. In general, from the side of the public opinion the idea of historic monuments is connected with a certain (ancient) age. So the "every-day" forms and materials of modern architecture cannot easily be accepted as "historic monuments". This question seems even more complicated nowadays, through the changes of styles and tastes in architecture of the recent past. The style of post-modern, the regionalisms or even nostalgia affects the architecture of the international Modern Movement.
Another main problem is about the changes of the original functions of these buildings - which generally has direct connections with the changes in ownership. It is a well-known fact that the turn of the political system after the Second World War basically changed private properties - of factories, office blocks, apartment buildings or even villas. The new owners or users have essentially rebuilt these buildings according to their demands and they have used them on a much lower level. The problems were followed by general deterioration of the technical substance as well as the changed shape of the buildings. Illustrating this question, I mention the most common example, when a one-family house was devided into 4-5 small separate flats. Another characteristic example is the case of the once elegant Dunapark Café in Budapest. Soon after nationalizing the privately owned café it was first used as a state design office. Not much later a state bank came and refurbished it according to their needs. In the late 60's the interior was converted again for the original function - although by using a lot of changes in the design thereby losing its aesthetic values.
The changes in the plan of the buildings has naturally appeared on the facades and in details and materials.
Even flat roofs were transformed into traditional sloped ones. There are numeral typical cases when the characteristic materials were changed with new ones.
Obsolete technical conditions cause other basic problems for restoration. It is natural that certain aged materials can't serve their purpose after a 50-60 years term. The Modern Movement used such new materials and technical solutions. The destruction of the asphalt isolation on the flat roofs and terraces is general. It can be replaced by new materials as well. The reinforced concrete skeleton structures show more serious problems. In the early 70's there was a special task for construction engineers, when they had to examine all the structures built of "bauxite-concrete". This material was favorized in the 30's because of its faster hardening process. Decades later an accident showed the hidden feature of this material, which can loose its solidity and collapse. But the result of the tests of numerous buildings of Budapest had to be confirmed and in a few cases they were pulled down. Corrosion can be observed on the traditional calcareous concrete as well. In the process of restoration the original ideas of the architect should be concerned. Different kind of concrete surfaces have different aesthetics. For example a surface with pebbles can't be replaced with a smooth one, even if it is less expensive. There is a similar problem with the facades, where the original plaster had much better quality and appearance, than that of the restored one.
The missing building materials cause another task. Since the construction of these buildings several materials have disappeared from the market. Their substitution often needs financial and technical problems. Many of them played a role in the expression of modern architecture. The wide-scale choice of the glass products and ceramics should be reproduced, which may cause extra expences.
A special question is about the restoration of the windows. The original thin dimensions of their construction is not being produced anymore, the existing old ones are not able to contain the new isolated glass panels. The recent flat structure of the windows can't reproduce the original elegant aesthetics in their appearence. The same or similar questions can be considered in the interiors, the staircases by restoring the doors of other pieces. The new and changed technical standards mean specials problems during restoration. In general - most of the rules and standards have been changed in the past decades. They became more more rigid with respect to safety in structural design for example. These may cause difficulties in the design, the calculations and in the construction process as well. These questions are characteristic, where the original size and proportion of the structures or their details have special aesthetic importance.
The regulations for heat-isolation cause further difficulties. In Hungary the standards have changed twice since the energy-crises of 1973. The necessary isolation on the walls and the thicker construction of the windows change the appearence of the facade in an unfavourable way. The standards of engineering have also been changed. The new regulations for elevators - for example - can threat many of the elegantly designed mechanisms and the interiors as well.
Examples could be numerous. All the mentioned problems generally appear through the process of restoration. The law for monuments gives exception from the new standards for protected monuments. It cannot however intervene in the changed ownership of the building, but it can order reconstruction of original materials and details.

The system for protection of monuments is taking care of the most significent architectural values of different ages, which represent their cultural and technical level. It is also known that there are more significant buildings of the Modern Movement, than there are listed. Their protection is due in the future.
In the last years interest in the architectural heritage and monuments in Hungary is growing. Although public interest is still mainly drawn to Hungarian Jugendstil, the professionalists have already recognized the importance of the architecture of the Modern Movement. It will be our generation's duty to rediscover and protect this heritage.
By the following slides I wish to illustrate some examples of restoration works in Budapest. The introduced items are:
- the belfry of the Városmajor church (arch. B. Arkay)
- an apartment building on Mártirok Ave (arch. Hofstatter and Domány)
- the cinema Atrium (arch. L. Kózma)

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The problems of knowledge and conservation care of modern architecture between two World Wars in Czechoslovakia

The conservation care of architecture between the two World Wars started in Czechoslovakia in the sixties. The time of its beginning and also its initial form were defined by a number of circumstances. In the year 1958 the National Assembly passed the act number 22 of digest, about cultural monuments, as one of the last conservation acts in Europe. In the frame of intentions of this act the State lists of monuments were made up at the beginning of the sixties, and also architectural works of the period between the two World Wars were registered in very restricted extent. Delayed and puzzled concern of modern architecture of the twenties and the thirties was enlarged also by the fading of the Socialist Realism in the fifties, when almost the whole Czechoslovak architectural creation became an addict to eclectic historism under the pressure of Stalin's cultural policy. This orientation of style rejected the relation to the heritage of the architectural avant-garde of the period between the two World Wars, because of being considered to be uncritically and insensitively accepting the western bourgeois patterns.
Repressive policy of young communist regime in Czechoslovakia broke in this way continuous architectural development, which, even in a short postwar period, represented the fluent continuity of the line started by the avant-garde. The theorist, critic and art-historian Karel Teige (1900-51) became the victim of uncompromising ideological struggle, he was the leading personality of the architectural and artistic avant-garde, its instigator, organizer and arbiter of new ways. In the year 1950 Teige was condemned by Ladislav Stoll, the hand of the liquidating cultural policy, as a tempter of the whole generation, a traitor of bourgeoisie, a trockist, an antisoviet agitator, an uncreative head overstuffed with foreign-language reading. The total curse of inventive and theoretical heritage of the architectural avant-garde of the period between the two World Wars, in the fifties had the consequence in absolute absence of special works on this period of history of architecture.
Only in the course of the sixties the first works from the field of conservation care of modern architecture were written, the first catalogues of modern buildings were published in some of the main centres of architecture between the two World Wars and summaries and monographs appeared. The history of modern architecture from that period in Czechoslovakia and the creation of its main representatives became the topics of diploma works and theses at university departments of history of art. The art-historical knowledge of the problem increased in this way and the basic trends of its care were indicated. The renewed interest in this architecture in the turn of the fifties and the sixties was also supported by architects themselves who looked for a way out of the non-prospective era of Socialist Realism through the return to the heritage of the avant-garde. The opinions of Czechoslovak architects in those days coincided more or less with the "neo-avantgarde" trends of the sixties in the world.
The above-mentioned facts, however, found no reflection in the practice of conservation care. On the contrary, at that time the maintenance, reconstructions and even the clearance were neglected. For instance, in Brno the public bath and Zeman's Café by Bohuslav Fuchs were pulled down and the department store Bata by Vladimír Karfík was completely changed. These facts had, above all, legislative and economical causes. Based on the postwar nationalized decrees a substantial part of property, and also the majority of architectural monuments passed to the ownership of the Czechoslovak state. By the deprivation the government imposed upon itself an immense economic burden. From the point of view of conservation a situation was created which could rightfully be compared with similar events in history, being Josephine's reforms in the eighties of the 18th Century and the agrarian reform during the first Czechoslovak republic, but without any looking for advice of history (1). The State's conservation policy hasn't fully taken care of the problems of registration of a great number of buildings yet and their financial appreciatism hasn't been started until present as if they did not understand the concern of national economy. The limited economic possibilities of the State brought about a number of actions when monuments, based on the centrally elaborated principles, were again classified according to the categories. In reality the effort to reduce to the minimum the number of monuments assigned for reconstruction was hidden behind these measures. That is why only a small number of monuments enjoyed a corresponding care and the socialist' State's merit and progressiveness of its cultural policy demonstrated on them was exaggerated.
The defects manifested themselves also in the conservation legislative. The cultural monuments act from 1958 imposed the duty of conservation to their owners, but it contained no sanctions for neglecting maintanance, damage or destruction. The financial penalties were established by new law number 20 of digest about the State conservation care as late as in 1987. But both laws committed the authority of decision in the field of conservation to the hands of local authorities and the role of special institutions conservation was restricted to being only the methodical and advisory bodies. Consequently, the conservation specialists were dependent on decisions of administrative machinery, mostly consisting of laymen who followed the special reviews by professionals only exceptionally and who vetoed them in cases where requirements were economically difficult or if conceivably the political instructions of the party nomencalture interfered.
Under the pressure of this impossible situation the Regional Centre of State Conservation Care and Protection of Nature arranged the State Scientific Conference on the problems of the conservation of modern architectural monuments (2). The importance and contribution of that special negotiation have not lost its topical relevance after twenty years and they haven't been overcome in Czechoslovak conditions until now. The most serious contribution from those philosophically drafted was by Vaclav Richter. The famous art-historian rejected the legal definition of a monument as an evidence of history and indicated the care of art to be the essense of conservation. The historian is interested in a work of art - a monument, when this manifests the affinity to the contemporary trends of artistic creation, if it becomes affine. So the aim of conservation is not in the knowledge and recognition of history but in the basic question of presence. In another work V. Richter practically observed that the "non-affine" works should be protected from damage by a timely maintenance, while topical works should get expensive restoration, and thus conservation should become the care of both presence and future, which means real cultural policy (3). This Richter's interpretation (so-called "presentic") resulting from the hermeneutical and existential philosophy, was later criticized for its methodical unilaterality eliminating the historical point and on the contrary exaggerating the topical point of the work (4).
The doyen of the Czechoslovak architectural avant-garde Jiri Kroha in his final presentation at the Brno conference specified our architecture between the two World Wars to be one of five centres of the development of international architecture from that period, besides the Netherlands, France, Germany and the Soviet Union, especially with its contribution by original and initiative, specific and unique analytic sociological and economical work in the fundamental issue - the housing problem. None of the other problems with which the conference dealt, lost anything from their topical importance: the education of specialists in conservation and the specialized workplaces for documentation and research of modern architecture. The resolution of the conference required special "education for conservation" in which both university faculties and technical universities would participate. Also the existence of only two departments for architecture in the National Museum in Prague and in the Museum of the Town of Brno is definitely insufficient, which is why it is necessary to create a museum of architecture on the lines of models of similar institutions abroad.
The conservation of modern architecture between the two World Wars and its art-historical research, however, did not manifest more substantial changes in their quality in the following period of the seventies. Due to the retarding political and economic development in Czechoslovakia the conservation met the above-mentioned problems and obstacles. From the art-historical point of view the situation proved to be better, because other works completing first of all the factographical knowledge of the material appeared. The representative choice of architectural works, housing facilities and applied graphics at the exhibition "Czech Functionalism" 1920-1940 should be emphasized. It was held in the year 1978 in the Museum of Applied Arts in Prague and in the Moravian Gallery in Brno, and it was accompanied by a comprehensive catalogue (5).
The last ten years represent a new quality in recognition and interpretation of Czechoslovak modern architecture from the pre-War period. The extent of scientific works including the appreciating judgements increased. Vladimir Slapeta considers the developments between two World Wars to be the third stage after the periods of Emperor Charles IV and radical baroque when Bohemia and Moravia reached the world's toplevel in architecture. Even though our avant-garde architecture did not play the same initiative role as the movements of Russian constructivism, the Dutch De Stijl or the German organic architecture, it had on the other hand a wide creative basis and a various style production as result of the meeting of ideas from East and West, North and South (6). Based on a more sober view of Frantisek Smejkal (7), the Czech modern architecture did not bring any original innovations and it represented only a high quality average of the international style. The reasons are seen in Karel Teige's ideas which initiated, but at the same time, restricted the domestic architectural creation. For Teige understands the architecture as a strictly rational activity with an a priori exclusion of aesthetic function. It is true that in the end of the twenties he enlarged his technicist draft of constructivism with new sociological and political aspects, but he did not deliver it of the doctrine system character disgarding the aesthetic and phychological aspects of architecture. In spite of domestic and foreign criticism, for instance the wellknown le Corbusier's polemics on his design of world's cultural centre Mundaneum in Geneve (8), Teige's influence prevailed in Czech architecture between the two World Wars and had an inevitable consequence in a certain equalization of Czech architectural creation and suppressed the courage for radical form solutions. In another place Frantisek Smejkal has disclosed the utopical character of our avant-garde architecture which was seen especially in the solution for housing, produced by post-War prosperity and violent developments in science and technology. The romantic atmosphere of that time gave birth to the idea of a one-way and unrestricted technical and social progress. Flats should have become hives for uniform human beings deprived of individual features, interests and needs. This utopical idea finds its expression in surviving housing estates in Czechoslovakia up to the present days (9).
Two recent great synthetic works contributed fundamentally to the understanding of the extent and

significance of the value of Czech modern architecture: "Czech Architecture In Transformation of Two Centuries" from 1984 by Marie Benesova and the book "From the Modern Style to Functionalism - the Changes of Prague Architecture of the First Half of the Twentieth Century" from 1985 by Rostislav Svacha. They are drafted in a wider time view enabling us to find also the older germs of the architecture between the two World Wars. The first book emphasized first of all the continuation of architectural development in the country in the 19th and 20th Centuries and equivalency of values of all its periods. Rostislav Svacha collected a remarkable amount of new knowledge about personages and works of Prague architecture from the first half of this century. In his evaluations he avoided the unqualified judgements which rather indirectly result from the text. The book is, however, concluding with a short chapter on the problems of offers and demands in architecture between the two World Wars. Thus he also touched its utopical character caused by the fact that especially in housing for the socially weaker groups an architectural concept for the working class was created, which in bourgeois conditions could not objectively play the role of a client. It was in fact an offer for a demand only artificially and unexperimentally speculated, or even an offer without any demand.

The efforts to assert the recognition of modern Czechoslovak architecture of that period also abroad, through publications, exhibitions and popularization is particular for the last years. In this field the initiative and dedication of Vladimir Slapeta should be highlighted. The Czechoslovak specialists are conscious of contemporary increasing interest of our avant-garde art in foreign countries. While some time ago the attention was being concentrated on the main European centres of avant-garde, it is being shifted as well to local centres which have created specific regional varieties of style, different from the universal language of constructivism of functionalism, and this is just the case of Czech avant-garde. Taking advantage of this chance, however, I propose to repay quickly the debts by research of Czechoslovak architecture between the two World Wars.

The last important undertaking so far concerning the problems of Czech pre-War modernism was the exhibition "Devetsil - Czech Fine Arts Avantgarde of the Twenties" arranged in 1986 by the Prague Gallery and the House of Arts of Brno with the co-operation of the Institute of Theory and History of Arts, the Czechoslovak Academy of Sciences and the Museum of Apllied Arts in Prague. The representative catalogue was prepared for the exhibition and an international conference was held (10). In the discussion at the conference, besides others, Vladimir Slapeta presented his appreciation of the stage of knowledge of avant-garde architecture. He reminded the delay in the field of history of architecture which in the sixties was larger than that in fine arts. That is why we were not prepared for the review of the modern style in the time of post-modernism because even the basic research of functionalist' monuments was not finished. Vladimir Slapeta called the attention also to the fact that the youngest generation of architects and students of architecture looked at the heritage of the avant-garde negatively and considered its structures unsuitable for living. The reason consists mainly in the fact that none of them experienced the autopsy of the quality of interiors which have not been overcome in Czechoslovak architecture until now. It should be admitted that only fragments of original interior equipment of functionalistic buildings have survived.

In the end it should be said, that the recognition of Czechoslovak architecture between the two World Wars has received, especially in recent time, the necessary dynamics and profundity, although on the other hand conservation stagnated. Even the sporadic examples of successful reconstructions can not change the total unfavourable image. The November Revolution of 1989, however, made the pre-conditions for positive changes also in this field. The new conservation act will be one of the first steps. This should provide special conservation institutions with necessary decision authority and deliver them to the dependence of political and administrative machinery. Also the amendments of other acts concerning the interest of conservation can help more favourable trends to emerge. The reform of conservation should be reflected in the education of conservation specialists, in larger extent and quality of scientific research on a wider institutional basis and in necessary publicity of its results, in the sphere of popularisation and advertizing even in the relations of productions and economy. The search of a new orientation of contemporary Czechoslovak architecture can not exist without the relation to these problems. Our specialists are disposed theoretically and we believe that thanks the social reality they will be successful also in the practical field in a short time.

Notes:

1. Vaclav Richter, Pece o pamatky (The Care of Monuments), Muzeologicke sesity III (Muselolgical texts), 1971, p. 12.
2. Ochrana pamatek moderni architektury. Sbornik referatu prednesenych na celostatni vedecke konferenci v Brne, brezen 1970 (Conservation Care of Modern Architecture. Symposium on the reports from the State Conference in Brno, March 1970) (edition Jiri Grabmüller, Frantisek Kalivoda), Brno 1972.
3. The same as 1), p. 19.
4. Rostislav Svacha, K, "odstupu" a "parcialnosti poznani" v sousobem dejepisu umeni (To the "Lapse of Time" and "Partiality of Knowledge" of Contemporary Art History, Umeni XXIX (The Art), 1981, p. 474.
5. Cesky funkcionalismus 1920 - 1940. Architektura - bytove zarizeni - uzita grafika (Czech Functionalism 1920 - 1940. Architecture - flat equipment - applied graphics), Praha - Brno 1978. The text of the catalogue is written by Alena Vondrova, the text on flat equipment by Alena Adlerova and on applied graphics by Jan Rous.
6. Vladimir Slapeta, Die Tschechische Architektur der Zwischen-kriegszeit. Aus dem Gesichtswinkel der Beziehungen zum Ausland, Archithese 6/1980, p. 5, 11.
7. Frantisek Smejkal, Cesky konstruktivismus (Czech Constructivism), Umeni XXX, 1982, p. 219.
8. Otakar Macel, Karel Teige und die Tschechische Avantgarde, Archithese 6/1980, p. 22.
9. Frantisek Smejkal, Utopie avantgardy (The Utopie of Avant-garde), Umeni XXXV, 1987, p. 2.
10. Devetsil. Ceska vytvarna avantgarda dvacatych let (Devetsil. Czech fine art avantgarde of the twenties),Praha - Brno 1986.

The opening text of the catalogue is written by Frantisek Smejkal, the part on architecture by Rostislav Svacha and on typography by Jan Rous. - Vojtech Lahoda, Diskuse konference o Devetsilu, UPM v Praze, 18. - 19. cervna 1986 (Discussion of the conference on Devetsil, the Museum of Apllied Arts Prague, 18. - 19. June 1986), Umeni XXXV, 1987, p. 93.

In general, moreover, the local governments' building authorities have absolutely no control over most of the building work that goes on, whether it be maintenance, restoration or restructuring.

Occasionally, as in Rome in the mid-1970's, the regulations in force since 1965 on historic buildings, have been matched by adjustments to the town planning laws, designed to protect most of the areas built after the unification of Italy in 1870.

These changes to earlier town planning laws were primarily designed to prevent indiscriminate demolition, since demolition and rebuiding was generally a way to dramatically increase utilizable area.

For this reason vast areas of Rome built in the early 20th Century have been rebuilt or comprehensively transformed and it is not only the individual buildings that have suffered. Since the road network was left unchanged the process has generally led to a substantial modification of the original urban balance.

To take one example, the single family houses in the Monte Sacro Garden City have been replaced by four or five storey buildings. Similary, in areas closer to the city centre, large numbers of small houses have been, together with their little gardens, destroyed and replaced by office blocks, to the serious impoverishment of the local environment.

Faced with the universal criticsm of the time it took local authorities to authorize internal building work, the government introduced an article in Law 47 of 1985 which authorized any alteration to the inside of buildings as long as the architect could guarantee that the work to be done conformed to the terms of the town planning act and building regulations and was also satisfactory in terms of stability and hygiene.

This new freedom was meant merely to speed up maintenance work. Regrettably, it has produced and is still producing significant changes to the formal and structural quality of buildings constructed over the last century.

Since the massive use of iron, concrete and more recently plastics or synthetics has revolutionized industrial production, even the simplest restoration job on a building constructed using traditional techniques involves the totally inappropriate use of new technologies.

The profound change in the cultural background of those responsible for new buildings is matched by widespread insensitivity and ignorance among those engaged in maintenance and restoration work.

In order to prevent dangerous dilapidation of buildings, the Italian Civil Code actually states that owners should maintain their property in a respectable condition, an obligation under which ordinary maintenance figures as the right and duty of the proprietor.

The administrative procedure for authorization to carry out such duties is extremely simple.
The proprietor is invited, though even this is not obligatory, to inform the authorities that he is undertaking any modification to the interior or exterior finish of the building. In Rome, for example, even in well established areas of the city, this ruling covers everything built between 1870 and 1950 and the only constraint on external paintwork envisaged by the regulations is that previously used materials and colours should be employed. As a result, even ordinary maintenance may radically transform the entire internal and external "skin" of a building.

Another point worth noting is that proprietors often need to provide buildings with new technological installations (centralised heating systems, lifts and hoists, knocked-down walls in public buildings, fire exits, air conditioning systems etc).
Such operations are not always designed to harmonize with the structure or the architectural quality of the building and since the installations are essentially functional in scope, no attempt is made, unfortunately, to assess their formal suitability. Here, indeed, there is a real gap in the legislation, which should at least ensure the existence of a proper architectural design, as opposed to the simple, mechanical insertion of some plant.

Work that can be classified as internal extraordinary maintenance comes under operations permitted by Article 26 of Law 47 and such work is only sporadically checked by government engineers to see whether it actually corresponds to what was originally declared.

It is not hard to imagine how substantially a building may be transformed if all the flooring, all the doors and window frames are replaced, all the room divisions changed and even the staircase altered to make room for a lift.

The problem of adapting buildings to changing needs can

A building from the beginning of the 20th Century, recently restructured and converted for reuse, ranging from residents' flats to offices. Also the external coloring are not according to the original state.
Corso Vittorio Emannuele, Rome

of course only be solved satisfactorily if maintenance work is undertaken in total understanding of those features that cannot be changed completely without divesting the edifice of its original value.

It should not be forgotten that the finish of any building forms part of the design process that created its layout, structure, internal divisions and facade. It is therefore a mistake to believe that the external finish of a building possesses its own formal autonomy.

Furthermore, the idea that any mediocre building firm or anyone with a diploma or even a degree in civil engineering will do for systematic preservation work is unacceptable, yet such works come under the heading of ordinary or extraordinary maintenance.

Under the terms of the Town Planning Act authorization is required for all extraordinary maintenance works that introduce even partial modifications to the facades or roofing of buildings and for all restoration or restructuring work.

But even here the projects presented for authorization are very loosely "screened". In fact the Rome Council's External Advisory Committee, which ought to check the quality of such projects, merely reports on their conformity with the regulations, taking absolutely no interest in the characteristics of the project or its appropriateness for the building that is to be transformed.

When it comes to maintenance work on "monuments" the situation is rather better since, in general, such operations are planned under the supervision of the Superintendence of Arts and, in theory, carried out by experts in restoration.

Even this greater care has not, however, prevented the authorization of restoration projects that were not only inappropriate in structural and philological terms but also and above all badly executed using materials and techniques not employed on the original building.

Since we can certainly not claim that our entire building stock is protected by the existing laws, the only way we can ensure that all conservation and alteration work is correctly planned and executed is to ask the research institutions, the universities, the conservation bodies or even the local governments to draw up guidelines.

It would be nice if the funding made available in recent years for experimental residential building were also provided for experiment in the field of building conservation so that the choice of techniques and materials to be employed in the complex business of restoration and maintenance should not be left to the construction companies and the manufacturers of building materials.

It is equally necessary to ensure that when building laws are promulgated, their possible effects on the existing building stock are ascertained by appropriate research or simulation studies.

Backside of the former Fencing Academy designed by Luigi Moretti in 1936

What is now happening to Rome's school buildings may serve as an example. A series of safety regulations for public buildings particularly in the field of fire prevention, is forcing local governments to add huge, ugly and unnecessary iron fire escapes to brick or stone buildings. Since these buildings contain almost no easily inflammable parts (even the desks, seats and fitments are mostly iron with very little woodwork), since the floors are few and the interiors spacious, such interventions, absolutely essential for safety in a great many other cases, are superfluous in this instance.

Building regulations are usually based on new buildings and the negative effects of their cramped conditions, structural deficiencies and poor quality materials all of which often pose serious safety problems. I need only mention plastics as a fire hazard. However, the unthinking application of these safety regulations can irremediably alter the architectural value of many public buildings constructed in the early 20th Century.

The economics of repairing our existing building stock is another aspect that has never received the attention it merits.

In Italy, the Ministry of Public Works has established upper limits for expenditure on the restoration, restructuring and extraordinary maintenance of council housing. The figures are lower than those established for new buildings and totally ignore the fact that being already equipped with a series of services, a renovated building will always cost the community less than a new one and provide the same level of comfort.

All too often, entire residential districts have been demolished, often to be replaced by office blocks or residential buildings with a higher market value, forcing the inhabitants into the outer suburbs and destroying much of architectural value.

We may say therefore that the competent authorities have paid too little attention to building repair.

There is also almost no funding available for the maintenance of privately owned buildings.
The private citizen with any economic interest in keeping his property "looking decent" and "in good running order" will undertake the appropriate conservation work, even though, as I said earlier, the quality of the maintenance work will be a secondary consideration.

The conservation of public buildings is equally inadequate: funding is minimal and public buildings are often abandoned until they are so dilapidated as to require either demolition or destructive restructuring.

Few maintenance operations are regularly performed and the little that is undertaken does no more than keep the building in question usable.

Here too, school buildings or public office buildings offer examples of the way radical internal restructuring has been severely damaging to the overall quality of architecturally significant structures in order to obtain an extra room or two. In such operations, since materials comparable to the originals are hard to find and standard commercial products are much cheaper, modern flooring, fitments lighting etc are generally used and look extremely ugly.

Over the past few decades there have been numerous finance laws giving private citizens access to easy-term loans for the purchase or construction of new houses. It would be nice if such facilities were extended to the owners of old buildings who intend to undertake maintenance work in order to prevent the irreversible dilapidation of their property. It is to be hoped that the various local governments will introduce all the strategies available to prevent the progressive dilapidation of our existing building stock. Where this is only partially preserved, it is because speculative interests have prevailed.

Naturally, the nature of the deterioration varies depending on the type of building involved. Some may be structurally valid but no longer utilizable for their original purpose (markets, slaughter houses, factories etc).
Others may have been built in the past fifty years for a specific purpose (post offices, schools, public offices etc) and need adapting to current requirements and legislation. Then there are individual houses or residential complexes that only need proper ordinary maintenance with the modernization of their installations.

This division into three broad categories shows the diversity of the building conservation field.

One of the most difficult aspects common to all maintenance projects is deciding how much should be done in response to a particular problem.

There is no single solution for example, to the instability that may arise in old or ancient buildings. Such situations may demand systematic reconstruction to the point of totally altering the original structure and the use of new technologies that are quite unrelated to the original system.

A scientific study undertaken by an international organization would certainly be of great value, since it would enable us to compare legislative and operational experiences, to acquire knowledge of successes in this field and to build up a file of useful examples that would help our different countries to introduce the appropriate legislative and technical measures.

There are numerous benefits to be derived from more extensive knowledge of the problems deriving from failure to protect our modern architecture:

1. Universities or research institutions could introduce courses in the analysis of technological aspects and the methodology of maintenance planning.
2. Local governments could set up offices staffed by interdisciplinary work groups to tackle the operational aspects of building maintenance and to establish regulations about the conservation of architecturally important buildings.
3. The state's architecture and engineering, legislative and finance departments could set up committees to coordinate the initiatives outlined in points 1 and 2, with the ultimate aim of drawing up new laws for the protection and conservation of our building stock as well as establishing the financial mechanisms for the funding of specific operations.
4. Industry could be encouraged to develop products compatible with the materials and techniques originally used in the buildings requiring intervention.

Emilio Terragni
Architect, Como; Italy

Translated from Italian

Restoration of the Sant' Elia School in Como (Giuseppe Terragni, 1936-37)

Notes on an intervention

It seems useful to explain the circumstances which have marked the restoration work at the Sant' Elia Elementary School at Como designed by Giuseppe Terragni, and previously restored between 1982 and 1984, for at least two reasons.

The first reason, given the least weight, has to do with the fact that the building is a legitimate part of the history of modern architecture and thus belongs to a cultural heritage which it is the duty of all to maintain and preserve.

The second reason, however, confronts a new problem, that of a diagnostic examination of the process of decay to which many buildings of the Modern Movement have been exposed, without distinction of latitude or of the "welfare" of the various communities concerned, and seeks to propose practical remedies to a problem which has become much worse in recent years on account of external factors such as acid rain, the general level of pollution and inadequate maintenance by the authorities or the private owners.

The restoration work has been carried out on a scholarly basis drawing on graphic material of a photographic, documentary and financial nature, in great part unedited, to be found in the archives of the Terragni offices.
During the research, extended to the archives of the Schools Authority who own the premises, it seemed only natural to extend the enquiry beyond the history of the school to the story of the effects of its immediate physical, political and administrative environment.
This has given a composite picture of those years which, apart from placing the work in its real, everyday context, explains a number of shortcomings which were subsequently experienced as a result of eliminating some parts of the building, not as its designer had wished, during the building's original construction.

The four versions of the project (each of them a reduced version of its predecessor) will later call in question aspects of the restoration project in the absence, at the present day, of the reasons for which the original structure had undergone contractions in size and scope.

The fate of the building during the war years and after is very similar to that undergone by a number of other buildings; the results, obviously, were negative.

Nevertheless, in the post-war years, the building, having avoided occupation and alterations of function, on account of its very typological characteristics, slowly resumed its function.

However, the lack of maintenance, a typical feature of the years immediately following the armed conflict, coupled with a chronic shortage of funds on the part of the responsible authority, soon led to the collapse of the building services, so that at the end of the sixties, the building was declared to be no longer viable.

The first restoration carried out in 1968 represented an unfortunate episode from the point of view of scholarly reconstruction.

To make room for the caretaker's flat, the kitchen was actually moved inside the dining-room, and the exterior was patched up without changing the outward appearance but altering the functional and architectural purposes of the building.

All the same, the designer of that project is to be commended for having persuaded the owners not to demolish a building which still was not protected under the law and to restore it at a cost which may have been higher than that of a new building.

This initiative, too, soon failed on account of shortage of resources, leaving the building in a state of repair which again rendered it unusable.

The restoration undertaken between 1982 and 1984 faced certain planning choices which could not be avoided in the light of historical research.

Typological choices
- Abandonment of plans to complete the structures removed in 1937 at the initial planning stage
- Reconstruction of the kitchen in its original position

Technological choices
- Window frames, floors, building services, roofing

- Ventilation system on the ground floor

Structural choices:

- Examination of the damage found, with solutions to be adopted

Particular attention has been devoted to the fittings both of a fixed nature (finished walls, sliding elements, etc.) and mobile (seats, benches, desks, etc.) which, as in all Terragni's public works, form an integral part of the architecture.

Restoration of the Sant' Elia School in Como - 1986/1987

Even if the perspective from which the present arguments are viewed may inevitably be technological for the most part, it still seems necessary to continue this report with a brief resume of the circumstances which in the course of the past five decades have characterised the emergence, the development and the decay of a building considered one of the most important examples of Modern Movement architecture.

This is done not merely to preface these notes with a general introduction following a standard pattern but to underline the fact that, at the planning stage of this building, a number of apparently irrelevant facts emerged which were destined, despite their lack of technological significance, to have a profound effect on the future of the building in respect of the performance characteristics of a number of the materials which were used.

The historical research conducted in the archives of the Terragni offices into the original designs, sketches, correspondence and accounting documents, and parallel to this in the archives of the Schools Authority which took the initiative at that time for the construction of a new primary school, made it clear that the commissioning authority found itself in grave economic difficulties at that period and that the City of Como had not fulfilled its promise to provide sufficient land to accommodate the school building, then at an advanced planning stage.

With the increased cost of land acquisition, it was necessary to reduce the scope of the building (by eliminating parts of the project) and to reduce the quality of materials used.

The quantitative reductions posed problems only in terms of reduced effectiveness, whereas the qualitative reductions (eliminating the original false ceiling in favour of a normal brick structure, elimination of double-glazed windows) and a general use of materials which stood up less well to atmospheric conditions certainly contributed to the accelerated deterioration; its principal cause,

Sant' Elia School after restoration.
photo by NODO, Como

however, seems to have been the use of the establishment on an emergency basis - especially as far as the building services were concerned - during the wartime and post-war periods, accompanied by the chronic lack of maintenance which seems to be typical of buildings in our country.

During restoration it was necessary to face many technological problems deriving for the most part from 3 particular situations:

1. period materials proposed and not used;
2. materials of the period which were used but can no longer be adopted for various functional, legal and economic reasons;
3. modern materials which will more effectively assume the functions concerned without modifying the forms and contours of the existing building.

These issues relate in particular to:

1. the window frames;
2. the roofing;
3. the ventilation of the floors;
4. the heating plant and heat distribution.

1. Window frames

The original window frames were of a standard type for the period; they were not airtight and were not always watertight, on account of the poor contact between the fixed and the movable elements of their structure.

They were replaced during the first restoration of 1968 with heavier tubular-section frames which, apart from altering the original pattern and contours, deteriorated badly after only a few years.

The reductions in quality accepted at the planning stage included the abandonment of double glazing (then known as Belgian type) in favour of standard glazing, with effects on the energy consumption which can readily be imagined.

The restoration work has included the renewal of the windows in their original thickness and pattern but with different contours in frames which have a better seal and in particular the opportunity of incorporating in an appropriate moulding and elastic sealing element (rubber or neoprene).

This form is, however, too shallow to allow the installation of thermopane glazing, which would also involve the risk of altering the colour of the light.

It was accordingly decided to adopt a solution based on twin panels of clear glazing in the thickness 5 + 5 mm.

Certainly, from the point of view of heat retention, the result is not as good as that which would have been obtained with a thermal profile aluminium frame with thermopane type glazing.

In any event, an analysis carried out during the course of the project showed that the best atmospheric balance would involve higher running costs, which is probably

Sant' Elia School after restoration.
photo by Wessel de Jonge

justified by the fact that the windows form the most important structural element in the external finish of the building and cannot be modified without changing its architectural image.

To cope with the opposite risk (too much exposure to the sun, resulting in overheating of the window areas in the summer), the restoration plan confirmed the system of blinds originally planned; the blinds have been renewed according to the original design by separating them from the wall they are to protect, using an independent structure, so as to eliminate the "greenhouse effect" on the large areas of glazing of the classrooms most often occupied during the course of theday.

2. Roofing

The original roofing was executed with bituminized roofing felt topped with a pebbledash surfacing composed of cement and gravel.

The formal effect was that of a coarse sandy surface.

Deterioration to the roof surface (two in 50 years) was caused by inadequate maintenance and incorrect use of the building services during the period of hostilities and the immediate post-War period, but a part was also played by the elimination of the original insulating ceiling at the planning stage and its replacement by a brick structure (even if the dead space was filled with vermiculite during the first restoration); the characteristics of the ceiling installed are more likely to promote

superficial tensions during the short cycle of day and night and the longer seasonal cycle.

The guarantees offered by the existing type of roofing, even with careful and constant maintenance, are inferior to those to be achieved with a PVC sheet laid over an insulating layer of polystyrene panels and with a top coating of sand to offer protection from the sun's rays without causing damage to the underlay in the area without access and with a floating floor in gravel where there is access. Accordingly we have selected this technical solution, although it did not exist at the time the building was constructed, because it resolves the functional problems without in any way altering the existing profiles and colours.

3. Floor ventilation

The site chosen for the school building is crossed by a watercourse, and so the building structure rests on a series of piles, executed at that time in solid oak. This is a system which has continued to function admirably up to the present day, as could be confirmed from a structural examination carried out after restoration work had been completed in 1969, with the exception of damage evident at the south-east corner which appeared during building work. This damage was probably due to different subsidence in piles which, for the usual economic reasons, had been executed in chestnut instead of oak.

Nevertheless, for various reasons, the course of the underground stream has never been regular either in volume or in direction and as a result there has been a continual emergence of humidity along the whole perimeter of the building leading to a situation of constant discomfort in all the horizontal structures in which the young occupants were predominantly accommodated.

As it was necessary to replace all the floors, including those which were partly the object of cost savings at the planning stage, the opportunity was taken to reconstruct the underlying supports as well, placing these not directly on the ground but on a system of cement tubes running from one side of the building to the other, so setting up a system of air circulation which has resulted in eliminating all trace of humidity.

These currents of air prevent damp rising from the ground and eliminate the consequent condensation along the walls which resulted in damage to plaster and paint work.

4. Heating plant

During the early stages of the planning for restoration it was suggested that the petrol-fired burner in the heating plant should be replaced by a gas burner (technically a simple operation and economically irrelevant to the total cost involved) with the aim not only of reducing running costs but also of limiting pollution.

This, however, would have been possible only if the new central heating unit had been moved outside the perimeter of the property, located in a separate building and not in the school itself.

This solution was not pursued; even if it was capable of satisfying the legitimate requirements of legislation, it did present a conflict with the architecture of the building by threatening to alter the masses and the contours of the work as a result of this intervention.
Accordingly the choice was made for the "dirty" but "controlled" plant.

The general conclusions that can be drawn from this particular experience of restoration, that it brings to light a kind of clash often seen between the legitimate goals of statutory legislation, the performance required from structural elements, and the modifications which the building would undergo as a consequence of rigorous application of statutory requirements.

On many occasions during this project it has nevertheless been possible to reach a compromise which, while satisfying the provisions of current legislation, does not exceed the bounds of future constraints relative to the management and maintenance of the building itself.

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Reconstruction of the German Pavilion in Barcelona (Mies van der Rohe, 1929)

Reconstruction of the Pavilion designed by Mies van der Rohe for the International Exhibition of Barcelona was first mentioned in the mid 1950's, more exactly in 1954, when Oriol Bohigas posed the question for the first time. Information on the whereabouts of the Pavilion was confused and there was a persistent legend that the Pavilion remained in Barcelona, stored away in a secret hiding place. Nothing definite was known of the fate of the German Pavilion after the German authorities vain attempts to sell it and so leave it in Barcelona, and it was thought that it had finally been dismantled and the more valuable parts shipped to Germany.

In 1957, Oriol Bohigas again wrote Mies van der Rohe in Chicago to propose reconstruction of the Pavilion. The answer was a short letter expressing satisfaction with the project and stating the designer's intention to personally take charge of the reconstruction while warning of the high cost such a project would most certainly entail.

Since then, the project has been a recurrent topic in Barcelona with various different viewpoints on final aim and site.

The decision leading to the Pavilion's reconstruction was taken in 1980, when Oriol Bohigas was Delegate for Urban Planning and he stated that the only way in which the project would ever get under way was by commissioning an executive study which would set out all the different technical, philological and financial aspects of the project.

We were invited to be part of the team responsible for the study, and each of us was expected to contribute specific areas of knowledge and expertise which would aid in successfully completing the study.

After the vicissitudes, delays and problems inherent in a project involving so many different interests and viewpoints, the moment has arrived in which the city of Barcelona, through its Public Foundation for the Reconstruction of the German Pavilion of the 1929 International Exhibition, has achieved its objective.

Those of us who have taken part in the reconstruction of the Pavilion now have the pleasure of not only showing off the finished Pavilion, but also of explaining how the project developed and why certain decisions were necessarily taken leading to the final result.

Reconstructing from scratch a building of such significance in the architectural history of the 20th Century is a risky undertaking, and even more so when the building in question has over the years become a focus point for the confluence of ideas, sources and objectives of European architecture. Furthermore, with the passing of the years, the figure of Mies van der Rohe has become that of one of the greatest artists of our time whose work, more than that of anyone else, expresses the rational desires of modernicity and the interior discipline which are an expression of its creator.

Although building a copy may appear a trivial task now that our work is finished, we must confess to feeling a great deal of satisfaction with the completed project. Just as the work of a composer or poet demands to be expressed by being interpreted, in this particular case the true quality of the Van der Rohe design needs to be seen in its true dimension to provide a solid image of its spaces and colours.

Only a persistent cultural romanticism could prevent us from revealing the mystery hidden behind the old photographs of the Pavilion. But, in the same way that throughout history architecture has found its inspiration in the recreation of past designs, this is not the moment to hesitate out of a reverential respect for the future before the reconstruction of the Pavilion. If when taking this step we feel a certain irreverence, we also feel that only after taking this first step can we produce something of value.

A temporary building ?

The majority of the discussions dealing with the reconstruction of the German Pavilion designed by Mies van der Rohe for the 1929 International Exhibition in Barcelona start from the wrong perspective. It is fact that the Pavilion designed by Mies van der Rohe in 1929 was considered a temporary one and therefore, from the beginning, thought of as an ephemeral and transient construction for which the concept of durability, the "firmitas vitrubiana", was not applicable.

But, when the construction of the building is looked at and the technology and concepts are analyzed, the idea of a transient and temporary building begins to appear doubtful, to say the least.

This premise must be examined from the beginning, because the reconstruction basically represented an exercise aimed at clarifying what was permanent and what was not so much the result of improvisation, but rather the result of the haste with which the building was finished, and the problems this posed when trying to evaluate the quality of the finished product.

To begin with, no building constructed on solid armoured cement foundations and with walls of the same material - although in the end the walls were made of travertine covered tiles with marble and travertine walls on a metallic supporting structure and with two flat platforms on a chromed steel framework - is either as temporary or as far from temporary as the Seagram building or the Farnsworth house, constructed a few years after the Barcelona Pavilion.

In our opinion, the concept of the Barcelona Pavilion was neither as ephemeral nor more so than other contemporary structures built with modern technology in which the structure itself and the partitions are separate. The predominance of stainless steel, glass and stone do not evoke an image of fragility or limited lifespan as all are long lasting materials. The stable quality of the metallic walls and travertine platform evoke stable and long lasting images which bear no relationship with the mobile, prefabricated of "do it yourself" buildings so typical of our time.

The constant reference by Mies van der Rohe to logical thought in construction and to the "ultima ratio" inherent in the criteria for technological excellence ever prompt one to the necessary differentiation between the concept of a lasting building and its construction within the limits required for its conservation.

It is simplicity of the building itself which points to the complex solutions required for its conservation. The absence of drains was possibly the most important problem posed by the total flatness of the roofs and the floor coverings.

But it may be that the largest difficulty arose from the fact that the structure of the roof was not given the calm and thorough study it required. Mies van der Rohe envisaged a platform structure resting on eight cruciform columns with beams which were to be solid and would not be visible for more than 20 cm. on the sides. When this proved impossible due to the open spaces of the structure, reinforcement was needed and they became sloping in the central part and were quickly and somewhat improvisedly covered with macadam on the outside and plaster panels on the lower half of the structure. This solution, a far too rapid and above all, far too cheap looking one, was acceptable only because the building was planned to last one year only. If this were not the case, if the Pavilion had been designed for a longer period, a different solution would have had to be found for a really lasting roof.

In the building, as reconstructed at present, the problem of the drains has been solved in a simple manner by giving all the travertine pavements the appearance of a floating surface so that the spaces in between the joints collect the water at a lower level, with adequate slopes and an underground drainage system which collects the water from the pavements and from the two covering platforms with an imperceptible but useful 0.5% slope.

As far as the platforms were concerned, the most significant decision was that of constructing them out of lightly armoured concrete in a double networked structure. This conserves what in our opinion is the primordial concept: the form and size of the horizontal platforms with their straight planes, even though this implied sacrificing, to a certain extent, the single direction in which the hidden part of the structure of the Pavilion was meant to run. This also avoided the need to use the false supports which Mies van der Rohe needed to use, by resting the flying beams on the walls wherever possible and thus solving the problem of excessive weight on the outer ends. The poor solution of placing an open air plaster cover on a metallic structure without adequate insulation was solved by using a concrete structure. Also, we avoided an increase in the supporting section, which in the 1929 Pavilion created by Mies was thicker than 30 cm., by using the practically flat finish of polyester fiber for the outer facing, without joints, in the surfacing.

The site

It is particularly noteworthy that the Pavilion has been reconstructed on the same site as that on which the 1929 Pavilion was originally built.

Not a few designs for its reconstruction treated the Pavilion as a universal and abstract building not related to the site on which it was placed.

Nothing could be further from the truth, and the subtle use Mies van der Rohe made of the relationship between the site and shape of the building has been pointed out repeatedly. Mies van der Rohe personally changed the site of the building several times from the initial project for constructing it on the esplanade between the Alfonso XIII and Victoria Eugenia Palaces. Placing it to the north of the Alfonso XIII Palace afforded the Pavilion with a site at the foot of the grand esplanade which was the easiest thoroughfare for reaching the "Spanish Village".

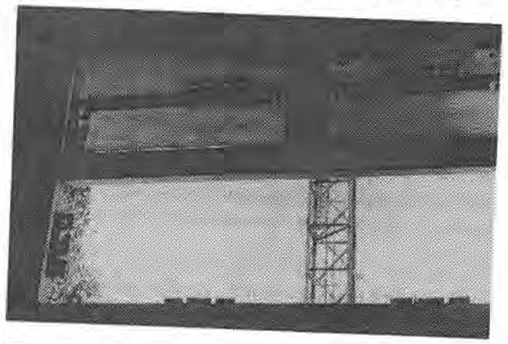
The placement of the podium and main elements, the direction, the transversal axis which adjusts to the axis of the large plaza and the longitudinal axis supported by the perpendicular wall of the Victoria Eugenia Palace are placement features inherent in the building itself.

The evolution of the building as a response to the site itself, a response each time in closer harmony with the site and the conditions governing the placement imposed by the Barcelona authorities for the general planning and services which should exist in the area, is equally important.

The plan published in 1929 by the Genzmer article, which has frequently been reproduced, shows the building on a platform running around the full perimeter. This initial idea appears in some of the preliminary drawings for the project as well.

But from the moment that Mies van der Rohe realized not only which exact site the building should occupy but also, and above all, took into account the sloping grounds, the placement of the building underwent a decisive transformation. In floors II and III and the floor made with marble, the platform disappeared from the perimeter to adopt a more complex form in closer relationship with the true slope of the ground. However, it was not a simplification arising out of financial considerations which resulted in the disappearance of the plarform from the posterior and lateral sides, while at the same time anchoring the travertine and marble walls directly to the soil. Rather, it was an important change in the original concept in which the classical platform, with obvious important change in the original concept in which the classical platform, with obvious Schinkelian roots, was made more movable and universal and even picturesque in a far more particular concept and adapted to the original abstract features of the terrain.

Details of the system for anchoring the marble slabs to the metal framework for the walls (1985)



In the same manner that the main access staircase is placed on the side rather than in the front of the building, so as to follow the approach and to adapt to the reduced access space of the side entry, the initially rectangular podium became a smaller supporting structure which precisely responds to the different topographical features of the terrain and so gives rise to a subtle variation in the platform-terrain relationship - as so well expressed by Jacques Paul - which brings to mind the sensitive understanding of the classical-picturesque tradition extending from Schinkel to Behrens, rather than the rigid, abstract values of the French classical concept posed by Durand.

This is the foremost reason for the final version and for our rejection of the generalized interpretations published in 1929 and which, in the 1960's, were widely advocated with the site we feel closer to the position adopted by Glaeser and Tegethoff, not only because they more closely respond to the true building but also because we are convinced that the platform and its relationship to the site, and the changes adopted by Mies van der Rohe, were not only dictated by a lack of resources or by last minute time problems but are in reality the result of a closer understanding of the site, which brought with it the inclusion of these features in the final shaping of the building.

Dimensions

The excavation of the site on which the building was constructed gave and understanding of the exact dimensions. At its widest the building is 18.48 meters deep with a maximum length of 56.63 meters. These dimensions allow the base module of the project to be established at 1.09 x 1.09 and so serve to calculate the exact measures of the remaining parts of the building.

It was clear that the module was not rigid enough to establish all dimensions coincidently. We also cannot fail to point out that the different measures given in the plan by Kïstner and Gottschalk are minimal but constant variations which, in our opinion, must not be taken as a decision coming from Mies himself to establish small and almost neglible differences of 1/2 or 1 centimeters between the modules in an attempt to negate the regularity of the lines. Between the rigidity proposed by Blaser and the flexible diversity of Joan Ravetllat it

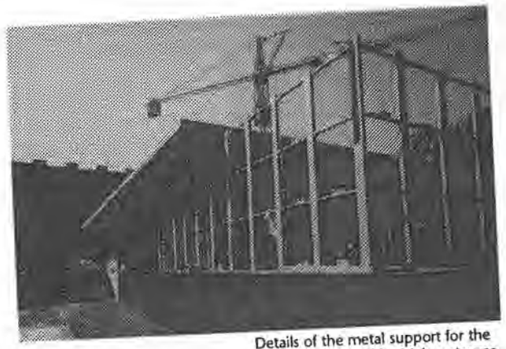
appeared possible and rational to evolve a concept in which the modules for the building would coincide between the travertine module for the walls and the floors, both as the original plan envisaged and in fact possessed. We are certainly convinced that the disparities in the modules reflected by Kïstner and Gottschalk arose from the need to adopt the supply of stones to the type of foundations and changes adopted in Spain before the material became available. Today we know that the original construction must have been started in February 1929. As reflected in extant photographs of that time, it is probable that at the moment building was started cutting of the stones had not been begun. It is surprising that in the building the walls and floors were most likely done with only forced measures before a more detailed, accurate project was available.

On the other hand, there was the problem between the ideal vision of the building and the building as it needed to be constructed, which also became an important question for the exterior materials used for the lateral and the posterior parts.

It is known that the construction of the Pavilion was threatened by halting at various times. The main reason was the high cost of the installation by German industry for the different palaces to which the additional cost of the Pavilion had to be added, and for the realization of which the Spanish authorities exerted considerable pressure while the German authorities showed a great deal of reluctance. Mies van der Rohe worked on the design of the Pavilion possibly since June 1928 but was given the green light for its construction only in Februari 1929, with the additional aggravation that the final site selected by Mies implied additional costs because of the need to move a great deal of earth, besides the arbitrary decision by the architect to use onyx facings.

The Pavilion, thus, ran over the budget and the project needed to become more limited. It is probable that these financial cuts were also related to the haste with which construction had to be carried out. All this necessitated cancellation of the travertine outside wall of the south lateral facade and the posterior east and lateral north walls of the office block. The green marble was also cancelled on the north outside wall and the east outside wall, and was subsitituted by stucco which was painted a clear and green colour respectively. Because of these facts, we adopted the solution of completing what in this case appears a strictly budgetary problem. The decision related to the green marble was easy, since in this case only a prolongation of a module and facing were involved and no particular difficulties arose in discovering how the original was done to maintain the conceptual coherence of the outside wall of the statue pool.

In the case of the travertine wall the problem was more delicate. To complete this wall, in which the outside stucco facing must result in a deplorable effect, brought into question the treatment of the relationship between the different parts and its function as a wall not only of the main pool but also of the office block, with its north and east facing windows. The extant information on its



Details of the metal support for the green Alpine marble. Main entrance (April 1985)

original appearance and dimensions was sufficiently clear. What was more delicate was the interpretation of the continuity of the material and the relationship with the empty spaces. The solution we adopted was the one that, in our judgement, would solve the problem of treating the windows in both walls with respect to the materials and the general modeling in the project.

Materials

We cannot close this overview of the main problems posed by the Pavilion without mentioning the building materials.

The choice of travertine was a personal one by the three architects after visiting a large number of quarries in Tivoli. There a type of blocks with strong marbling and dramatic impact was selected for the walls. The travertine came from the same quarry as did that for the Coliseum. For the pavement and facings of the platform we selected a more compact and uniform travertine from the Tivoli quarry, that of the Sybilla quarry.

With regard to the green marble, we had to deal with the mistaken claim made by Genzmer in his project. The Tinos marble, a Greek marble, darker in colour and with broken stains mixing dark green, white and black in a large terrazo pattern, was not evident in the outside perimeter wall of the pool but in the wall adjoining the covered entryway. In contrast, there were many blank drawings of Alpine green marble, a green veined marble, which showed symmetrical groups of 2 or 4 tiles. This marble was quarried in the Aosta valley in the 1920's and continues to be quarried today in difficult to approach quarries, largely covered by snow most of the year.

But the material posing the greatest difficulties throughout the reconstruction project was without doubt the "onyx doré" with which the central, free standing wall in the interior of the main covered space was faced.

This was looked for without success in Morocco and Algeria, where we were told quarries existed in the 1920's which today were no longer used, and in Egypt, where we went in person to find the impossibility of obtaining

blocks lying far below the surface in a completely inaccessible site; enquiries were made in Israel, Pakistan, Mexico and Brazil, all in vain. In the end, when we had almost given up on ever finding the onyx, Fernando Ramos and the marble producer Jordi Marques travelled to Algeria, to Bou An Hifia, a few kilometers away from Muskara. The trip was worthy of an adventure story, with many apparently unsolvable problems to be conquered. In front of an abandoned quarry they came across a block of onyx which was perfect as to size and quality. The problem now was to convince the quarry owners to again open up the quarry and cut the blocks for us. After complicated negotiations we managed to buy the material and transport the block to Spain, where it was cut to size for the central wall.

This was practically the last effort needed for completion of the project. The impressive effect of seeing the colossal blocks measuring 2.35 x 1.55 meters in place gave the finishing touch to the high quality of the materials used.

As far as the other materials are concerned, it must be stated that great pain was taken to ensure that they were of sufficient quality, size and characteristics to match those used in the original construction.

The metal finishings with a high chrome content offer a longer lasting solution than did the traditional chrome, and allow better protection from the humid Barcelona climate.

The transparent bottle green, grey and white windows provide a strong colour impact which is complemented by the furniture, the black floor covering and red velvet curtain which are to be found in the heart of the central space and provoke a hard and tensile colouration, with pure geometric and straight lines contrasted only by the rough texture of the bronze of Kolbe's statue.

The latter, a present by the German Government to the reconstruction Foundation, is a cast bronze replica of the original kept in East Berlin in the "Rathaus" gardens.

Security and surroundings

The conservation and security of the building pose the same problems today as they did in the past. Mies van der Rohe built a conceptual ideal, strongly aligned with a continuous flowing of interior and exterior space without any exact limits. The exterior was a problem free space to allow free access by visitors, while the interior, with its furniture and delicate finishings, posed obvious problems for its safety.

The solution adopted in the past was the same as that used today. Mies designed two special doors which could be placed on site or removed as the occasion warranted. They were similar in construction as the metal windows, with transparent glass panels. The details of their design are available to us today and have been found erroneously filed with other Mies van der Rohe projects in the New York Museum of Modern Art Archives. The technical solution does not pose any particular problems if it is taken into account that the purpose of the doors is to keep intruders away.

In any case, besides the doors there will be other security measures for controlling all entrances into the building.

In the first place there will be, within the surrounding bushes of the garden, a metal wall which will run from the top of the hill to the north and south borders so that the open space around the building will be limited by this wall, the wall of the Victoria Eugenia Palace and the Pavilion itself.

Besides these visual measures, there will also be a television camera system providing full view of anyone approaching the building by the different access ways. A buried alarm system will be activated by anyone approaching the building through the garden, while photoelectric cells provide a barrier in front of the building.

All these measures must not, however, enclose the building, which is designed for circulation, open and freely accessible for crossing. Therefore, the security measures must not be more than aids to the personal controls by guards who, at any moment, will be cognizant of any anomalies occurring anywhere in the building and grounds.

Besides these security measures which define a controlled environment, the Pavilion must have a physical environment defining its placement as the building enclosing the bottom of the great esplanade. The unfortunate Olympic Pavilion is currently the counterpoint to the overall placement of the German Pavilion. A wider restoration of the combined spaces forming the site on which the German Pavilion is constructed is required, as is demolition of the ugly concrete pavilion built in the 1960's.

The final aim must be a visual opening of the great esplanade with its coloured fountain by the German Pavilion designed by Mies van der Rohe, and the reconstruction of the file of high Ionic stone columns enclosing the space of the great esplanade to the east and west and providing a view of the two palaces behind the esplanade - that of the city of Barcelona, which still exists at the eastern end, and that of the German Pavilion by Mies van der Rohe towards the setting sun.

A green copse of trees growing at the same site as in 1929 and other newly planted ones, together with a green carpet of ivy in the style of gardening made popular by Rubio i Tuduri and Forestier, will be the perfect background for the strict and sober lines and bright gleam of the material and reflections, which will be visible from any site on Montjuïc mountain from which this small corner of the Montjuïc Park, with the Barcelona Pavilion, can be observed.

Jan Sapák
Architect, Brno; Czechoslovakia

Reconstruction of the Tugendhat house (Mies van der Rohe, 1930)

In order to get acquainted with the character and method of the reconstruction of the Tugendhat house it is necessary to have a precise and authentic knowledge of how the house was damaged and of the difference between its condition before the reconstruction and that in 1930.
I would like to remind you of what the house looked like in 1930 by a series of six photographs I have chosen.
I will give you a survey of six stages of various kinds of construction alterations. Afterwards, I will define the most serious changes, differences and damages.

1. stage 1930 - 1938
2. stage 1938 - 1944
3. stage 1944 - 1945
4. stage 1945 - 1955
5. stage 1955 - 1980

1) At the first stage the house was inhabited by the Tugendhats. In that period, only minor alterations were carried out, because of technical problems with insufficient insulation of the flat roof. Apart from that, the boilers were adjusted to some extent.

2) The Tugendhats having fled the country, the house was occupied by the Nazis. At first, they did not inhabit it. The only person living in the house was a man gathering and reselling furniture formerly in the possession of Jewish families. Later on, the Nazi administration carried out certain construction changes. On the upper floor terrace, between the driver's flat and the master bedroom, one more room was built. Thus, the view of the Spilberk castle was blocked and the two, originally independent, bodies of the upper part of the house were united. The opaline glass wall around the central spiral staircase was replaced by a wall of bricks, which, however, did not reach the ceiling. In spite of this, the metal bearing frames inside remained undamaged. Only the glass was destroyed. These alterations were minor and limited. New parts were added to the building, all of them removable in the end.

3) In the autumn of 1944, after the allied forces' air raids of Germany, W. Messerschmitt, or rather the head of his engineering office moved into the Tugendhat house. The alterations I have just mentioned seem to have been related with this fact. During the presence of the airplane designers no further changes were carried out.

In the same autumn, there were also allied forces' air raids of Brno: the biggest one was on November 24, 1944. A bomb fell into the garden of the house, some 14 meters from its corner. The explosion smashed all the big glass sheets of the windows, with the sole exception of one which, at the moment, was let down into the floor and therefore was preserved (the window remained there till 1980). After the destruction of the windows the house failed to be habitable and was abandoned by the designers. From November 26, 1944 to April 28, 1945 it was vacant and accessible for anyone. During that time, the last remaining furniture got lost, as well as a refrigerator and the semicircular ebony wall. At the beginning of April 1945, the Red Army soldiers camped in the house, their horses included. Their hoofs destroyed the linoleum. They used the bookshelves from the working area of the main hall as firewood.
Naturally, the weather affected the opened, windowless house to a large extent.

4) In the after-war decade, when the house was aquired by a dancing school owner Karla Hladka, only the most necessary alterations were carried out. Because of the new insulation of the roof the chimney was made higher. Frames were installed into the large glass wall and glazed with smaller sheets of glass. A new floor was made in the main hall and new lamps installed.

5) From 1955 there was a rehabilitation training centre of University Children's Hospital in the villa. The laundry in the basement was converted into a dressing-room for the children and a new window was made there. That was the only substantial construction change. Apart from it, there were no alterations worth mentioning, only minor events brought about by time. The villa had, however, an unattractive plaster of yellow and grey.
That was the condition of the house in 1963 when Frantisek Kalivoda first thought of a possible reconstruction. And as late as in 1980 its condition was not much different. I will revise again the most serious damages:

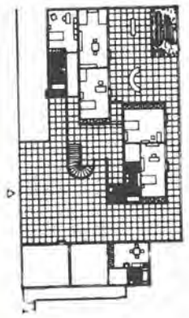
1. a newly built room	(reversible)
2. destruction of the glass wall and building of the brick wall	(partially reversible)
3. burning of the shelves	(hardly reversible)
4. breaking of the glass sheets	(irreversible)
5. destruction of the floor	(reversible)
6. newly opened window	(easily reversible)
7. destruction of ebony wall	(hardly reversible)
8. higher chimney	(reversible)

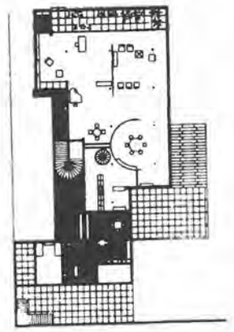
Except for these changes and the loss of the furniture, the house was in its original shape. The grey and yellow, poorley kept plaster made the impression of a worse shape than it really was in.
In 1963, the architect Frantisek Kalivoda had the idea to restore the house. He undertook a variety of steps to reach this aim. He was indefatigable, he publicised the issue and gathered allies. He succeeded in including the house in the list of landmarks, it was measured and the first draft projects were made.
In 1967 - 1968 the situation in Czechoslovakia was substantially liberalised. Also Kalivoda's initiative was found of greater importance. Several guests arrived in Brno. In 1969 an exhibition of Mies' work was held there, as well as lectures by Grete Tugendhat and Dirk Lohan. Frantisek Kalivoda believed that the reconstruction would accelerate when the house became the property of the city. At that time the city mayor was Mr. Vaverka, who supported those plans. That was still in the time of the Prague Spring. Later on, after the occupation by the Warsaw Pact armies, there was a political break. The mayor was substituted by a party hard-liner and the qualities of the people at this position were steadily declining. At the beginning of the 70's many important personalities died, namely Frantisek Kalivoda, Grete Tugendhat and Bohuslav Fuchs. The efforts aiming at the reconstruction were not, however, stopped entirely: they were just slowed down. It took 10 years to locate subsitute rooms for the rehabilitation physical training. In the meantime, the state projecting agency completed the project. And the society in Czechoslovakia declined in manners, spirit and economy. Certain types of construction work simply perished and disappeared due to central planned economy, the non-existence of the market and natural prices.
In summer 1980 the house was vacated. The authors of the project were aware of the necessity to treat the house with utmost care. They included in their plans the protection of certain fragile components. They failed, however, to protect every minute detail of the original furnishing and household equipment. They had at their disposal many authentic plans, photographs and reports. They knew it was necessary to tear down the newly built room, lower the chimney, tear down the wall around the staircase. They also knew they had to wall up the new window in the basement and repair the plaster.
Unfortunately, to say the truth, the years of distorted economy brought about the collapse of sensible considerations regarding maintenance. The methods founded by Max Dvorak, the father of landmark conservation, were neglected and forgotten. The project was carried out under the pressure of stupid communist authorities and an incompetent mayor, Mr. Suchanek.
The reconstruction was begun in 1981 and finished in 1985. The following facts have to be mentioned:

1. New insulation was made of the flat roofs but at the same time the well-preserved grey tiles of the upper terrace were thrown out and substituted by new ones pink-shaded.
2) The house was brought into its original condition as regards the shape of the basic bodies.
3) Substantial alterations of the bathrooms were carried out: the original well-preserved wall-tiles were discarded, as well as the bathtub, washbasins and taps, and all these were substituted by contemporary Czechoslovak products which do not resemble the original fixtures to any degree.
4) The original central heating system was smashed and the original radiators made by the firm Bacon were replaced by new ones, different in size and installed in different places.
5) The kitchen shared the fate of the bathrooms and restrooms.
6) The wide travertine marble stairs to the garden, which were only cracked in some places and could have been repaired, were dismantled and substituted by new blocks of different appearance.
7) A new semicircular ebony wall was produced and erected. It was made thoroughly, by lack of suitable precious veneer in Czechoslovakia, however, it was made of veneer of lighter colour. Due to negligence on

Front-side of the Tugendhat house, 1989
photo: Wessel de Jonge

Terrace of the Tugendhat house, 1989
photo: Wessel de Jonge





Plans of the Tugendhat house

part of the builders, the "cylinder" and the table inside are not equally centred.

8) The last remaining sheet of polished glass (5x3 m) was stolen and cut into pieces.

The impression the house gives after the reconstruction might be similar to that in 1930. It is clean and very smooth. Also the metal details are painted in their original colour. The house lacks, however, the original furniture, baths, bathrooms and many other technical and other details, which were preserved as late as in 1980. It also lacks the original absolutely clear polished glass.

Though I have finished my account of the reconstruction, it seems to me that I still owe one explanation. The perishing of maintenance is a direct consequence of the planned economy. When the communists wanted to hold sway over the whole society, including, of course, the economy, they intended to "industrialise the building activities and agriculture" - typical seazonal branches, so that they could plan for January in the same mannner as for August. Artificially set prices were to support factory production of ready-made houses, always disgusting to the same degree. The prices of maintenance works remained unchanged and very low and so these kinds of work gradually disappeared. For decades, there were no apprentices trained for traditional building crafts. In the end, people have "forgotten" about the ageing of things and the resulting necessity to maintain and repair them.

Interior of the Tugendhat house, 1989
photo: Wessel de Jonge

Wolfgang Paul
Design Institute City of Dessau; Germany

Translated from German

Restoration of the Bauhaus in Dessau (W. Gropius, 1925-26)

Towards the end of 1926 in Dessau an architectural work was completed, the Bauhaus Building, which has been looked upon ever since as one of the masterpieces of modern functionalist architecture. This building in Dessau was the centre of the Bauhaus School of Design from 1926 to 1932. The creator and manager of the Bauhaus, the architect Walter Gropius, founded this centre of artistic learning in 1919 by means of a union of the Grand Ducal Saxon Academy of Arts and the Grand Ducal Saxon School of Arts and Crafts. At the time both institutions were under the direction of Henry van de Velde.

In the mid-1920's the progressive ideas of the Bauhaus school led to a conflict with the Thüring federal government, which was supported by right wing elements, resulting in the falling out of the Bauhaus in Weimar. There were numerous offers from other German cities wanting to save the school. It was the city of Dessau that made the Bauhaus, which in its brief existence had already drawn world-wide attention, the most attractive offer.

In 1926 the Bauhaus was able to establish a new educational building according to its own conceptions and thus present a wider practical application of its artistic theories. A construction site and funds were provided by the city of Dessau.

The Bauhaus building was based on a carefully conceived physical construction comprised of five building components: the workshop wing with its well-known facade curtained with glass and steel; the bridge building housing the offices; the north wing containing the instruction classes; the low building holding the auditorium, theatre, student canteen; and the boarding school with studios for study purposes.

At the same time the city of Dessau presented Walter Gropius with the opportunity for the teachers at the Bauhaus to build a small housing project, the "Meisterhäuser" [master houses], near the new school building.

In the years that followed Gropius also built the single-family housing project, Törten, as well as planning and constructing the Labour Exchange building.
Due to their significance, all these works of Gropius were placed under historic building protection.
As a result of the 50th anniversary of his inauguration, in 1976 the Bauhaus building was reconstructed from the standpoint of a historic building.
With the reconstruction all changes which had taken place in its 50-year history, were corrected. This included not only rebuilding required by changes brought about by use but also changes arising from the dominance of National Socialism in the period 1933 - 1945, as well as heavy damage resulting from air attacks towards the end of the Second World War.

The basis for preparation of the reconstruction had already been proposed in 1964 in a two volume plan of execution. Konrad Püschel, a former pupil at the Bauhaus, together with a group of his students from the Weimar Academy of Architecture and Building Sciences, compiled the work in close cooperation with the associates of the then City Planning Council of Dessau.

In a practical exercise in the office of the Dessau City Architects, the students Christine Kutschke and Michael Siebenbrodt worked out, besides being for 1975 very valuable material, what became the starting point for the restoration of the structure of the interior space of the festivities hall. There were no historic blueprints available for the architects in charge of the reconstruction. The actual reconstruction work on the Bauhaus began in February 1976. As a result, the building was constantly at the disposal of various professional and vocational training schools.

The first measure to be taken was the reconstruction of the impromptu flat wooden roofs with their upward slope, replacing them with self-draining, downward sloping roofs. Since the original roof sloping had been the cause of many problems, the work undertaken included a slight raising of the building's attic in order to permit an increased sloping of the roof. Once the dilapidated outside drain pipes and preparations for a new front had been taken care of, the renewal of the facade could begin.

The resulting centre of gravity made possible the restoration of the overhanging steel-and-glass wall of the workshop wing. On the eastside of the workshop building

there remained a small part of the original, which enabled the necessary measurements to be taken. For reasons of maintenance, it was decided to rebuild the overhanging wall not with steel but with aluminium, which was sprayed the colour of anthracite.

To reproduce the effect of the original facade it was necessary to match the new construction sideview to the former steel sideview for restoration purposes, and it was decided not to make any changes in the size of the posts. A calculation showed that an aluminium facade in the measurements of the former steel construction was statically feasible. Then the intensive work to develop the matching sideview was undertaken by everyone involved in the project. The problem was satisfactorily resolved in a short time, removing the final barrier to the construction of this sideview, the creation of which required special equipment.

The enameling of the overhanging facade was done in the same way as the original with mirrored glass. The use of solar panels was rejected on grounds of architectural preservation. The discovery of an original part of the opening mechanism of the window casements made possible the reconstruction of these on the entire facade. The rods, reels, cog-wheel and chain are the required elements to ensure proper closure and simultaneous opening of the rows of windows. The residue left on the painted surfaces contained felted, white-coloured plaster.

A completely different kind of building task was the reconstruction of the boarding school area, which took until 1979. In order to restore the originally accessible flat roof, it was necessary to remove the layers of wooden flat roofs with their outside drainage which had been added on over the years. At the same time it was necessary to remove the encircling raised support on which the roof rested. With the finishing of the stairway exit and a sun terrace, the restoration of the roof terraces was completed.

Repairing the surface of the substructure of the bridge proved to be a problem. The jointed concrete surface of the window construction indicated partial damage. The rebar was visible and destruction was evident. Since the hinging had come loose and windows had begun to scale by hitting against a new concrete support, another solution was sought and found in the form of a fine granular pebble-based plaster. In this way the original appearance was recreated.

In order to reconstruct the blue-gray granular plaster along the entire base of the building and on the south gable of the workshop wing, several samples were applied and, using the cracked and back side of the original plaster which had been chipped away, comparisons of grain and colour were made. As a result of highly skilled craftmanship during the execution, this plaster was also made to adapt the appearance of the original.

Besides the restoration of the facades, the reconstruction of the festivities hall of the Bauhaus to its original condition proved to be a difficult construction task. The

Aula during restoration
photo August 1976

Aula after restoration
photo December 1976

original layout of the festivities hall included the auditorium, theatre, canteen on one side of the entrance-hall and, on the other side, an exhibition area.

The central feature of the festivities hall is the auditorium with adjoining theatre. It was here, during the Bauhaus' existence, that not only dancing and musical performances took place but also significant social, political and professional lectures were held and festivities organised. By opening the folding wall behind the stage it was also possible to see what was happening on stage from the canteen. For the performing artist, this created totally new demands.

It is therefore not surprising that the reconstruction of the auditorium was undertaken with special care. The magnificent spacial relations of the auditorium were originally supplemented with steel tubing, lighting and various technical requirements such as radiators and window opening mechanisms. Discriminating, perfectly attuned colour combinations added a festive aura to the scene.

Later, after demolishing a solid partition wall, intensive work began in the areas of the auditorium, theatre, and student canteen. Simultaneously with the renewal of the plaster, repairs began on the mechanism for opening two or three large windows at the same time in all the wings.

With only a hand-operated wheel mounted on every third pillar, the technical construction within the pillars can be operated. From these points force was distributed to open three windows simultaneously. The windows are attached to this device by means of a rod.

The lighting installation which was similarly designed for the auditorium and entrance-hall by the Bauhaus pupil Max Krajewski, presented special problems during the reconstruction. These were to be found especially in the restoration of the reinforced concrete beams, of the existing electrical ducts and in the exact working out of the various chromium-plated, heavily or partially bent tubing. Specially strung lamps with white opal glass spheres affixed to this tubing have once again created a diffuse, pleasant lighting effect.

Based on a photo from the original period which showed the approximate proportions, the blueprints of the auditorium seats designed by Marcel Breuer were reconstructed. An exact supporting point shows the position of the seats' bottom which later, when they had been removed, revealed poured concrete remains in the base of the seats.

Today once again, chromium-plated steel tubing can be seen in the construction of the seats. White plastic buffers have replaced the former ones made of rubber, mounted on the seats perpendicularly to absorb the force of the seat folding up. The gray linen material of the seats and seat backs was fitted over the steel tubing frame. The seats were then fastened to the floor at the base, which has been reproduced in the gray-green colour pattern of a surviving original part.

The colour design of the auditorium as was the case with the entire festivities hall was already completed before installation of the seats and lighting. Here, too, it was vital to stick rigidly to the original. In this way, after investigation, the old paint was removed down to the original layer and, making good use of the colour scheme plans of Hinnerk Scheper, the original was followed as closely as possible.

In addition to white, also red, yellow and blue colours were used in the portico, entrance-hall and main stairwell, while the auditorium was done predominantly in white, shades of gray with black for the window construction, the dimming installation and the doors. To meet the planned requirements of the studio theatre it was essential that the proper cables be used for the reconstruction so that the stage lighting and acoustics of the theatre could be reproduced in every detail. The guiding principle here, too, was to carry out the installation in such a way that the original appearance of the auditorium would not be adversely affected in any way.

Not only the auditorium but also the other sections of the festivities hall contained numerous architecturally excellent-detailed solutions. An example of this are the doors between the entrance-hall and the auditorium, which were also reconstructed. Running in the length of the entrance-hall there are gray doorpanels which contain a door-holding mechanism concealed in their solid, black frames. When opened, the insides of the doors, also black, can be seen. The black doorhandles are half ball-shaped and mounted to the doors on large, cross-shaped, highly burnished aluminum sheets. When the doors are opened entirely, the doorhandles fit into white metal pans, tailed in in the wall where otherwise the door would hit the plastered surface of it. The doors are held open by means of a steel coil mounted on the door panels which, when hit, passes behind a steel cover and locks in place.

With equal care work was carried out on the restoration of the floor of the entrance-hall. The then alienated, multi-coloured terrazzo floorcovering designed by Moholy-Nagy today once again suggests the concept of the entrance-hall of doors leading to the auditorium.

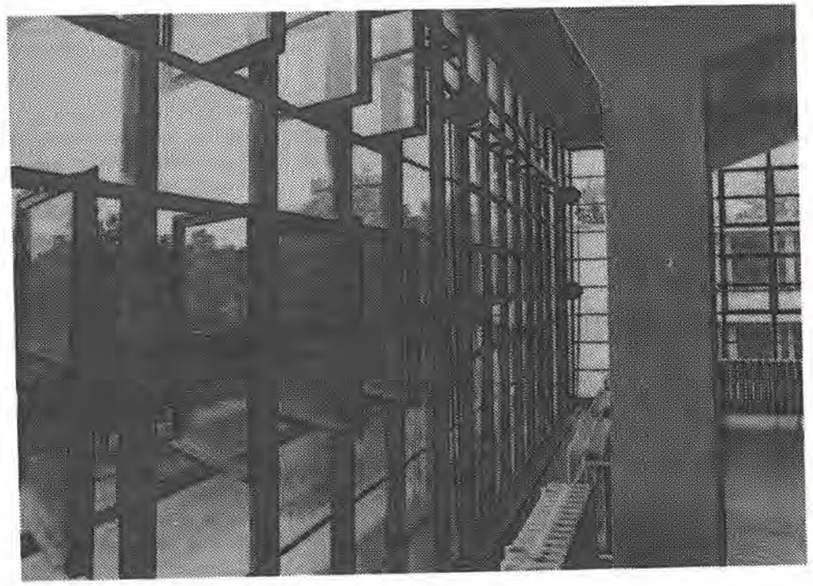
In addition to the festivities hall, the main stairwell is also accessible from outside via the entrance-hall, the main entrance and the portico. From here via the passageways of stairways 1 and 2 the areas of the workshop wing and the bridge can be reached.

The restoration of the large window casements, lying perpendicular on the south side, which extended from the entrance-hall through stairway passage 2, required very special attention. In contrast to the other small-scale window constructions throughout the building, the width of these windowpanels was unique.

The perpendicular line of the Bauhaus on the south gable and the horizontal front roof of the main entrance put into place in accordance with the typographical works produced by Herbert Bayer, brought the reconstruction of the building to completion.

In meeting today's architectural demands problems arose in the preparation and completion of the reconstruction work, which often clashed with the wishes of architectural preservation. Thus, Gropius' (for architectural reasons) non-coated steel and stone ceiling in the workshop wing had to be virtually completely coated for reasons of fire prevention.

A problem of a completely different sort concerns the demands of the contemporary occupants of the building, caused by the changing nature of working requirements. Only by means of a constant dialogue and an intelligent cooperation between the aims of architectural preservation and those of the occupants it was possible for that which had been achieved in terms of the legacy of historic buildings, to be preserved.



Bauhaus building: reconstructed curtain wall of steel and glass, December 1977

Bauhaus building reconstructed

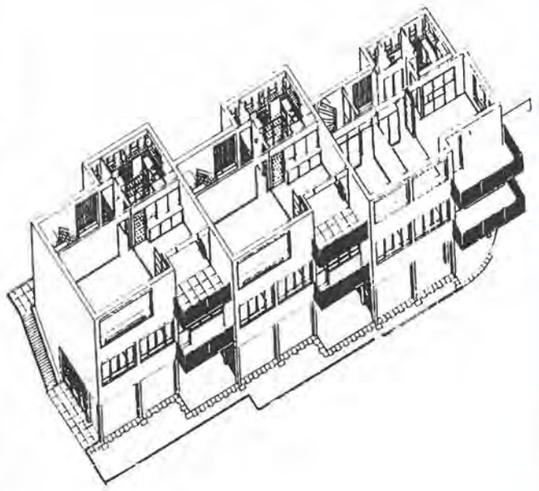
Ruggero Tropeano
Architect, Zürich; Switzerland

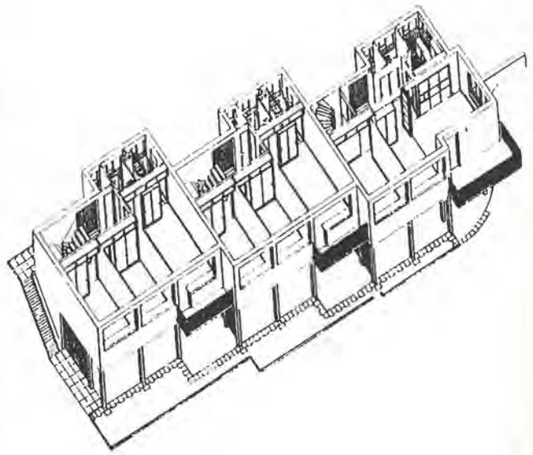
Housing units at Wasserwerkstrasse, Zürich (Max Ernst Haefeli, 1927-28)

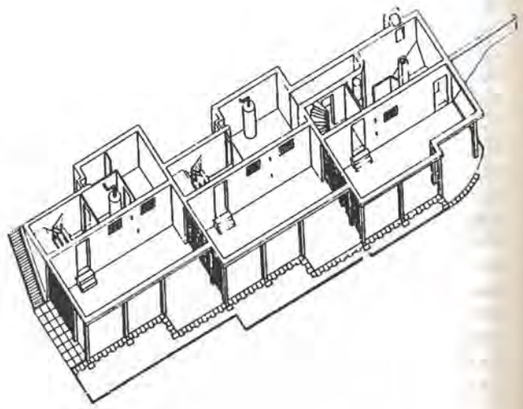
The Swiss Arts and Crafts Union organized in collaboration with the Museum of Arts and Crafts Zurich in 1926 an exhibition on modern interior design for minimal housing units (Das Neue Heim I). The show offered proposals for well-organized small living spaces which were produced and shown as complete exhibition spaces. Furniture, lamps, carpets, dishes and all kind of living fixtures from those days production, completed the installation of the interior of the future and of men living in rented little flats. A group of Swiss architects were send one year later to the Stuttgart Weissenhof exhibition and completed the "interior design" of six units of Mies van der Rohe's housing block. Under them the Zurich group represented by E.F. Burckhardt, K. Egender, A. Gradmann, M.E. Haefeli, H. Hoffmann, W. Kiezle, W. Moser, H. Neisse, R.S. Ruetschi and R. Stieger. Contemporary to the exhibition in Stuttgart A. Altherr started preparations for a modern housing unit which would offer to the public a view on modern architectural production. A. Altherr as director of the School of Arts and Crafts developed an exhibition concept which demonstrated the new way of life of the working class in spaces of the museum and that of the upper middle class in the housing prototype at Wasserwerkstrasse, near the Museum. Finally two competitions were launched, one for the interior furnishing and one for the prototype-housing. Between the eighty entries of the first one, five were chosen for further development; the housing competition was restricted to a limited concurrence of ten Swiss architects. The winning design under the nine entries was proposed by H. Hoffmann; M.E. Haefeli and W. Kienzle were also invited to reelaborate the projects. Final winner of the concurrence was M.E. Haefeli, whose design was planned for execution in spring 1928.
Financing modern architecture was a crude job in Zurich, the site for the building was offered under special conditions by the Schindler (Elevators) family, who offered a piece of the fruit orchard of the family residence, the financial aid by the city was exstinguished before the end of the competition, so that the fees for the jury could not be paid. The Rotach building cooperative could afford the financing of building this housing prototype. Starting spring 1928, after six months the construction was completed. First construction ideas showed a steel frame, realisation was in a concrete frame with 30 cm isolating bricks, "mammuth" compact roofs with cork isolation for the terrasses and "tropical" roof cover. Special efforts were made for the fenestration, steel double glazed windows to the rear on line with the facade and light metal windows in the front with built-in sunscreens. Interior surfaces were eternit for the window-shelves, linoleum floors in the living area and on the staircase, cork-linoleum floors in the sleeping room, calicot and tempera colored wallpaper. Interior finishes, that means color and furniture choice, were different and provided by different architects.
The housing unit was devided in two 6-room independent units and two 3-room apartments, organized on three connected but slightly escaled blocks opened to face west. Atop the three room apartments were disposed the washing and ironing facilities of the whole unit.
The central heating system is situated on the ground (cellar) foor of these first block. Electrical and gas-cooking was provided alternatively in the different units. Warm water is installed individually (electric boilers).
The concept of the housing unit shows a very studied distinction between private and collective which allows undisturbed living with organized collective facilities.
The exhibition showed functional furnishing including rational lightning and the most modern and futuristic kitchen and sanitarian installation. Service rooms are small and planned with accuracy; as an example the main bath room of the 6-room apartment, with double entrances and a bath tub dividing the space so that it can be used on both sides, by the parents, the children or the guests. During the exhibition a "bingo"("tombola") distributed the interior furnishing as prizes for the visitors. The central unit, with furniture and polychrome by Haefeli himself, was excluded because Haefeli lived there a while.
Wasserwerkstrasse represented in Swiss modern architecture, a kind of living manifesto, which was recognized also in national and international publications, "Werk", "Schweizerische Bauzeitung" and the well known German-Swiss pamphlet on "Befreites Wohnen" in the Schaubücher series by Orell-Fuessli 1929 edited by S.Giedion. Further on, international publications were Stein, Holz, Eisen 1928, Der Baumeister 1928 (Peter Meyer) and MSA (Karel Teige CSR) or Philip Johnson "The International Style" 1932.
Hans Richter produced in 1930 a motion picture which compared modern rational furniture to usual decadent decoration with sketches showing the living room and the kitchen built-in cupboards of the housing unit at Wasserwerkstrasse.

The period of use lasted in tranquillity and without major changes till 1976. The cantonal planning office presented a project of a new highway entrance to Zürich, which eraded the Wasserwerk Housing unit. Supported by the resistence of the Swiss Union of Arts and Crafts and interested architects finally a provisional solution was found by changing the emplacement of the road. A provisional solution because of the fact that the high-way entrance didn't touch materially the building, but was located at nearly two meters distance from the kitchen windows, the main entrance on the level of the living floor disappeared and the garden entrance on the sleeping floor level became main entrance, changing the functional concept of the two 6-room apartments.
In the mid-eighties a new social development in the near Platzspitz park brought the occupation of the ground floor verandas by the drug consumers community concentrated at the nearby park. The elder inhabitants could not help clearing the situation and the Rotach cooperative announced to sell the building to the city. A formal answer was never given, so the cooperative decided to look for privately interested persons, families which could efford a renovation in respect of all architectural and historical items of the building.
August 1989 the purchase contract was signed between Christian and Germaine Stamm, Cristina Pfister, Ruggero Tropeano and the Rotach cooperative, the definitive validation by the members of the cooperative was decided with large majority. In the meanwhile restauration plans were worked out by Cristina Pfister, Christian Stamm and Ruggero Tropeano. A clear concept of renovation had to be supported by an effective maintainance and by a clear partition of the property, which supports the concept of the building and respects collective and private spaces without allowing for example the transformation in future of the until that time preserved spaces for washing and ironing facilities.
Each family ownes a 6-room apartment and a 3-room flat in a floor property (Stockwerkseigentum). All outside spaces and inside collective spaces are in common and are assigned to private use. The first very important problem to face was to preserve the building from outdoor vandalism, a strong industrial fence defines now the property. Restoration principles were set after a detailed description of the existing substance. This investigation revealed that:

- the sanitarian installation were in good condition with except of steel plumbing
- electrical installation (on walls) did not need to be touched
- walls were overpainted up to four times and had many layers of wallpaper
- floors were overglued with carpets
- the tiles in bath rooms and kitchen were in excellent condition
- light metal windows were deformed but not damaged by erosion (they were not in an alloy but pure aluminium)
- ceilings were overglued with synthetic fabrics to isolate water damages
- interior built-in furniture was nearly complete except for the wooden walls of house nr. 31 which were moved to in the veranda and later on used as tables at the Platzspitz
- the original colors of the veranda were damaged but existing
- the rough stucco outside walls showed at percussion no damage
- five inspection-holes on the roofs demonstrated that no humidity reached cork isolation in the last sixty years.





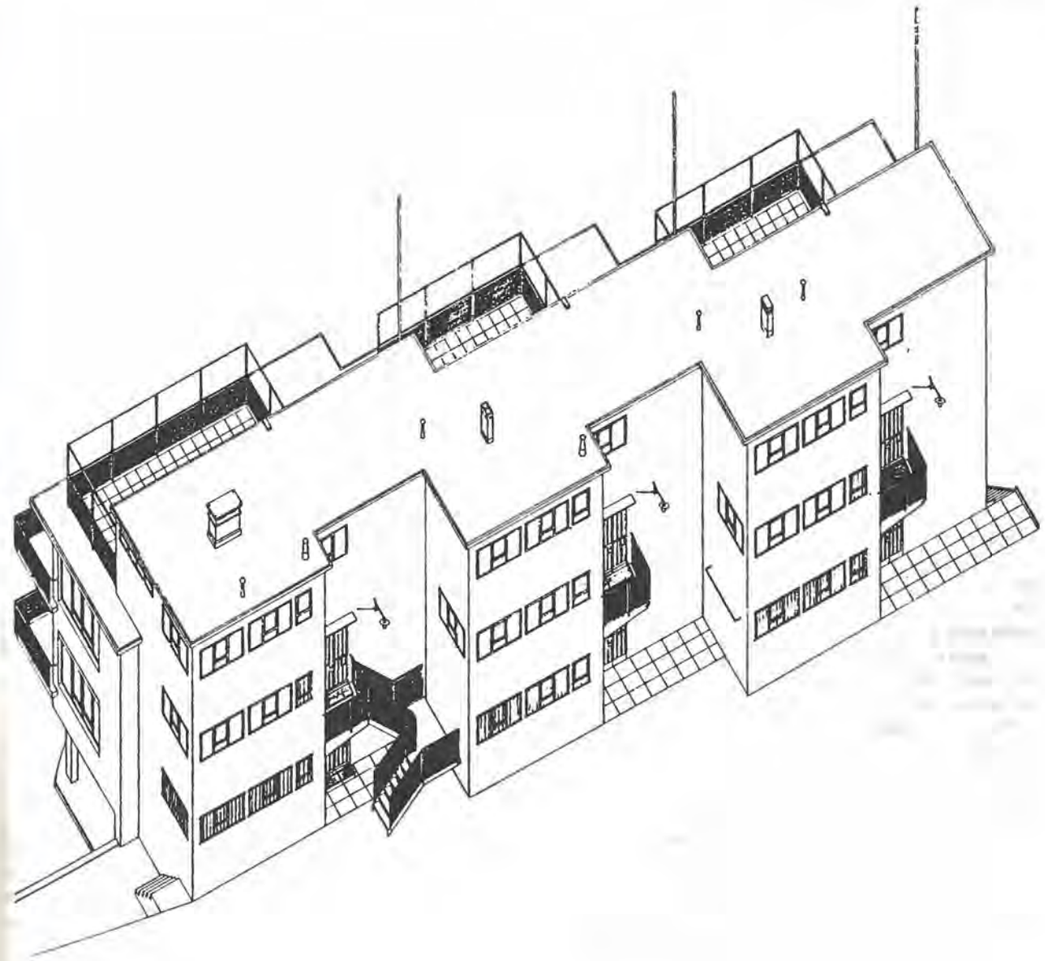


A color scraping investigation revealed a varied polychromy with more than 30 colors and five painting systems, oil painting for the furniture, tempera painting for the walls with calicot wallpaper, quartz-sand treatment brushed on the walls of the staircases, calcite treatment of the outside stucco, mineral painting of the verandas.
The restoration principles were based on the restitution of the polychromy at least of the main spaces, entrance, staircase, kitchen, bathrooms and at least one room with possibly also the preservation of the existing linoleum.

- reprofiling of the kitchens with original fixtures like gas and electrical equipment, water fittings and lighting. This was not always possible in the little apartments because of insurance problems (rented flats).
- substitution of sanitarian equipements which was damaged of changed in the last years. (the destructive renovation of a sanatorium in the Wallis Alps provided us a good choice of used materials in good shape of the same period)

The renovation could be defined as a painting and maintenance renovation with substitution of damages by similar products. One very interesting aspect is that of the mobile furniture.
Both owners collect since a long time furniture of the Swiss modern period. Nearly every design by Haefeli, which was producted in series is now represented in the housing unit, so that a complete "show" of modern living can be displayed. The continuity of "Befreites Wohnen" is assured for the next generation.

Axonometrical view of the northside



Christian Gimonet
Architect, Bourges; France

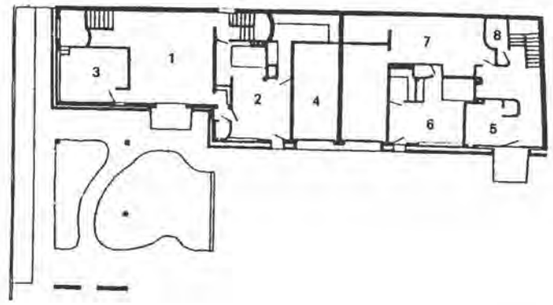
Restoration of buildings of Le Corbusier

In 1970 I had a proposal to manage la Fondation Le Corbusier. One of my first tasks was to settle the foundation in two houses designed by Le Corbusier and Pierre Jeanneret from 1923 to 1925. One was given by Raoul La Roche to be the head office of the Foundation. In 1922 this Swiss banker working in Paris had bought cubist paintings from the stock of Kahnweiler, the German art dealer, confiscated by the French government during the first world war. That on the advice of Le Corbusier and Ozenfant then partners as purist painters and editors of the review L'Esprit Nouveau. By gratitude for this advice, La Roche gave a Picasso to Le Corbusier. Thanks to the sale of that canvas, the foundation was able to buy the adjacent villa Jeanneret in 1969.

Raoul La Roche was a bachelor so his villa had small domestic facilities: two small bedrooms and a tiny studio for a couple of servants. The generous spaces were created for the superb growing collection of cubist and purist paintings and for the parties given to the elite of the Swiss colony in Paris. The interior is famous for its architectural promenade and its polychromy. We can find there the dawn of new architectural elements: pilotis, horizontal windows, glazed corners, roof and gardens, glass facades. The two houses were designed as a whole as it is shown by the "Tracé régulateur". They are too a great lesson of architecture by the way the architects introduced light and sun in complex organisations landed on small plots with trees, rules of vicinity and the obligation of almost blind walls towards the sun. That is particularly the case of villa Jeanneret built for the Swedish wife of Albert, the musician brother of Le Corbusier, which combines skilfully many rooms for family, professonal activity and servants.
It was easy to fit the activities af the Foundation in the villa Jeanneret without any alteration. By this way the villa La Roche was free, a masterpiece offered to the visitors, perfect to suit the exhibitions and small meetings. Just some railings were not suited to the rules of safety. The main constraint was the obligation to lodge the old servants of La Roche. So it was temporarily impossible to reorganise the ground floor and connect it with the villa Jeanneret. A passage by the roof garden already existed but was not sufficient between the two villas.
A new one was created through the wall between the two courtyards, protected by a simple slab similar to those on the main facade. The last visible alteration caused by the rationalisation of the heating system was a larger chimney. A "bunker" where all the drawings and paintings are stored was built underground, under the pilotis of the gallery.

My first approach to the specific problems of the rehabilitation of modern architecture came from the necessity to put new waterproofing. This technology had new rules imcompatible with some original details. One of them had to be changed, so an expert would recognise than a profile seems more Wrightian than Corbusean. In the courtyards the original tiles had to be removed to renew the waterproofing. This very common industrial tile from Sarreguemine was not produced anymore, and despite researches it was necessary to choose a new one which could not be exactly the same. Among the criteria I privileged the colour. It was impossible too to find the pink rubber ground of the La Roche gallery; though very dirty we kept it. If the common brown linoleum used in many rooms in both villas was still available, I am not sure it would be the same today.
The villa La Roche was inaltered but the villa Jeanneret abandoned in 1938 by the Jeanneret family, suffered many alterations. The original colours were covered. Soundings, texts and testimonies were used to reestablish the subtle purist "colouring". That was a very important fact of these houses and the only place where it could be seen. La Roche had to spend money regularly to maintain well, or even restore what was indeed a cheap construction. Because they had a heterogenous structure the beautiful plain walls of purist aesthetic were quickly cracked.
In the twenties thermical exchanges through a wall were ignored. The window-sill with a tablet, emphasized by colour is a very plastic detail, it is too a "pont thermique" which degrades the paint. In addition the purist harmony is based on mat paints which are more fragile.
A few years later, I had the opportunity to verify with the new pavilion of L'Esprit Nouveau built in Bologna that the same methods were, of course, giving the same results.
An hydrofilm already tested on the market, giving a supple film coating on the wall, seemed appropriate for the wall outside. A delicate problem was the choice of the white for which testimonies were divergent. For the walls inside, I had no alternative solution, they should be repainted frequently that would be costly but among the very duties of the Foundation.

I must say than I was an architect in a very privileged situation, being both Maitre d'Ouvrage and Maitre d'Oeuvre. I was responsible to the Council of the Foundation constituted of friends or collaborators of Le Corbusier but I felt even more responsible to Le Corbusier to whom I was debtful for my vocation. I developed an ethic of humility, of patient research to assure perennity for a work that I discovered, menaced not only by men but from inside. In addition to my good knowledge of writings by Le Corbusier and other masters of modern architecture, I visited, as a student almost all their buildings around the world. That was certainly helpful in my task. So as to make a report on Le Corbusier's buildings I visited again and investigated the buildings in France and India carefully. To appreciate the emergence or evolution of problems, I had my own memory and my own photographs. I became anxious about buildings with reinforced concrete. In front of such a difficult problem, I was convinced than a team of specialists was necessary. For the first time, I became aware of the interest of historians with Pessac. A young American historian, Brian Brace Taylor was sent by Harvard to study the birth and evolution of social housing in Le Corbusier's work up to Pessac. We went frequently to Pessac togheter to investigate on buildings and get testimonies. It seemed that a history of technology of building had to be developed.
At the beginning of the seventies Pessac was in a pitiful



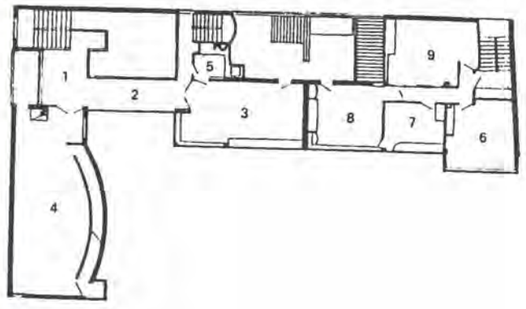
Ground floor

Villa La Roche

1. Great Hall
2. Office
3. Reserve bookshop
4. Reserve maquettes

Villa Jeanneret

5. Entrance
6. Office
7. Photo archive
8. Archives



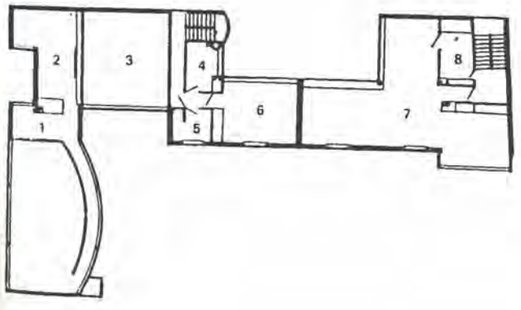
1st floor

Villa La Roche

1. Hall
2. Gangway
3. Exposition room
4. Gallery
5. Kitchen

Villa Jeanneret

6. Administration
7. Secretariat
8. Office
9. Meetingroom



2nd floor

Villa La Roche

1. Mezzanine
2. Exposition
3. Atrium
4. Office
5. Reserve library
6. Room for microfilm

Villa Jeanneret

7. Library
8. Reserve

condition. Philippe Boudon a young architect made it clear in a good book with a rather 1968 approach that the alterations were the result of social and cultural values. I discovered technical and economic aspects of the problem. I interviewed people who appreciated these houses and particularly the very large windows going from one wall to another, so enlarging spaces which were already larger than those of similair social housing. But they were unable to find a solution to restore them. These industrialised windows made of simple steel profiles had poor air proofing compared with new products, rust could give definite damage. None among craftsmen accepted to restore or make identical windows. Aluminium windows were expensive and unpleasant with their heavy profiles and their colour. The easiest solution was to put a standardised industrial window and fill it with masonry, a disaster for the house and the whole street.

These disregarded houses were inexpensive at that time. The former President of the Foundation accepted my proposal to buy and restore some of them. I was on negotiation for a house with an arch which was in a rather good condition, when a new President disagreed with that policy and stopped it. At the same time a young engineer who wanted the house and ignored the last fact promised to rehabilit the house under the instructions of the Foundation if they renounced to buy it. Without any official mission, I advised the new owner, fortunately fond of Le Corbusier, to repair the house and adapt it to newer conditions of use. The young man had little money but great enthousiasm. He revised himself the windows with care and patience that no enterprise could give. With his father, a bricklayer he did himself all the new arrangements which were determined during three meetings in Pessac.
A discreet glassed sieve permitted a more comfortable relation between the kitchen and the magnificent space under the arch where a slab-table, a frequent architectural element of Le Corbusier was added. Compromises were made inside, the owner was more sensible to the last harmonies of Le Corbusier than the purist ones. But the external polychromy was reconstituted, except for the arch which had to be painted white because it was necessary to hide the many cracks repaired.

I advised the owners of the Villa Planeix in Paris in such a similar informal relation. That was not fully satisfying but I considered it was a way to avoid bad alterations. Several generations of the original family were superposed, so the beautiful spaces inside were disturbed. I obtained the full respect of the details of the facades which were much damaged. For the first time I used cement with resins, thanks to the know-how of a docter of chemistry working in ciment Lafarce Company. Philippe Pichat seemed to have the very knowledge and curiosity to be a member of the team of specialists I had in mind. I wanted to avoid remedies worse than diseases. I wanted to avoid what I had seen on my third visit to Unity Temple : on the advice of the son of Frank Lloyd Wright a linen oil was applied on the peel of concrete completely re-done. The cost was high and the result was ugly. The building was brownish, the weathering was irregular and on the horizontal surfaces dust and oil composed an horrible crust, cracks already appeared.

Over five years I had to take care of the building 24, Rue Nungesser et Coli where Le Corbusier lived. His appartment was already classified historical landmark. I restored it in 1973. It was easy to refresh the original paintings except in the shower. To restrain the degradation of paint over too thin an external wall whithout insulation we put an epoxy paint though the white was not exactly the same. We kept broken the "pavés de verre" because it was too difficult and expensive to change them. The elegant pavilion on the upper terrace where Le Corbusier had already set some woodden panels instead of the original glass in the fifties was more damaged by rust. I think we saved it but a good maintenance would be then absolutely necessary.

That was the main problem of that building, a blend of concrete, steel and glass. Due to the bankruptcy of the contractor in 1934 it was certainly not well done. The total lack of maintenance, not only during the war, resulted in a catastrophic condition for the facades in the early sixties. A balcony fell down on the pavement.
Le Corbusier proposed a new aluminium facade. The condominium refused because it was too expensive. The rehabilitation was done in 1963. Bankruptcy again, bad work, didn't solve the fundamental problems between steel en glass. Some owners added heavy over-loading of tiles over balconies. In 1975, the situation was again dramatic : some sliding windows couldn't work, many "pavés de verre" were broken, water filtered through, the security for the building and the street was menaced. It was necessary to rebuild new panels with new "pavés de verre". These were not produced any more, and the rules to use them had changed. Fortunately with the help of Saint Gorbain Company, we found a small stock sufficient for the job. We get advice to use them.
The very difficult challenge was to keep a clean image of a building which originally was already an acrobatic exercise, and to respect new rules of technology ignored originally and that, with a minimum of money and time allowed by the condominium.
In regard of new rules and economy, "pavés de verre" were set in precast elements settled with almost invisible supple joints.
A difficult restoration of iron wook was necessary too. In order to waterproof the joints and allow dilatation, in regard of elasticity of paint, I divided some metallic elements and covered them with a fiberglass fabric.

The entrance hall was another kind of problem where diplomacy took place. The roof was spoiled by water leaks but that was easy to solve. The lift was no longer in conformity with safety rules : the structure and mechanism were behind screens of glass. It was impossible to respect the new rules and keep the transparency. So as to avoid an effect of volume, a mirror was set. The ground made of a very common white ceramic tiles was damaged on several spots. The majority of members of the condominium had very bourgeois and conservative aesthetic values, they wanted a more luxurious tile and great chandeliers. They disliked the screen put by Le Corbusier in the fifties to hide dust-bins and prams. I must confess than I didn't appreciate this precast concrete element, green, red, black and grey coloured.
A global solution was necessary to negociate the agreement of condominium. An analysis of the ground floor permitted me to discover un-used and free spaces for dust bins and prams. It was possible to take off the screen and reestablish the original space. To keep the original tiling, in addition, I felt something bright should be brought in. I discovered that the "Poeme de l'Angle Droit" written and designed by Le Corbusier was not readable only as a book but could be composed like a wall painting with a protection of glass covered the whole surface of a wall lit by a skylight. On one side a cast-iron pipe was hidden by the light alteration of a curved wall. The book would be given by the Foundation. Several chairs by Le Corbusier would be bought by the condominium to give a more convivial aspect to the entrance. The solution was accepted.

In 1974 in regard of a double evolution, at my own Atelier of Architecture and at the Foundation, I kept there only architectural jobs. At that time, the Direction of Architecture initiated a large and open research programm. With Brian Brace Tailor I proposed a study about the specific problems of rehabilitation of modern architecture. The principle was accepted but I had to reduce the budget. Two years of negotiation during a period of heavy inflation reduced again the financial possibilities. Already I was unable to take benefit of that study as I expected, for the rehabilitation of the 24 rue Nungesser et Coli. I was asked by the monks of La Tourette, anxious about their building. They needed to adapt it to new uses after Vatican II. The Thomas More Center was created to welcome symposiums on religious subjects. They had no money. I thing no one could notice the alterations I made to adapt the shower and toilet units. In a room where they expected to organise small meetings they wanted to demolish a staircase. I argued that some people could sit on it, even if a moquette was put over the original tiling of the first steps to make them warmer seats. I was critised for that but the stair was saved and it was easy to remove the moquette. The monks had problems of maintenance but were not concious of the problems. I was very anxious about evolution of concrete, that was beginning to spoil the aspect, but I imagined that it would become worse and maybe one day it could be necessary to resort to unacceptable solutions. The Brazilian pavilion in Paris, the buildings in Ahmedabad and Chardigarh, the "Unité d'Habitation" in Marseilles and Nantes, had crucial and growing problems.

I thought it was fundamental to organise methods of analysis, a repertory of solutions. An ethic was necessary. The best was to meet people already working on the subject. That is the reason why I went to the U.S.A. several times. I met Professor James Marston Fitch a pioneer and number one on the subject in America, teaching in the historic Preservation Program, a new department of the school of Architecture at Colombia. He and Professor Fames Dalibard confirmed the interest of historians and scientists. I met architects or teams doing rehabilitations of buildings of the School of Chicago, Sullivan or Frank Lloyd Wright. I visited many buildings already restored or not. In France I worked in a committee supported by the producers of cement, about the ways concrete was weathering and getting old.
I succeeded in taking a young scientist to India to study the possible action of biological agents over concrete. The Millower's building had a poor appearance due to development of black moss. But by lack of money I was unable to settle the program of research on concrete squetched with Philippe Pichat and Jean Paul Maric, Director of Cerilh (Centre d'Etude et de Recherche des Liants Hydrauliques).

As you probably know the architects in France are not well protected. The loss of a great project and consequently a heavy loss of money obliged me to resign some peripherical none profit making activities and concentrate my time on the main tasks of my Atelier.

My last contribution to the subject was in 1986 the proposal to a close collaborator of Jack Lang, Minister of Cultural Affairs, seeking a purpose for the villa Sayoye : the creation of an Institute for Preservation of Modern Architecture.

Helge Pitz
Architect, West-Berlin

Translated from German

Conservation of Modern Movement neighbourhoods in Berlin

The Siedlungen (housing projects) of the 1920's today celebrate their 65th birthday. They, too, are getting on in years. They are in need of repairs. Usually this takes the form of a "face lift". Let there be no misunderstanding: not face lifting in the sense of removing wrinkles or rejuvenating the face, rather the restoration of the building's exterior according to the principles of architectural conservation - in other words: to retain as much as possible of, and base the restoration on, the original concept.
In general, the following are involved:

On the roof
- missing or damaged insulation must be repaired to meet modern standards,
- drain pipes and gutters must be restored to their original state (often running at right angles).

In the facades we see
- plaster (smooth or rough),
- wooden windows,
- front doors,
- balconies,
- terraces,
- greenhouses with their plain windows set in a hand-forged steel framework,
- and the original colouring.

In order to accomplish the kind of careful restoration that a 'monument' deserves, thorough preliminary investigations are necessary. As practising architects, we were given the assignment by the National Conservator in Berlin and the housing societies, GSW and GEHAG, to carry out the work to carefully restore to their original state the four large housing projects of the 1920's in Berlin: Siemensstadt, Weisse Stadt in Reinickendorf, Hufeisen-Siedlung in Britz and Waldsiedlung in Zehlendorf. This close cooperative effort has been going on for nearly ten years.

Based on research and a study of the original blueprints, precise measurements up to scale 1:1 together with an analysis of the materials, one gets to know the original building. The research results were documented (drawings, photos), original samples (plaster, wood, paint particles) were carefully studied, indexed and filed.

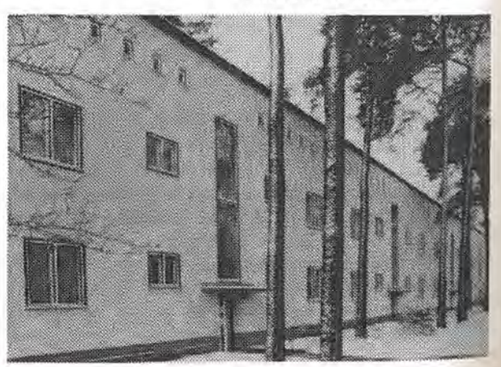
Based on these investigations the restoration or preservation concepts were worked out.

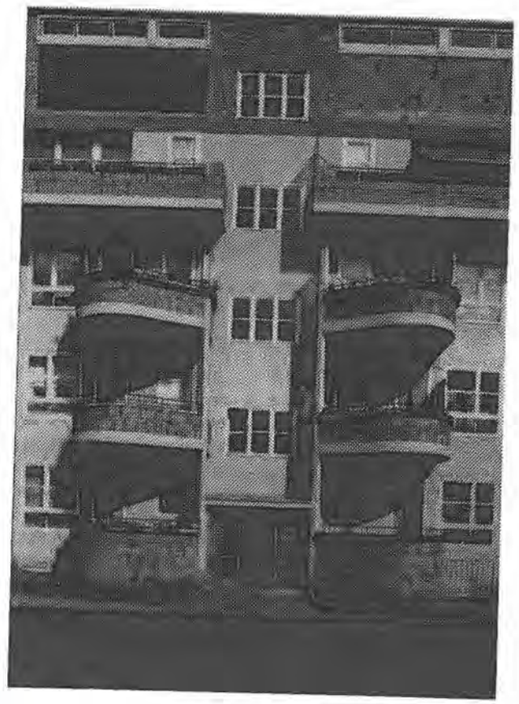
Instead of overwhelming you with the various problem areas, I will give you two interesting examples.

First:
plaster and paint samples from the building in the

Architect Bruno Taut
Britz

Architect Bruno Taut
Onkel Toms Hütte, Zehlendorf





Architect Hugo Häring
Siemensstadt

Architect Bruno Ahrends
Weiße Stadt, Reinickendorf

Waldsiedlung in Zehlendorf. The architect: Bruno Taut, who was then and still is today with the housing society, GEHAG.

Problem: smooth plaster with the original, mineral-based paint (germinal mineral paint),destroyed in the 1960's due to film formations of the paint, must be renewed.

Secondly:
The balconies of the Zeilenbauten in Siemensstadt. Hugo Häring was the architect and the housing society was the GSW.

Problem: Much damage to the brick parapet of the balcony as well as to the edge of the steel supports of the jutting balcony slabs.

This work was carried out and supervised by the construction department of the societies based on an examination of the situation (with reference to the original buildings). The way in which it was carried out was documented by us (in writing, drawings and photos). In dealing with the monument this approach was consistently followed.

The surrounding parks have also been restored today to their original condition, as carefully planned as the work carried out with the building.

As a result of the fact that no fundamental changes were required in the basic layout the architects, following an intensive study of housing shortages, have contributed considerably to the housing supply, the demand for which is growing by some 1-2% today, by once again making available housing for the less fortunate.

To conclude this brief presentation a few slides in quick succession, showing how important the efforts for monuments and those of the housing societies are - since what is at stake here is the conservation of a simple, high-quality form of architecture from the period of the so-called "new architecture".

Wytze Patijn
Katrien Overmeire
in cooperation with Olof Koekebakker
Architects, Rotterdam; the Netherlands

Restoration of the Kiefhoek in Rotterdam (J.J.P. Oud, 1925-30)

Report on the reconstruction of a housing block

The reconstruction on a housing block at the Hendrik Idoplein in Rotterdam is a first step towards the restoration of the whole residential area of De Kiefhoek. It will be a drastic restoration in more than one sense: this "recent monument" is not only going to be improved in a technical sense - a pile foundation is to be put in among other things - but it will also have to be adapted to the current standards for good housing. Halfway through the 1980's an attempt was made to conserve De Kiefhoek by giving it the standard facelift.
The results of that were rather disappointing. Technical problems, as a consequence of its poor foundations, continued to exist. The building materials
applied, as in the synthetic windows, pose a serious threat to the monument's vulnerable image.
A block of eight houses at the Hendrik Idoplein was in such a bad state of repair that it was clear from the start that the standard facelift would not last a long way. Demolition of the block seemed inevitable, so that if it was to be conserved, renovation would imply reconstruction. The Hendrik Ido block could thus become a pilot study for the possibilities of restoration for the entire Kiefhoek area.

More space

In the De Kiefhoek project the first and foremost question we were confronted with was how to meet contemporary living requirements in the space available.
A reconstruction of De Kiefhoek along the lines of Oud's original plans was out of the question right from the start. His plans do not include the facilities which are now considered necessary. The rooms are too small by our present standards: a 4 by 7m livingroom area is now considered quite reasonable. The houses as built in the 1920's were not equipped with showers or washstands. The kitchens, measuring 3,4 m2, do not leave much room for a stove or a fridge, let alone a washing machine. None of the three bedrooms could accomodate a double bed. So we were faced with the task of developing new types of housing which would meet contemporary living requirements but would not disharmonize with the idea of Oud's original design. We also wanted to preserve the architectural characteristics of the blocks with the white bands of stucco and the yellow window strips.
Above all the architectural plan of the De Kiefhoek area was sacrosanct. The outward appearance of the area, as seen from public spaces, could not be altered.
We also thought it important to preserve the most characteristic elements of the interior of the house, such as the hall with its gas meter closet and its cluster of spiral staircase and lavatory. The meter closet is unique for the way it combines with the hatrack and the windowsill in the livingroom and for its characteristic rounded off end. The cluster of the staircase and lavatory shows a well thought-out and, from a spatial point of view, a very economic solution to the most complicated part of the house. Everything fits in neatly and forms an integrated whole. The lavatory, for instance, is 'bulging', to create maximum space for the bowl and yet retain enough room in the kitchen. The spiral staircase enables one to reach the upper floor comfortably with a minimum superficies consumption.

Interpretation

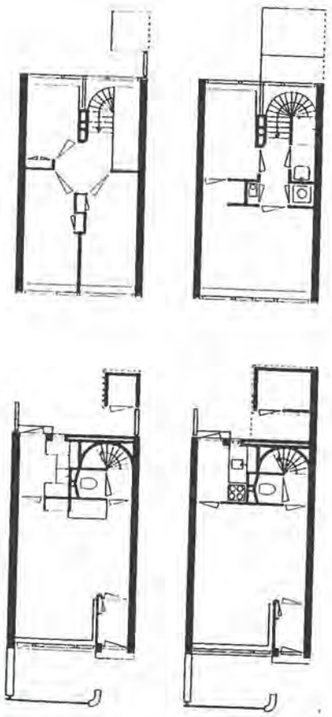
As our points of departure (i.e. preserving De Kiefhoek's outward appearance and modernizing the houses) became clearer, the next step was to interpret Oud's original concept in the right way in all the decisions that were to follow. This did not mean that we began to ask ourselves what Oud would have done in a particular situation. That would not have led us anywhere (Oud might not have been happy with a restoration of De Kiefhoek at all). And how were we to know what 'the master' might have done. This therefore could never be a directive; everybody will interpret a situation in their own way. The manner of interpretation as applied in Betondorp, in Amsterdam, was not of much use to us either. The outward appearance of the houses in Betondorp was drastically changed after the restoration, although this was done in the style of the original design and in a manner which is quite acceptable. Such an approach does not suit De Kiefhoek. The simplicity and integrity of its composition make any change almost a violation.
An interpretation of De Kiefhoek amounted to an analysis of De Kiefhoek. We had to find out which of its characteristic features had to be preserved. In this way we were able to preserve the most essential characteristics in the things we wanted to change. There were even cases where we could make these characteristics more prominent. A case in point is the circular staircase we have enlarged, which will be discussed in more detail further down. Our creed was to preserve that which was functional and could still be used and where changes were inevitable in matters of detail, space and the materials used, to make them fit in with Oud's original concept. We wanted to do right by De Kiefhoek itself. That is why we did not come up with additions or changes rich in contrast, or with straightforward imitations of style. De Kiefhoek as built in 1930 had to remain recognizable as much as possible.

New types of housing

On the basis of the points of departure as mentioned above we did a preliminary study on which possible types of housing could be used.
The simplest type is the two-room dwelling, which could be fully realized within the original one. The lay-out of the groundfloor could be fully preserved.
But restoration of De Kiefhoek with two-room dwellings only would be unthinkable. A neighbourhood with three hundred such units would only be suitable for one or two-person households. It would be a neighbourhood of playgrounds, but no children. Moreover, experience has shown that two-person households move frequently; the neighbourhood would become one of transition. Ties with one's neighbourhood, which is a characteristic of this area, would be lost. A two-room dwelling monoculture would fit in with the dimensions of Oud's original plans, but it would violate De Kiefhoek as a social monument. Adaptation to present-day requirements, and as such enhancing its value for the future, entails intervention in the architectural and in the social domain. The latter implies a differentiation in types of housing, so that at least whole families can stay in De Kiefhoek. This requirement of diversification makes building in the area much more complex than it was sixty
years ago.
We looked into the possibilities of two-, three-, four-, five-, and six-room dwellings. We ended up with three types of housing which we have realized in the Hendrik Ido block: the two-, three-, and five-room dwellings. Including four-room dwellings would have meant the division of two dwellings over three naves, which would have been too drastic a departure from the original design.

As we have said before the two-room dwelling is closest to Oud's original design. Even the 'minimum kitchen' on the groundfloor could be preserved, albeit with present-day fittings. Only the upper floor has a new lay-out. It is a pity that due to the narrowness of the nave it was impossible to preserve the slanted hall. As in the other two types of housing we managed to keep the characteristic sliding

Left : origional floor plan
Right: new plan two-room dwelling



Site-pan

window between the parent's bedroom and the stairwell. The function of this sliding window is still a mystery but it does make for more space on the upperfloor.
The narrow landing (the 'loft' in Oud's terms) at the top of the stairs was a little higher than the rest of the upper floor in the original design, to prevent one bumping one's head when going upstairs. In all the types of housing this landing no longer runs all the way down to the back of the house, so that it could be brought level with the rest of the upper floor. The stairs are now more spatial than they used to be due to the light coming in from above. The window also admits light to the bathroom unit. In these two-room dwellings the storage room, accessible from the hall and from the bedroom, may also be used as an additional room.

The three-room dwelling was created by an extension at the back of the original type. The extension increases the livingroom area on the groundfloor in such a way that it makes room for a kitchen-living room combination. We tried to make the extension a separate unit to leave the original block intact. By making use of a slanting plane, the upper part of which consists of a strip of glass, the extension is visually separated from the rest of the block. We did not look for contrast but neither did we want to give the impression that the extension had been there all along. The extension not only increases the living space in the house, it also opens up the dwelling at the back by means of the glass facade. The house is now oriented toward the street as well as the garden. The upper floor of the three-room dwelling is similar to that of the two-room dwelling. Only the storage room is here a proper room.

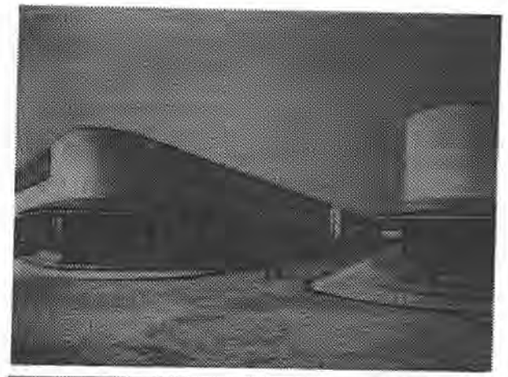
For the third type, the five-room dwelling, two naves were combined to make a spacious house. Here, too, the cluster of staircase and lavatory has been preserved, albeit in only one of the two former units. The livingroom downstairs covers the whole area of one nave. The other nave is covered by the livingroom-kitchen combination on the street front. Upstairs are four bedrooms.
A special problem with the five-room dwelling was the front door. The house would have had two front doors had we stuck to the original design, one in each nave. This solution would not have acknowledged the joining of the two naves.
At first we had the other extreme in mind. We wanted to do away with the door in the nave of the livingroom and instead continue the windowstrip. This would alter the image of the front but we were convinced that this was in accordance with the functional principles of design for De Kiehoek. It was in keeping with the project and would not harm the visual quality of the front. This, however, would have been a rather bold change for De Kiefhoek as designed by Oud and as it has existed for over sixty years. These considerations and the discussions following our initial suggestion made us decide that the preservation of the original Kiefhoek as such was more important than sticking to the original principles of design and purity of style. We thought that the cultural and historical interests of a 1930 neighbourhood such as De Kiefhoek are to be put before consistency of design. In our proposal as applied in the Hendrik Idoplein block the non-used front door is replaced with glass. This solution does justice to the historical character of the block as well as to its functional aspect.

Our proposal to distribute the different types of housing over the neighbourhood was based on considerations of visual quality. The three-room dwellings could only be realized where the extension would not be in full view, such as for instance at the northern border of the neighbourhood where the gardens have some depth. In the closed blocks it was possible to combine units to make five-room dwellings, whereas the two-room dwellings can be put in the most visible places.

Reconstruction

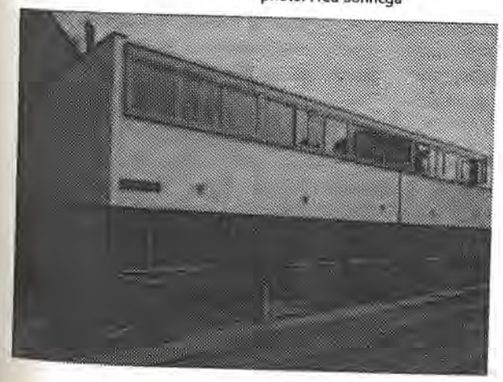
When we started to work out a detailed plan for the Hendrik Idoplein housing block, the need for an accurate and detailed investigation into the original designs became imperative. Since drafts and detail drawings had got lost during the War there was no alternative but to literally take the dwellings apart before they were pulled down. We were fortunate in that the Hendrik Idoplein block had not been renovated before. Now we could take the measurements of, for instance, the original windowsills, which in the rest of De Kiefhoek had already been replaced with synthetic ones. We took off the floorboards to count the joists. We had to go back to the Hendrik Idoplein for details quite frequently. In the end we had to work against the clock, since permission from Monumentenzorg to demolish the block had suddenly come off after long delays and demolition work had to get started. We then talked to occupants and went to look at the dwellings in the other blocks. We finally managed to chart the block as a whole and make fairly accurate reconstructions of the drafts and detail drawings. It is still not clear whether or not there were drawings of every detail. It was not unusual for an architect in the 1920's to provide workers on the building site with instructions or make rough drafts on the spot.
We had almost finished when Oud's original plan was discovered. It turned out that it had not got lost in the war after all, as it had been stored in a smaller department of the municipal archives. Most of what we had found turned out to be in agreement with the original plan. We had been wrong on two points only: where we had surmised would have been stucco painted white, 'terra nova' had been used, a plaster that is white of itself and has only recently been brought back on the market. Another thing we found was that originally cut pointing had been used in the brickwork surfaces, which after sixty years of wear and tear had disappeared.

An important part of our investigation had to do with the original colour scheme Oud had used in De Kiefhoek, which is such a striking feature in the design. We therefore carefully scraped the paint from the woodwork. This took us a long way, but even with the expertise of a major paint dealer (Sikkens), it was impossible to establish beyond doubt the extent to which the colour had been affected by the weather or by daylight. We consulted people who had seen the original colours for themselves, but the



Original state
The Kiefhoek Rotterdam
Architect J.J.P. Oud, 1925-30
photos:Gem. Archiefdienst Rotterdam

The reconstruction of the housing block of the Kiefhoek, Rotterdam
photo: Fred Sonnega



memory is not very reliable where colours are concerned Only Oud's original colour samples for the houses in Hoek van Holland had been kept. They show that Oud has not applied the primary colours of De Stijl. He softened them a bit, for instance by adding a tiny bit of blue to the yellow, making it less bright and giving it a hue leaning to ochre. The red and the blue also were less bright. For De Kiefhoek a colour scheme of primary colours as used by De Stijl would therefore not have been very likely. Oud's colours were softer in tone. We therefore determined the colours on the basis of the old coats of paint we found on the woodwork and only allowed for the effects from the weather in the red and the blue.

Construction

In our view restoration does not necessarily imply going back to the original situation. Since then some old techniques have been replaced by better and more durable methods. Nowadays constructions demand a higher level of quality concerning heat insulation, ventilation and foundation techniques. Whenever better solutions as regards the construction were available we applied them, as long as the appearance of the dwellings remained unaffected. In the Kiefhoek dwellings the frames had wooden window ledges. Due to the influence of sun and rain they are very vulnerable and if they were applied again, they would no doubt rot again in a few years' time. Therefore we replaced by synthetic stone.
As this material can easily be painted over together with the rest of the woodwork, the appearance is left intact.
Sometimes there are very minor differences in measure, as in the case of the slightly higher edges of the roof as a result of roof insulation. The window frames with double glazing have the same measures as the original frames. The only noticeable difference is the fact that double glazing has a different reflection. At some other places only experts will discover minimal deviations from the original design: the perforations in the grilles in the facade have slightly changed , ventilation slots were made and the letterboxes are bigger.

We did not propose the usual standard package for the interior. We think that steel frames for the inside doors in the Kiefhoek would not seem appropriate, therefore ordinary doors in more expensive wooden frames were fitted. This is not to say that we consider only joinery as good enough. In general good quality standard products were used to add extra quality to the new dwellings. If physical planning and architecture are as specific as in the Kiefhoek, then the finishing of the dwellings should also be that.

Not until we started the restoration of a pre-war monument did we realize to the full how times had changed. What used to be cheap, for instance labour, is expensive now. As regards material it is more or less the reverse. In the twenties construction involved an enormous amount of manual work, but due to cuts the washstand and the ironing board had to go. Rationalized building methods were hardly developed sixty years ago. Oud was not involved in this. He applied the traditional

methods of his time.
For the restoration of the Kiefhoek we had no fundamental objections to rational building methods. But in this case they were almost an impossibility. For instance,the plan of the first floor does not allow for cast concrete. The staircase too can only be made in the traditional way. In four dwellings the former staircases were put back but the possibilities for renewed use of the old components are limited. In our opinion a worn-out threshold of natural stone should not be put back into a modern monument. A recent monument of 'functional architecture' should have the power and the clarity of the original building. However,in the case of the restoration of monumental buildings from ancient times the passage of time should be expressed. In that case a worn-out threshold seems fit, not in the Kiefhoek, whose architecture is still alive.
In the case of the cut pointing for instance, craftmanship is required which is no longer available in the regular construction industry. Firms which are specialized in that field were called in. The manufacturing of special wood mouldings also requires craftmanship which is not readily available in the modern construction industry. The reconstruction of the Hendrik Ido block shows what is possible for the rest of the Kiefhoek. It has not yet been decided whether and to what extent the remaining blocks will be reconstructed (which involves total demolition first) or whether they will be restored. In the latter case the subsiding dwellings will be jacked up and pile foundations will be put in. Therefore the constructions and the detailing of the reconstruction should also be suitable for the eventual restoration of the existing blocks.
Every solution that was chosen in our plans for the Hendrik Ido block had to be tested on its suitability for the restoration of the other existing dwellings. This fact made the reconstruction rather complicated. If not for this special requirement we might have insulated the facade on the outside. Because outside insulation in the restoration of existing blocks definitely affects the appearance, it was decided to insulate the facade of the reconstructed one on the inside. This strategy was the reason that the exterior in general could be rebuilt as it used to be, with one important exception: the ground floor is made of concrete. A wooden floor with insulation underneath seemed too risky.

Museumwoning (sample dwelling)

We had the opportunity to restore one dwelling entirely according to its original state. We either had to choose between reconstructing the design that was actually built originally or building the version as Oud had designed it in the first instance. In that particular design, which was not built, the dwelling comprised a cupboard for coal, a cupboard for crockery, a shower and a built-in ironing board. There was something to be said for building Oud's original design as yet. It would have visualized the ideas about social housing at the time in an extraordinary way. Domestic appliances were the explicit concern of public housing then.
Moreover, the mechanization of housekeeping was a subject that occupied the minds of the architects of the Moderne Beweging (Modern Movement). They designed furniture and kitchen fittings. In spite of this we preferred to rebuild the dwelling as it had functioned for many decades. It is, after all, also true that Oud's original type of dwelling fell through due to cuts.
The museum dwelling is thus an exact reconstruction of the house as it was built sixty years ago. In contrast to the other dwellings an effort was made to make an exact replica. The windows have single glass panes, the groundfloor has floorboards and not the concrete construction we used in the other dwellings. We took care of every detail: a copper pipe to supply the cistern with water was out. Sockets and switches, doorhandles, lavatory seat and bowl, tiles, everything is from the 1930's. In some cases we had things newly made. Our investigation into the origin of the dwellings, as referred to earlier, went even further in the case of the museum dwelling. Details were compared with the original plan and we found that during the actual building process changes had been made that were not in the original plan. One can never be completely sure what things actually looked like in 1930, particularly with fittings such as built-in cupboards, and so we had to do a lot of interpretation in these matters.
But with our visits to the existing dwellings and with the help of elderly occupants we could go a long way. The same holds for the colours: woodwork and walls are mustard yellow, the walls in the kitchen are sanded green (which is rather remarkable for Oud).

Much attention was also paid to the interior decoration of the museum dwelling. Although furnished in the style of the Moderne Beweging, the furniture was not designed by Oud himself. He himself once had a sample dwelling furnished with furniture straight from the shops. We do not know what furniture exactly but it is important to note that the vision of modern architects in those days also embraced the interior of a working-class house. A vision which was an extension of their ideas about what architecture ought to be: an effort toward clarity, purity and abstraction.

Jaap Franso
Architect, Leiden; the Netherlands

Translated from Dutch

The Papaverhof and the Modern Movement

Preservation or documentation ?

"The Papaverhof", which Jan Wils claims to be one of his best works, indisputably ranks as part of the Modern Movement. However, it is not only the nature and place of this work within the movement which influence the choice between documentation and preservation; the subjective input of the renovation architect also affects the way in which we deal with it in 1990.

Documentation or preservation

In this article the concept "documentation" denotes consigning a plan to social forces, for instance demolition or new-construction, after the details have been thoroughly recorded in word and image, as a last conscious cultural act.
"Preservation" is interpreted as maintenance, restoration or renovation.
Both concepts leave out of account whether or not the government has assigned the status of monument to a building. It is often the architect's task to uncover the cultural value.
The "Modern Movement" I take to comprise all architecture which gives expression to innovative ideas which originated at the end of the last century as a reaction to 19th Century conformism and also to the "technical dream of the new era".

Each time afresh it turns out to be difficult, both in a building assignment and in an article, to separate historicity, academicism, personal emotions and history from each other.
In the fifties I was a pupil of, among others, Jellema and Vriend, at the technical college in Amsterdam. After a year with Dingemans in Utrecht, I was taught in Delft by Wegener Sleeswijk, Zwiers, Holt and Bakema, a heterogeneous assembly. Subsequently I worked for three years at the office of Jan Lucas who, as a follower of Bakema and Van Embden, ranked himself with the international style. There I became familiar with the work of Nervi and Habraken.
For me, this colourful world was held together by their great social awareness and the ideal of adapting the craftsmanship of the trade to the modern era of prefabrication, systematic construction, functional analysis and flexibility. In my own work I have been involved in the renovation of the dwellings of Versteeg and Van Epen in Amsterdam, and recently in work by Dudok.
Such personal experiences have helped determine my position in weighing up the question of documentation versus preservation. I do not like to see the work of expert masters go to waste as a result of academic debates: one doesn't demolish work which has exercised many minds for half a century. The thought of leaving Zonnestraal as a ruin (according to Duiker, he did not build for eternity) is blasphemy in my view; this is not the way to deal with our heritage! Rietveld, later, was rightly proud that his Schröderhuis had been preserved, and if ever a building gave the impression of temporarity, it was that one!

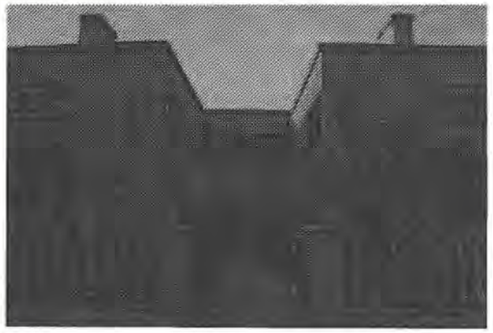
On the other hand, however, we are faced with the objective criteria concerning research and approach which were developed in the previous century and were last ratified in the Charter of Venice in 1964.
A town or village is always an organism in which demolition is one of the regular processes required for the necessary innovations, and one should consequently be wary of movements which seek to leave everything in its old state. Yet before allowing buildings to be pulled down, the following criteria should be considered, at the very least, in order to deal with a building or area in a responsible way.

- the cultural and historical value in terms of architecture, in other words the function it serves as an example from a certain period;
- the residents' opinion of their homes;
- the state of the building; in other words, is it in particular technically, but also economically viable to preserve the property?

The following will clarify the incentives and reasons for preserving the Papaverhof: renovation and restoration.

Architect, client and the plan

The architect Jan Wils, born in 1891, worked at Berlage's office from 1914 to 1916 and was only a member of the "De Stijl" movement for a brief period, namely from 1917 to 1919. He considered himself too much of an "architect-artist" to conform entirely to the group which represented "De Stijl". Thus the architect Wijdeveld wrote



in a letter to Wils in 1969: "Although you cooperated with Van Doesburg, you became a link between "De Stijl" and "Wendingen" (New Directions), for you understood that the mind cannot work without the heart."

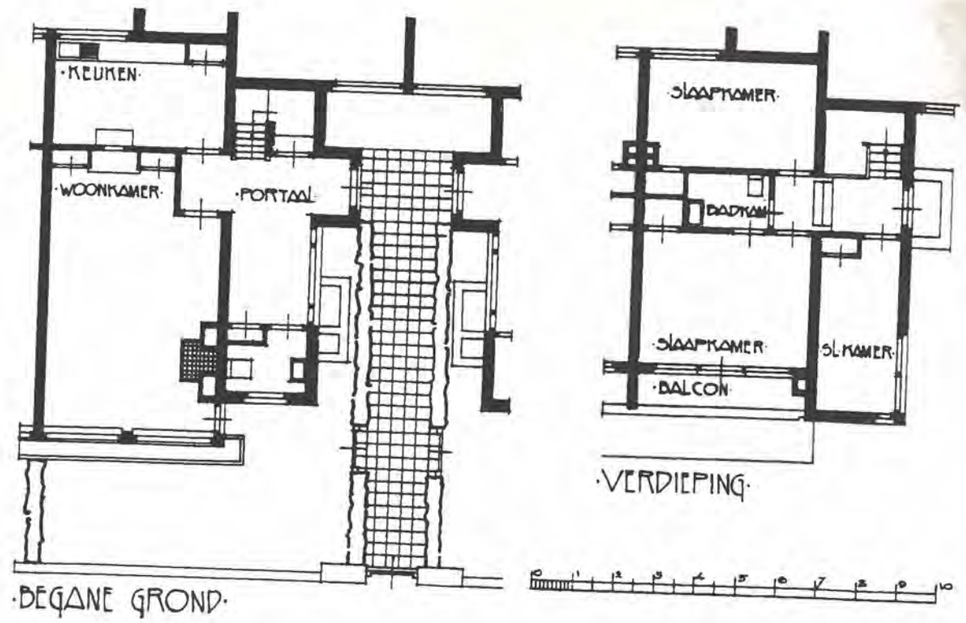
The commission to build modern middle class homes gave Wils the chance to carry out his ideals. The input of the client, the Cooperative Suburban Housing Corporation "Daal en Berg" greatly contributed to this. This corporation was founded in 1917 and in its early days included some important names: Dr. H. Berlage, for example, was its' commissioner and Dr. E.A. van Beresteyn was the first to hold the position of chairman, whilst later becoming a member of the recommendation committee of Filmliga (the Film Society), founded by Menno ter Braak and Joris Ivens.
The board of management, which consisted of such innovative and inspiring people, in 1919 commissioned Jan Wils to build approximately 100 middle-class homes. This resulted in a block of 128 dwellings which was completed in 1922 and became known as the "Papaverhof".
Jan Wils' plan was held in great esteem by the management who, upon presenting the plan in a leaflet, wrote, inter alia:
"Cooperative housing and construction according to new principles.
In the course of establishing its' organisation, "Daal en Berg" always set itself the aim of filling in the great gaps inherent in the current housing system as much as possible. In the first place this means homes must be the property of the residents; secondly, we strive for a practical, hygienic and clean type of dwelling!"

In the light of this aim it will be clear that the management had found an "ideal" architect in Wils.
Whereas in 1931 B. Merkelbach was still complaining in his article on housing ("Wonen") about the poor constructional qualities of Amsterdam's mass housing of the twenties, Jan Wils could as early as 1922 already affirm the following in an article in the "Bouwkundig Weekblad" (weekly architectural periodical) with regard to the Papaverhof:
"For the convenience of residents and suppliers various amenities have been installed in the homes which indeed entail a significant saving in labour and effort, and consist of: a joint set of letterboxes with a locker for each resident; a joint set of gas meters (above the main entrance) which allows the reader to read all the meters in one journey whilst the residents do not have to be disturbed; and even the gas valves have been placed together. On both sides in the entrance hall are goods lifts to the different floors. Each dwelling has a voice tube to the main entrance; the door can be electrically opened. The stairwell is lit automatically; push buttons have been placed both behind the main door and at the door of every dwelling; the light stays on for 2 minutes. The kitchen have waste disposal chutes. The waste reservoirs are positioned in the rear halls of the stairwells and are emptied by the municipality at set times."

In addition to these handy amenities for the residents, the plan was of such interest in terms of architecture and planning that many colleagues at home and abroad came to see and admire it.
Even in the eighties, it was found that the building still provided excellent housing for the residents. These residents, mainly children of the original inhabitants, considered their homes and environment of such a high standard, despite the flaws which had manifested themselves over the years, that they felt no need whatsoever to exchange their homes for contemporary ones. In fact the strength of the plan lies in the modern lay-out of the homes and their unique location in terms of urban planning, although the latter point applies mainly for the single-family dwellings.

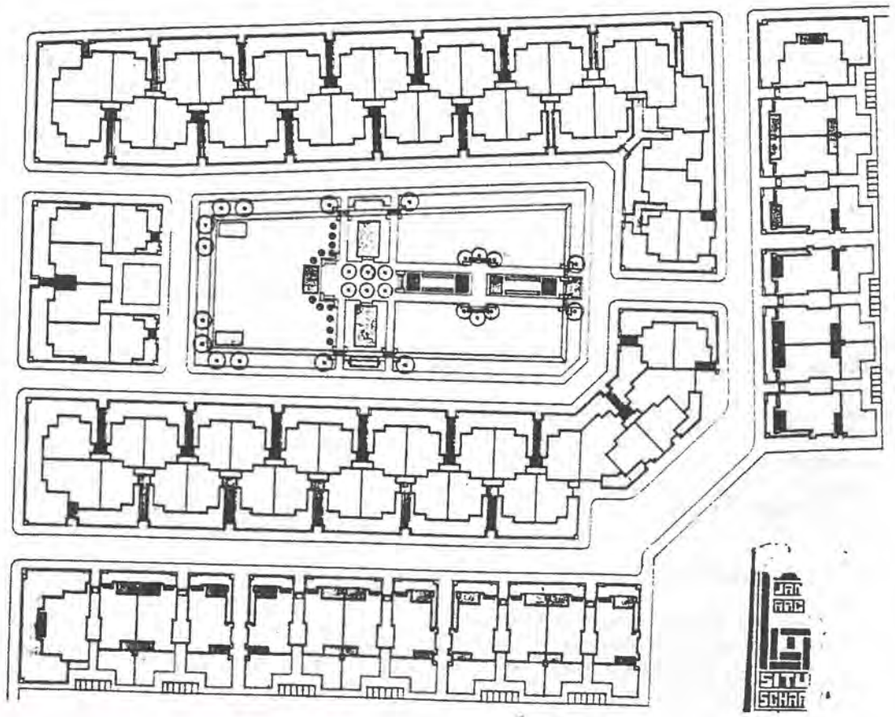
As regards the technical state of this project, it was found that the supporting structure and the front parts of most of the block had been erected in high-grade brickwork, the floors were made of wood and concrete whilst the wooden window frames, which were in poor condition, were replaceable.
Only the coats of plaster showed many defects and could for various other reasons not keep the dwellings watertight.

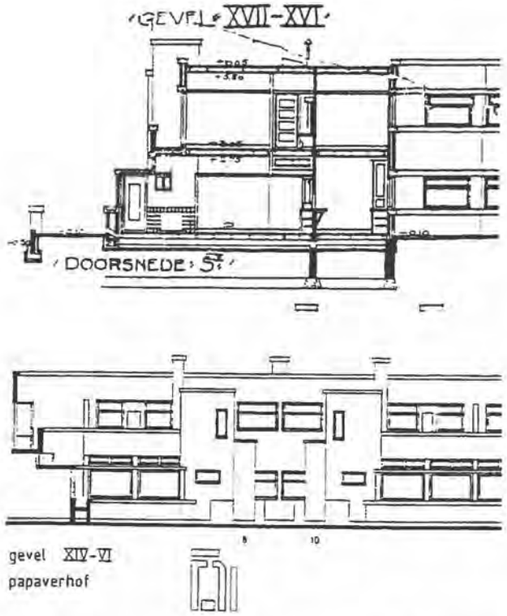
All in all, however, the plan falls within the category of housing which can in standard ways be renovated and funded; in other words, preservation is the motto.
Normally this takes place in the form of modern renovation in which the old image is treated with respect, although in terms of design and construction, 1990 standards will mainly determine what happens in and



Plan of a one-family house

Site - plan of the Papaverhof, 1919.





around the dwellings. The restoration aspect is given shape in the odd "museum dwelling" in which all the elements of the interior are restored to their original form. In the Papaverhof this wasn't even necessary, since in the majority of the dwellings the old interiors were still intact, with the exception of the kitchens and a number of fireplaces which had been modernised in the course of time.
Only 30 low-rise dwellings had been executed in cast slag concrete up to the first floor. And it is only for this part of the plan that the debate concerning documentation or preservation, demolition or new-construction, renovation or restoration, is relevant, since the technical quality was poor here.

At the time of commencement new grant regulations had just come into force, whilst official reorganisations for the supervision of improvements to private housing were taking place simultaneously. Within that sphere of activities, Papaverhof was to be considered as a pilot project. Because it was also a nationally listed monument, this meant an additional complication: clusters of grants had to be drawn on, deriving from two different ministries.
Furthermore, the work commenced during a period when the municipality of The Hague, under alderman Duivesteijn, was making great efforts to promote its architectural image: The Hague was in need of its own "Kiefhoek!"

The following considerations are of importance, moreover:
1. All technical and physical defects in construction, including those of the aforementioned 30 dwellings, could be corrected by applying the modern know-how acquired in plasterwork on thin insulating layers.
2. The coherence of the block of dwellings in terms of town planning would lose much of its quality if a different architectural image were to be created on either side of the centre park, since if the choice falls on demolition and new- construction, the new-construction cannot but be contemporary.
3. In that case strange differences in rent could arise between the new and the renovated part, whilst increased building and re-housing costs would also result.
4. A change in the different types of housing was not necessary; what's more: the programme of requirements did not stipulate a change in the housing distribution since there was no demand for this whatsoever.
5. It was precisely in those 30 "concrete dwellings" that the finest old interiors were found, since they were predominantly occupied by older residents. Demolition and new-construction would have meant a loss.

All these arguments contributed to the choice falling on "preservation". The only question that remained is how this could best be realised.
The Charter of Venice urges contemporary restoration, in order to distinguish old from new.
In the ensuing years, the term renovation was defined as "all activities aimed at adjusting parts of a dwelling to the demands of modern practical values in terms of design, construction and housing." (NWR-NCIV*).
For the Papaverhof the choice fell on the combination renovation- restoration, in which the restoration work was also referred to as reconstruction, in this case the reconstruction of the original covering for the eaves and the pivot windows in the kitchens and the above-situated bedroom windows. This involves, in particular, a use of colour which suggests the application of wood-compounds in window and door frames. Why these reconstructions? Because these three elements were an essential part of the innovations originally aimed at: the eaves were to give expression to the flat roof and the cubist form-language of De Stijl. The kitchen and bedroom windows were important since the horizontal expression of the intermediate sill played an essential part in the composition of the front, as did the proportions and measurements of the window-frame openings. The choice of colours was important for the above-stated reasons.

All the remaining work consisted of renovation and was funded accordingly. It involved, for instance, installing gasmeter closets in the former goods lifts, replacing the easily burgled zinc skylights with pvc cupolas, supplying windows and their frames with a KOMO guarantee, placing modern locks and fixed windows in the new front doors, installing eternite water shocks, which happen to have the same measurements as the former oak ones, new drains etc.
There was even a grant for individual central heating and the new plaster coating on the insulation material, which was deemed necessary to correct technical defects.

The limit between renovation and restoration is always a transitional area in which a confrontation between old and new takes place. For each project this will be different, and it is the architect's job to investigate and sift

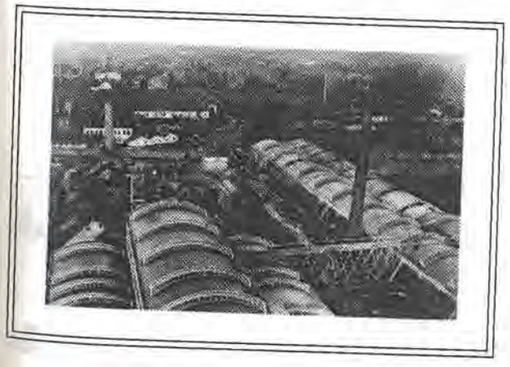
Jan Bernard Vercauteren
Architect, Maastricht; the Netherlands

The preservation of an early example of the Modern Movement in the Netherlands ; Société Céramique Maastricht

Introduction

Maastricht owes her origin to the ford in the river Meuse and her strategic position in a fertile area. The lead of the Romans has also helped to develop Maastricht by their construction of a military road from Gaul to Germany. The crossing-place between both countries, "Trajectum", was protected by a fortified castellum and when the Romans left in the 5th Century, the city grew into an important trading-post.
In the second part of the middle ages the crossing-place had a key position in the trading-route from Bruges to Cologne. The parties involved however, lived in a sphere of great tension with each other and Maastricht's first interest was to become a good fortified point of support. The end of her unsafe position came when the citizens had the power to erect a system of stone fortifications, first under Henry I of Brabant and afterwards by the Roman Catholic King Henry VII. Maastricht also owes her existence and name to the bridge. The city is situated on the river Meuse and a natural link with the abutment in Wyck is self-evident.
In the middle of the 14th Century a second row of ramparts doubled the territory of Maastricht and all life took place in the enclosed city, till the demolishment of this system of fortifications in 1867.

Division II during construction in 1912.
photo: Social Historical Centre for Limburg, Maastricht.



During the French Revolution general Kléber captured the fortress of Maastricht and the domination by the French stood for the beginning of a new era and effected the development in the coming century.
In 1830 the Industrial Revolution really unfolded and at the same time the Belgians in the Southern Netherlands revolted against King William I of the Netherlands and declared their independence in Brussels. Import of Belgian products was strictly forbidden, so merchants were obliged to manufacture the desired products themselves.

Cityplanning

For centuries the ground upon which the Pottery, the Société Céramique, was founded, belonged to the fortified garrison-city Maastricht. Although the strategic importance of the fortress-city had absolute priority, it could not alter the fact, that in 1851 a Pottery could be erected in the south of old Wyck, nowadays the eastern part of Maastricht. Until the discontinuation of Maastricht as a fortress-city in 1867, enlargement on behalf of the Société Céramique was out of the question. The fortress-grounds fixed the boundaries of the Pottery.
A determining factor for the site selection of this business in 1851 was, that the area was connected by a "poterne" to the westside of the river Meuse. A poterne was a tunnel below the rampart on the riverside and offered prospects of transport facilities by ship.
In the 1880's a great investment-wave followed, after which the fortress-grounds were handed over to the Pottery for the first extension of industrial activities. In granting the grounds to the Pottery, the City Council of Maastricht blocked the first development plan of Brender à Brandis. This city-engineer had taken up the idea to construct the arterial roads in Maastricht upon the main ramparts in order to connect the radial roads to the main-road system at the earlier towngates.
The urban development of old fortified cities in the former Southern-Netherlands had served as an example for the approach of the enlargement in Maastricht. The urban plan of Brender à Brandis failed when the City Council permitted incidental ground-transfer.
After the turn of the century, investment-activity revived under the direction of the German P.J. Lengersdorff. The Pottery realised her revival upon the available sites of the

watersupply points, "prise d'eau".
Lengersdorff negotiated with the City Council about the selling price of the watersupply points, which finally resulted in the founding of Division II, which stood for the manufacturing plant for sanitary-equipment in the well-known "Wiebengahallen" and the less-known "Lengersdorffhallen", built in 1912. The great expansion of the Pottery in this century became a fact.
In the twenties and thirties this expansion achieved completion with the founding of the refractory-plant, in Division III.
Thanks to these well-equipped Divisions, the enterprise was prosperous till far after the Second World War, and it was therefore a great surprise in Maastricht, when in 1958 the Société Céramique decided to merge with her arch-enemy, the Royal Sphinx. Eventually Sphinx closed down the good second pottery, the Société Céramique, in Wyck.
With this short survey the framework is indicated in which the industrial development of the company has become a fact in different planning stages. These stages can be distinguished in the various buildings on the former industrial site.

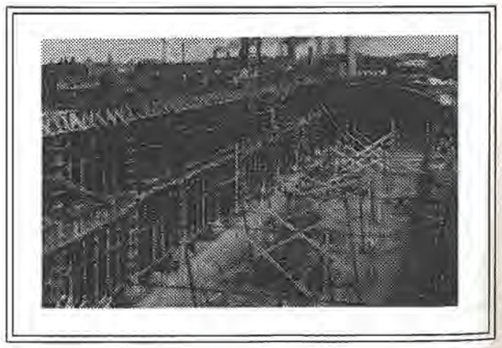
The "Wiebengahallen": an early example of the Modern Movement

The block of buildings belonging to Division II, which is highly symbolic in the industrial site of the Société Céramique, was built in 1912.
In the same year Jan Gerko Wiebenga, an "apostle of the Modern Movement", went to the "Industriëele Maatschappij", formerly "F.J. Stulemeijer" in Breda. Wiebenga was in charge of the skeleton block of buildings in Wyck and he constructed and executed the superstructure of the "Wiebengahallen" and the "Lengersdorffhallen".
Probably the design of these outstanding buildings cannot be attributed to J.G. Wiebenga, for drawings collected from the Sphinx-Céramique filing-cabinet were signed by M. Koene in 1911. At that time Koene was the head of the company's construction-office.
Yet the block of buildings in Maastricht is an early example of the Dutch architectural Modern Movement, of which the Van Nelle factory in Rotterdam, also constructed by Wiebenga, is an indispensable highlight.
On closer inspection there are some discrepancies in the expressions "early example" and "Modern Movement" in the Dutch context.
"Early example" means on the eve of the First World War. Moreover S. Giedion wrote emphatically that the Modern Movement developed in England, France, the United States and Germany. No important part was attributed to the architecture in the Netherlands around the turn of the century.
Factories built in the 19th Century were the work of practical craftsmen, who required functional buildings and chose their esthetic standards according to the needs. Around 1900 when architects were reacting against the historic revivals in architecture, they sought in their imagination for new construction methods using steel and concrete, combining these with the function of the buildings to be designed.
At the same time P.J. Lengersdorff came from Germany, where the Second Industrial Revolution had taken place, to reinforce the board of directors. He invented and patented a new kiln-construction in Maastricht and was very familiar with German industrial constructions. Under his direction far-reaching decisions were taken and of great importance was the decision to found Division II. The fire-glazing of sanitary-equipment took place in his own designed tunnelkiln, placed in the Lengersdorffhallen next to the Wiebengahallen.
Certain ideas about construction gave him a clear conception of the manner in which to manufacture sanitary-equipment in a skeleton building. Lengersdorff had laid down this conception in drawings, made by Koene in 1911.
The transparent facades, the geometric design and the use of concrete in a multi-storey framed factory were current elements of the Modern Movement in Germany, which appeared in the remarkable block of buildings in Maastricht.
Ideas about this new movement in architecture came first to Maastricht and later to the rest of the Netherlands.
What is more appropriate now than to commemorate the early meeting of the Modern Movement and industry, in the Wiebenga- and the Lengersdorffhallen in Maastricht ?

The art of selection

Now that production has come to a stand, the industrial use of the area has been removed in order to make way for a new residential quarter in Wyck. Not only does the industrial site possess relics from the different planning-stages of the Pottery, but also from the time that this area contained a fortress and a watersupply point. It is important, that these old functions live on in the future. The most characteristic relics are the Wiebengahallen and a chimney with a steel watertank on the southside of the industrial site. At the moment it is possible to test the qualities of the Wiebengahallen, by applying a workingmethod as indicated in the publication "het

Division II during construction in 1912, view from the south.
photo: Social Historical Centre for Limburg, Maastricht.



Nieuwe Bouwen en restaureren" (the Modern Movement and restoration). 1)
The reuse of the Wiebengahallen is being discussed and commissioned by the Provincial Government the Italian architect Aldo Rossi has been invited to make a design for a museum in this block of buildings.
The question of renovation is not so much about its future purpose,but more a question of how to maintain a multi-storey framed factory in terms of Modern Movement architecture.
What did not succeed yet with the preservation of the different units of sanatorium "Zonnestraal" in Hilversum, might be reached with the reuse of a great part of the Wiebengahallen in Maastricht.
Another important relic, which has been preserved with zealous effort for many years, is the famous pottery-collection "Sphinx-Céramique". Both enterprises built up their collection as a useful company-archive, thereby presenting a complete image of the pottery-production in Maastricht since 1830.
The unbreakable relation between pottery-production and pottery-collection can be manifested in the future by means of scientific documentation.
The results of well-executed documentation will have to be presented in an exhibition, described in a book and last but not least preserved for research and educational purposes.
The art of selection will only be possible if a well-executed documentation of all relics and specific preservation of some of them is advocated, thereby using the abandoned Céramique-area.

Preservation in an urban plan

For decades the City Council of Maastricht has shown a great interest in the Céramique-area in Wyck, because the passage to the new businessquarter, Randwyck, is blocked at the moment. The incidental ground-transfers of the City Council in the last century has had far-reaching consequences. Fortunately on 10th June 1987 the Royal Sphinx offered the City Council the, in the mean time abandoned, industrial estate for sale. Thereafter Jo Coenen received instructions to design an urban plan to integrate this area in a greater context.
In order not to deny the historic character of this place, not all the industrial buildings will be demolished and a part of the Wiebengahallen will be maintained for the future. In due respect of the standards of the Modern Movement, it might accomodate the "Bonnefantenmuseum".
It is the intention to house the unique pottery-collection of the Royal Sphinx and the Société Céramique as a subdivision in the total collection. In that way the pottery-collection is connected with the place of the pottery-production and also housed in an early example of the Modern Movement. The reuse of the block of buildings from 1912 thereby takes on an extra dimension. Finally, Coenen will partly revive the lost history of this area by constructing a water garden near the "Maaspunt-tower", to symbolize the former moat along the ramparts of the fortress in Wyck. Hence the sympathy arises to preserve the sensitive testimony of the military and industrial past, given an extra dimension by Coenen's masterplan.

1) "Het Nieuwe Bouwen en restaureren; het bepalen van de gevolgen van restauratiemogelijkheden", H.A.J. Henket and W. de Jonge; Den Haag 1990.

Division II during construction in 1912, view from the south.
photo: Social Historical Centre for Limburg, Maastricht.

Karl Schleichert
Bauhaus, Dessau; Germany

Bauhaus buildings

As custodian of the Bauhaus buildings in Dessau and secretary of the National Working party of the GDR for DOCOMOMO let me warmly thank you on behalf of the GDR participants in this Conference and on behalf of the GDR participants in this Conference and on my own behalf for inviting us to take part in this First International DOCOMOMO Conference taking place here.

It gave us great pleasure to come to Eindhoven and we are also eager to pay a contribution to making our common aim a success.

Permit me, please, to present you the Bauhaus buildings in Dessau.

1. The Bauhaus building erected by Walter Gropius in 1925/26 in Dessau was badly damaged during the Second World War and has been reconstructed in 1976, according to aspects of preservation of monuments.

2. The master houses
Gropius and the Bauhaus masters were given the posibility of erecting 7 dwellings for Bauhaus masters not far from the Bauhaus.
2.1. The detached house of W. Gropius was totally destroyed as a result of enemy action during the war.
2.2. Three semi-detached houses where Moholy Nagy, Albers, Feininger, Muche, Scheper, Kandinsky and Klee resided are still there, yet in a very bad constructional condition.

3. The Labour Office or the rotunda erected according to a design by Gropius in 1928/29 was strongly changed, too, and has to be subjected to a fundamental reconstruction.

4. The Törten settlement and the Cooperative building .
This terraced house settlement comprising 316 houses was erected in the years between 1926 and 1928 as the Dessau-Törten test settlement. In restoring these buildings which are exclusively private property we expect to face most of the problems. Though private property gives rise to anticipating comprehensive support in improving the situation we shall not be able to materialize the architectural appearance in a uniform way as the subjectively based ideas of the owners may be only influenced limitedly. Nevertheless, we are optimistic in approaching this task and with the necessary patience shall be making all efforts to be successful.

5. The gallery flats designed by Hannes Meyer and Bauhaus students were erected by the "Dessau Saving and Building Cooperative" in 1930. The workers' housing cooperative became the legal successor which, together with us, is making efforts to repair the structural damages and to restore gradually the original state. In 1991 the first of the five existing buildings will be reconstructed.
In general, there can be stated that the efforts made jointly with the cooperatives or companies to carry through measures of preservation will allow to make the best of success.

6. The Fieger house and the Steel house
Karl Fieger, since 1921 working in the building office of Gropius, has built the extremely minimized single-family house for himself and his wife on the outskirts of the settlement. It was published in the "Bauwelt" journal in 1926.
Muche and Paulick built the "Steel house" immediately next to the Fieger house. We were able to purchase this badly ruined building in 1989 and are now making every effort to restore its original state before spring 1991 and to make the building again accessible to the public.

7. The Corn house
Finally the Cornhouse should be still shown. This road-house which is directly situated at the banks of the Elbe river belongs to a limited liability company of restaurant business and will be reconstructed in the winter to come, influenced by us.

The buildings of modernity which I have just presented were erected in the period between 1925 and 1932 by the Dessau Bauhaus "Academy of Design" and are looked after by a custody at the Dessau Bauhaus incorporated society established on January 1, 1990.

The most important tasks of this custody are to prevent the buildings classified as historical monuments from going further to ruins and to put them, in cooperation with the owners and the commune, again into a sightworthy state.

For this purpose, it is necessary to register all buildings in a uniform scheme, to carefully analyze their present constructional condition and to systematically document it then. Furthermore, activities will be required to design the reconstruction or restoration from the following points of view:

1. according to aspects of preservation of monuments to restore the original appearance, as directly compared with their original design;

2. according to structural-physical requirements to primarily put energy consumption and environmental pollution on a level corresponding to up-to-date requirements and to use them for further 50 years;

3. according to functional aspects to bring the qualities of use nearer to the present requirements and demands or to reach and fulfill them;

4. according to requirements taking a complex consideration and design of the whole surrounding into account and putting the buildings which form part of the renewal of the town picture into effect.

The various property forms require a variable way of designing, taking unity and compactness, e.g. of the Törten settlement, into consideration in developing various offers, yet also a designing taking the ideas and wishes of the owners of the individual buildings in the terraced housing complex into account.

Upon agreement with the local offices of preservation of monuments, but also with those of the future Government of the Land and with the competent ministries, it is necessary to make a complex objective as regards preservation of monuments the guide of all designing and construction activities.

Potential help as well as material and financial support shall be provided by the Government of the Land and the Federal Government and be appropriately applied in implementing the necessary measures of construction.

We expect the necessary support by creating a "foundation trust for the Bauhaus buildings in Dessau" by interested sponsors from economy and banks in order to put the comprehensive project in an appropriate progression into practice in a foreseeable time.

We have clear ideas of which buildings would have to be restored. Yet, these efforts will be only successful to the degree to which it will be possible to persuade the owners to use funds and means with the aid of which the aim may be reached.

The overwhelming majority of the house owners are proud of living in Bauhaus buildings. Our experience gathered during the short time when we have been active shows that apart from all architectural and technical efforts made, the most important task is to reach improvements jointly with the occupants, to involve them in the projects, to fill them with enthusiasm to cope with the tasks to be solved. Certainly, initiative groups and citizens' committees will be good social forms to reach this aim.

Yet, also the international exchange of experience will contribute to avoiding mistakes and to receiving the confirmation that we are not left alone, but take jointly our path with many like-minded people.

That is why we would like to express our gratitude for giving us the possibility to take part in the First International DOCOMOMO Congress and we would like to take the liberty of inviting you here and today to visit the Bauhaus buildings in Dessau.

We propose the present Congress to hold the second international meeting in autumn 1992 in the Dessau Bauhaus and request the participants of the Congress to agree with that.

James Dunnett
Architect and critic, London; Great Britain

The campaign for Ernö Goldfinger's Alexander Fleming House

Alexander Fleming House is probably the major work in the career of the architect Ernö Goldfinger. It is currently imminently threatened with total remodelling, including overcladding with a steel and mirror glass 'rainscreen' facade, which will leave nothing of its' important architectural qualities.

Goldfinger, who was born in Budapest in 1902 and died in London in 1987, was a very significant figure in the Modern Movement by virtue of the quality of his work, especially in British terms, but his markedly individual position and trenchant personality always set him apart and denied him as wide a recognition as is his due; this has resulted in the development of the current proposals for remodelling without any awareness of the architectural significance of Alexander Fleming House.

This lack of appreciation can also be attributed to the fact that Goldfinger, though of the same generation as Berthold Lubetkin, Giuseppe Terragni, and Ivan Leonidov, built little until late in his career - in fact not until the 1960's -, and so he is not seen as one of the 'pioneers' of modern architecture, though his ideas, training, and cultural background belong to Paris in the 1920's. This is reflected in the fact that three houses he built in London in 1938 are officially protected as being of architectural importance, whilst Alexander Fleming House, built 1960-65, the major work of his maturity, has been refused protection, and indeed the British Government is to contribute to the cost of its' architectural destruction. But nothing illustrates more clearly than the work of Goldfinger that the Modern Movement in architecture did not stop in 1940.

Goldfinger enrolled in the Ecole des Beaux Arts in Paris in 1923, and was amongst the earliest members of the atelier of Auguste Perret, whose work and thought were to dominate his later career. One group in the Atelier followed Perret's classicizing tendencies literally; others, such as Paul Nelson, Lubetkin, Oscar Nitzchke, and Goldfinger, followed him more in spirit. Whilst much of Goldfinger's student work, such as the Reservoir of 1925, shoes Perret's influence directly, his executed designs for furniture, shops and interiors of the same period show more international influences, as in the Salon for Helena Rubinstein of 1927 (called 'the first modern shop in London'), the Wyndham Apartment in Paris of 1930, and the 'Entas' chair of 1931. These often show an extreme austerity. In 1925 he visited the Exposition des Arts Décoratifs in Paris with his friend Adolf Loos, where he was lastingly impressed by, among other things, Melnikov's USSR Pavilion, and in 1927 he travelled to Stuttgart to see the Weissenhofsiedlung with Pierre Chareau, to whose clients at the Maison de Verre he was related. He was also a friend of many of the artists of the left Bank, such as Max Ernst, Robert Delaunay (with whom he collaborated on a film set design), Calder, Brancusi, Braque, and Foujita, and he introduced many of them to the Atelier Perret. In 1933 he married Ursula Blackwell, an English student of painting in Ozenfant's atelier. He was especially interested in the scientific study of the planning and working of the home, in the spirit of Christine Frederick and Alexander Klein, and this was reflected in his involvement with the magazine L'Organisation Ménagere.

He was French secretary of CIAM in 1933 and collaborated with Le Corbusier on the organisation of the Athens Conference, at which he exhibited a design for a living unit on the later pattern of the Unité d'Habitation, fully serviced and with a roof-top nursery school. At the end of 1934 he moved to London with his new English wife. They were among the first tenants of Lubetkin's Highpoint flats, but in 1939 moved into one of the three houses he had built overlooking Hampstead Heath. These, like his first executed house at Cucq near Le Touquet of 1933, show his continuing rejection of the planar 'white' style of modern architecture - perhaps under the influence of Perret - and his search for greater constructional and spatial plasticity. The internal planning reflects his interest in Loos' Raumplan. He was closely involved in design for children at this time, designing toys, toy shops, and the children's section of the British Pavilion at the 1937 Paris Fair and of the MARS Group exhibition of 1938. He remained in close touch with the artistic avant-garde, and exhibited in the International Surrealist Exhibition of 1936 in London.

Thus before the War Goldfinger had built comparatively little, whilst his modern contemporaries in England, Lubetkin and Wells Coates, had substantial buildings to their credit. After the War the situation was reversed. In 1948 he designed offices for the Daily Worker newspaper and for the Communist Party of Great Britain, to which he was sympathetic for a time though too independent to be a member. His first fully mature architectural work was a small office building built in Albemarle Street in London in 1955, when he was 53. Here his characteristic motifs of expressed structural frame, cornice (both Perret themes), 'photobolic screen', and bay window (both articulating spatial penetration of the envelope) were fully deployed, as was also his personal proportional system. These features were deployed again at a much larger scale at Alexander Fleming House at the Elephant and Castle in south London, a commercial development which was adapted during the design stage for use as the Ministry of Health, a commission which he won in competition in 1959. The competition concerned cost as well as design, and so this was an extremely low-cost building, a fact which has contributed to its present condition.

The layout is approximately symmetrical about a single axis, the accommodation being divided into four principal blocks arranged in diamond formation around a central courtyard. The blocks are linked by transparent glazed bridges and their massing is cumulative in a way that is reminiscent of the Gosprom at Kharkhov of 1927. Goldfinger denied this specific connection, but not his admiration for much constructivist work - and for constructivist-related designs such as Gropius' Chicago Tribune project of 1922. His detail is very minimal, hard, and elegant in a spirit akin to constructivism. Indeed it is

Alexander Fleming House, Ernö Goldfinger 1960, facade detail original photo

the almost unique quality of his work that it retained after the War the severity and excitement of prewar work. The minimalism of his detail and his use of exposed steel sections and the sheerest of glass surfaces, - particularly in the Odeon Cinema adjacent to Alexander Fleming House (now demolished) and the French Government Tourist Offices (on which he collaborated with Charlotte Perriand) -, does anticipate later 'High-Tec' practice. But this minimalism was restricted to the details; he never forgot the rhythmic and proportional importance of expressed structure, as inculcated by Perret, in the composition of his facades; these, especially at Alexander Fleming House, are highly textured and articulated with architectural incident, their weight emphasized as always with a massive crowning cornice.

Today, after thirty years' exposure to a polluted environment in south London, minimal maintenance, and no external cleaning, the exposed bush-hammered concrete of Alexander Fleming House looks dirty and streaky at lower levels. In addition, there are limited signs of deterioration through the rusting of reinforcement; the results of a detailed survey have not been published so a complete picture of the condition of the concrete is not known, but it appears likely that deterioration has not advanced beyond the stage at which effective and permanent treatment is possible. It could be argued that the dirtiness of the concrete is almost part of the aesthetic, which is one of vehemence and even grimness, and that it is part of the 'industrial romance' which was an inspiriration to architects of that period; there is evidence that Goldfinger may have regarded it as such. The dirt certainly does not conceal proportional and compositional qualities which are the glory of the building. But it attracts unfavourable comment from those with less specialist interest in architecture, and it is the focus of the developer-owners' desire to improve the 'image' of the building.

Other principal factors now requiring improvement are the low insulation values of the external walls, and the absence of air-conditioning in some blocks, which on a site sandwiched between a busy railway line and a major road traffic interchange makes occupation uncomfortable. Cleaning and permanent treatment of the concrete are likely to be possible; the insulation and glazing standards can clearly be improved internally without affecting the exterior; and air-conditioning can demonstrably be installed where absent without structural difficulty. The building could in this way be fully upgraded and 'modernised' without significantly altering its appearance. They have therefore chosen to apply a new skin over the whole external face of the building. In this way not only will they solve the technical problems, but they will also give the building a new 'image', and gain extra floorspace. Further gains in floorspace will be achieved by replacing the glazed bridges with further office space, filling in most of the courtyard and, most importantly, replacing Goldfinger's Cinema (an important part of the composition) with a complete new office block.

Alexander Fleming House, Ernö Goldfinger 1960, with proposed rainscreen overcladding by Fairhurts Architects 1988

This Cinema was described by a specialist in the field as "one of the most innovative and important buildings ever erected for the film industry". Though the Government did not feel able to grant statutory protection to Alexander Fleming House itself (which it leases), it had announced its intention to give further consideration to protecting this Cinema - when the demolition crews moved in during the weekend. Such open defiance did not however discourage the Government from continuing to co-operate with the owners in their plans architecturally to destroy Alexander Fleming House also - and indeed to finance the destruction.

When these plans were first announced, and granted planning permission, in June 1988, a campaign was organised and letters of protest were written to the British Government by architects from all over the world. Amongst many others who wrote were Berthold Lubetkin, Richard Rogers, and Sir Denys Lasdun. Jim Stirling was also a signatory. But the most succinct and complete a statement was made by Philip Johnson, who wrote as follows:

"Ernö Goldfinger was one of the best architects representative of the Modern Movement which had its beginnings on the continent with the work of Le Corbusier. He was one of the few architects who was a convinced and able artist of his day.

Britain has all too few of these monuments (of the Modern Movement) of which Alexander Fleming House is a great example. It would be a cultural mistake of the first order to allow this building to be altered. I am sure the architects of America would join me in urging a stop to this desecration."

Neither this nor any other protest has made the smallest impression. The hysteria about modern architecture promoted by journalists (especially in connection with office buildings), and the denigration of conservation and respect for formal values by those who nominally support modern architecture, have done their work. If DOCOMOMO can effectively use its influence here before the destruction is complete, it will by that alone have justified its' existence.

Roger Aujame
Fondation Le Corbusier, Paris; France

The rehabilitation of the apartment and studio of Le Corbusier in Paris

Introduction

January 31, 1972, the Direction du Patrimoine of the French Ministry of Culture and Communication decided to classify as historical monuments the apartment and studio of Le Corbusier in Paris. The historical value of this creation was recognised not only because they were the home of the famous architect for thirty years, but also because with the building of which they are part, they represent one of the landmarks of modern architecture of the 20th Century.

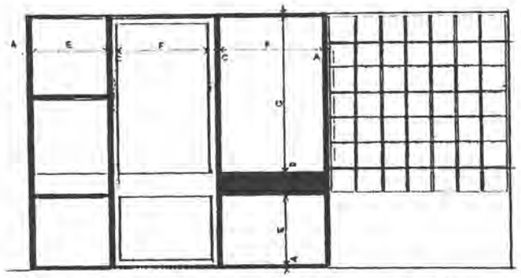
The apartment and studio acquired by Le Corbusier in 1935 on the last two floors (7 and 8th) of the apartment block built by Le Corbusier and Pierre Jeanneret between 1932 and 1934, are today the property of the Fondation Le Corbusier, heir to the properties and archives of the architect. In agreement with the Direction du Patrimoine it tries to maintain the apartment and to open it to visitors.
A recent renovation, including the terrace on the 8th floor, raised problems of conscience for identical restoration, because of changes made by Le Corbusier himself but also because of the requirements of new building standards which prevent the scrupulous respect of the work as conceived by its author.

Following is a description of the apartment and an analysis of its evolution, as well as of the problems facing the restorers.

Description

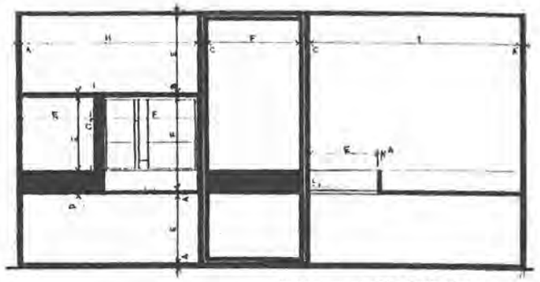
On November 26, 1934, Le Corbusier and his wife Yvonne moved into the building at 24 Nungesser and Coli Street, Paris, which he had just finished for the building society "Parc des Princes". With the Immeuble Clarté of Geneva, completed in 1931, these are the only two private multiple housing projects in all the built works of Le Corbusier.
Nungesser and Coli street now is characterised by a line-up of 17 buildings almost all built between the two wars, in the typical rich style of affluent neighborhoods, where bow-windows were very popular. Number 24 is sandwiched between two of the same height, but it is easily distinguished from the others because it is the only one with complete curtain walls.
The construction, of 8 floors above the ground floor, is built on a lot 12 m wide by 25 m deep (300 m2) between two streets, one of which is in Paris and the other in Boulogne-sur-Seine. It is on, as Le Corbusier underlined, a "Villa Radieuse" site. On the one hand, "sport at the foot of the dwellings" since it is facing one of the most complete sports ensembles of the capital with the Parc des Princes (then also a bicycle race courses) the Jean Bouin Stadium, the tennis courts of the Stade Francais sports club, and the Molitor swimming pool; and on the other hand are dominated by "sun, space and greenery", since on the Boulogne side to the west is the very green neighbourhood of the "Quartier des Princes" continued to the north by the Bois de Boulogne. From the Le Corbusiers' apartment one discovers the panorama of the Seine from Sceaux to the south-east as far as the Mont Valérien to the north-west.

The apartment of 225 m2 is on two floors, 195 m2 on the 7th, and 30 m2 on the roof terrace. Entrance is by an open gallery overhanging one of the inside courtyards. It can be reached either by the main staircase or by the service elevator, as the passenger elevator goes up only to the sixth floor. A very small entrance divides the apartment into two distinct parties: to the right, on the N et C street side, a large studio and office, reserved for the artist and writer, the studio of "patient research", with a guest room and bath next to it. To the left, the domain of private life, with the living room, a kitchen-pantry, the dining room, the bedroom and bath, all of these opening on a long terrace facing west. From the entrance an elegant winding staircase in painted concrete goes up to the roof-garden on the 8th floor as well as to a small bedroom with its bath. The floor plan of the building is in the form of an H, with a narrow part between two inside courtyards, connecting spaces opening onto either of the two streets on the east or west. The volumes of the apartment underline this solution because the spaces on either side have vaulted ceilings. The vault of the studio (and its extensions) parallel to the street, is 7.50 m wide, and 3.50 m high at the center, whereas that to the west which contains the kitchen, dining, and bedroom is 3.00 m high. These vaults allowed the architects to keep within the allowed set-backs. The entrance and the living area have a horizontal ceiling 2.50 m high. From there, two big wood and plywood doors 2.25 m wide with pivots at



Measurements according to Le Corbusiers' Modulor:

A	3 cm	E	58,3 cm
B	4 cm	F	73,8 cm
C	7 cm	G	123,5 cm
D	18,5 cm	H	138,1 cm
		I	169,1 cm



Appartement of Le Corbusier
West facade, view out of the dining room.
Left version 0f 1933
Right version of 1950

the third point, open into each distinct side of the apartment.
The east and west facades of the studio and the west facade on the terrace are designed as window-walls. The original frames (1934) were in standard steel T-sections in which were set transparent, translucid or opaque, eiter fixed of sliding, windows.
The western window wall thus contained: in the kitchen: one fixed and one sliding section; in the dining area: a double sliding window, in the bedroom: one sliding section, one fixed, and a section in glass bricks. The sliding sections ran on steel rails. The architects tried to keep them flush to the inside and outside, so much so that the waterproofing was raised only about 3 cm. The staircase to the terrace ends in a construction with a flat concrete slab roof, surrounded on three sides by window-walls in the same steel sections as those of the rest of the apartment; on the fourth side, the access to the guest room upstairs.

The changes made by Le Corbusier

After having lived a few years in this setting, in every hour of the day and every season, Le Corbusier was able to experience his own architecture and test the qualities or defects of his designs. According to his own conclusions (O.C. vol V 1946-52) he recognised three principal defects:
a) the poor resistance of the materials used exposed to the prevailing west and north-west winds,
b) the inadequate thermal insulation of ordinary glazing,
c) the quality of the natural lighting of various areas of the apartment needed improvement.

a) the poor resistance of the materials.
Five years after he moved to Nungesser and Coli, the war comes, then the exodus: Le Corbusier leaves Paris. When he returns home in September 1942, he can only remark the damage resulting from lack of maintenance and above all from the weather: rain has attacked the facades exposed to the prevailing winds, especially the west facade on the pantry, the dining room, the bedroom; as well as the west facade of the access to the roof garden. Rust has penetrated the metal window frames profoundly; their expansion has broken the glass at many points, provoking leaks at the interstices.

b) insufficient thermal insulation.
It was already noticeable before the war in hot weather, when the lack of protection against the sun made it necessary to close the folding shutters of the dining and bed rooms in the middle of the afternoon, but also the "hothouse" effect on the roof-terrace construction which created a tropical climate in the entrance hall. These remarks were reinforced, in completely opposite conditions, when during the extremely cold winters of 1943 and 1944 the building was not heated.

c) the poor distribution of natural light.
It was a remark of Yvonne Le Corbusier which put Le Corbusier on the way. Having not left the apartment before except during summer holidays, she complained, as a good mediterranean, about the strength of the light falling from this roof-construction, over the entrance. Le Corbusier thus remarked the crude light throughout a space whose dominant color was light-gray and the resulting lack of "softness" which caused the complaints of his wife.
All these observations and perhaps even more the reactions of Yvonne encouraged Le Corbusier to make two decisions:
- to restore the west facade on the terrace,
- to improve the distribution of the natural lighting.

Though at the end of the war he was in the midst of studies of sun-breakers, he was not free to use them on the west elevation, because the building code forbade building in front of the legal set-backs and in addition would have reduced by as much the width of the terrace along the apartment.

At that moment, 1948, steel profiles were not available on the market, steel being reserved for industry, thus it was impossible to replace identically. In fact Le Corbusier had the same problems for the projects then under study: the Duval factory in Saint-Dié, and the Marseilles habitation unit where work had begun in 1947. With the help of a corsican carpenter, Barberis, convinced of his ideas, he designed a system of window-wall adapted to the space left free between the columns, the ceiling and the floor, thus creating a total glazed surface with double-glazed opening and fixed elements, transparent, translucid, and eventually, opaque ones. Deep sectioned profiles are assembled by mortise and tenon.

The openings and fixed elements may be at the outside face or on the contrary on the inside of the framework, thus creating a play of planes based on the thickness of the sections.
The same principle was applied to the construction of the access to the roof-terrace except that the original fixed metal frame was being set into the concrete, and the T-sections being less deteriorated (they were maintained) and oak frames with insulated "thermopane" glazing were set into them, fixed individually into the original frame. Oak glazing strips were used on the outside.

This was also a year during which Le Corbusier continued his studies on the "Modulor", a system of proportions based at the same time on the golden section and on human dimensions (the 6 foot man). So logically he envisaged applying it to his own apartment. But he has to apply it to a construction of 1930 when regulations required heights of openings under lintels that do not correspond to the "Modulor". He was thus led to construct for this case a "special" Modulor on the basis of 204 cm and not 226 cm.

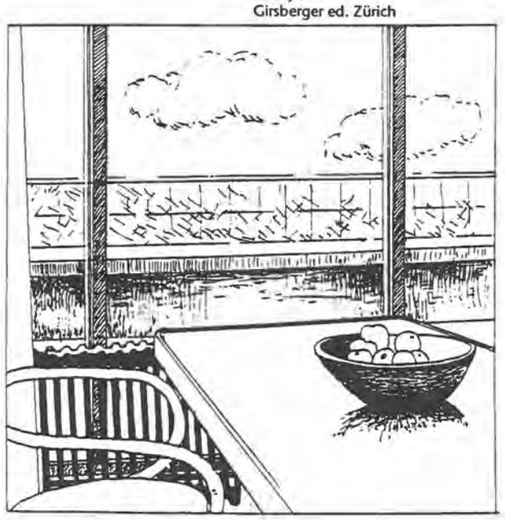
"This is very interesting" says Le Corbusier, "and modifies our attitude towards formulas: to smell, to feel first, to understand and to decide. Here, one decided, that surely, the Modulor 183-226 would have made impossible what, in the present case, was to be the cause of an architectural emotion: the window wall".

The attached sketch shows the special ribbon used for this case and the general view of the window wall with the glazing dimensions. The roof-terrace construction is naturally based on the same principles.

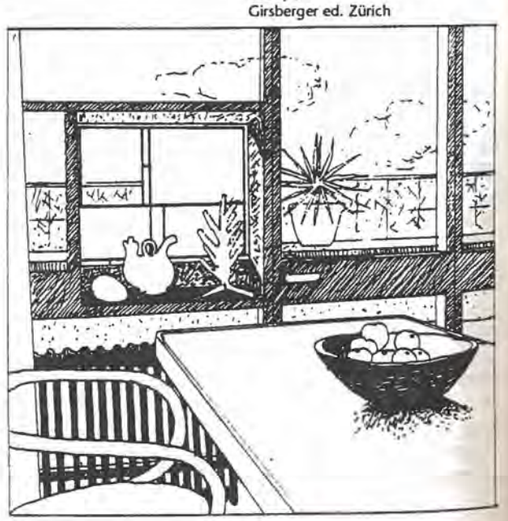
The result, for the west facade, is very different from the original window wall. The window wall has kept its original reason for being, which is to light walls, partitions, and floors without zones of shade. But the whole surface is no longer in glass: parts can be opaque, in wood, made up of cabinets or holding up furniture"so that the window wall becomes the fourth wall of the room". In the dining room, the sliding doors which can be opened widely on the terrace, are replaced by a glazed door 75 cm wide, between two big asymmetrical fixed panels. A wide horizontal oak section 18.5 cm high, goes from one end to the other of the opening, at the same height (73) as the dining table and the large concrete shelf of the terrace railing, and divides the window wall into two unequal parts, one being the glazed sill. The panel facing the dining table is divided by an upper horizontal into 2 parts, one of which, a square 73 cm x 73 cm is in stained glass whose subdivisions are in different colors (red, yellow, blue).
In the bedroom, same principle, a glazed door 75 cm wide, between two fixed asymmetrical panels, divided by the 18.5 high horizontal which continues in the window wall of the bedroom.
The roof-construction which, let us remember, is glazed on 3 sides, is the only one to receive opaque elements. This device-opaque and glazed parts-allows the control and distribution, therefore the play, of zones in brillant light or in shade "the fundamental language of architecture, before that of color".

Le Corbusier also revises the entrance to the apartment and its extention to the living area. The gray wall facing the entrance door is replaced by plywood panelling with carefully chosen veins, and above he places a sunbreaker on the inside of the glass strip under the ceiling.
This device is meant to screen off the brutality of the light coming in and to diffuse it. As a result "the wall can now be used for paintings, sculptures and drawings, for its surface is visible, whereas before the retina was blinded by the effect of backlighting".

Le Corbusiers' Apartment.
Window Wall. Version of 1933.
View from the dining room.
From Le Corbusier & P. Jeanneret.
"Oeuvre Complète Tome 2 (1929-1934)".
Girsberger ed. Zürich



Le Corbusiers' Apartment.
Window Wall. Version of 1950
View from the dining room.
From Le Corbusier.
"Oeuvre Complète Tome 2 (1946-1952)".
Girsberger ed. Zürich



Forteen years later, in 1962 (and five years after the death of his wife), Le Corbusier again inspected the apartment. He notices the very poor state of the most exposed, the west facade again. The outside glazing bars have rotted and water filters along the glass. The frame in oak show disquieting signs of rot. During storms, water penetrates inside. He therefore goes back to the original solution: sliding windows.

Techniques and materials in this field have made remarquable progress. So it is in anodised aluminum that windows are put in. The dining room has a fixed part facing the table into which Le Corbusier incorporates the stained glass, and two sliding panels in anodised aluminum, on nylon guides, the last word in the techniques of the sixties. The bedroom gets two similair sliding panels opening widely on the terrace.
On the other hand, he leaves the wood of the roof-structure whose qualities of insulation and distribution of light he appreciated, as it is.

The programme of restoration

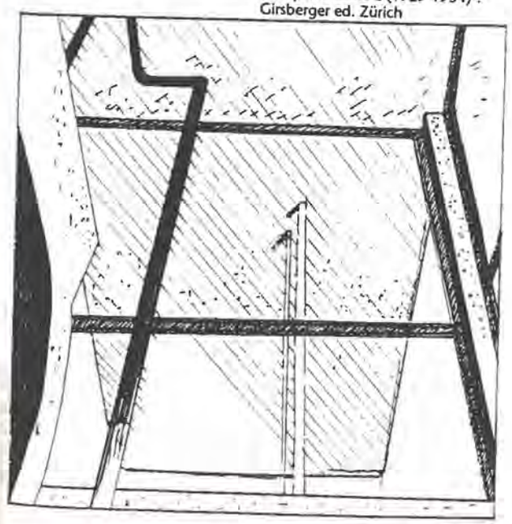
The successive changes undertaken by Le Corbusier in his apartment are very instructive. They are the reflection of life. They make us discover an ever alert mind, thinking of improving its environment as much as to face practical defects, to arrive at what Charlotte Perriand calls: "L'Art d'Habiter".

At the moment of the design of the project, in the early 30s, it is still the period of research of harmony between inside and outside. On this subject it is already ten years that the ideas of Le Corbusier are ahead of techniques, and the techniques do not always live up to his hopes. When, too soon, the problem of deterioration comes up, neither the techniques nor the materials are available, but there is also for the architect, the attraction towards wood, more alive, more malleable, which awakes the sleeping sculptor in him, and he carries out the 2d version, a "sculpture which closes, instead of opening", the 4th wall!

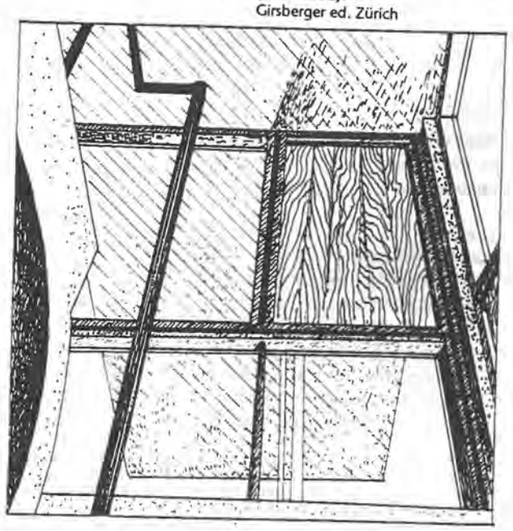
When finally the following due date arrives, techniques have progressed, materials have become more efficient, and it is possible to return to the original design.

Le Corbusier dies in 1965, the apartment and studio are classified historical monuments in Jan 1972. In 1987, The Fondation Le Corbusier together with the "Direction des Monuments Historiques" (Historical Monuments Service) reopens the restoration file of the apartment. For twenty years, it has been the object of no major maintenance work and the situation is worsening. If the west facade has more or less withstood the wear of time, on the other hand the terrace on the 8th floor is in bad condition, as well as the gutters into which the rainwater of the vaults drains, resulting in leaks in the apartment and the studio. The windows of the roof-structure are no longer water-tight. The original steel sections, set into the concrete, as well as the horizontal sections, are thoroughly rusted and have literally exploded the wood frames set into them. Water has filtered under the bottom of the window frames and there are numerous water stains. The complete replacement of the waterproofing of the terrace and the window frames is decided.
The west window-wall, restored in 1962 in anodised aluminum, has behaved better. Only the rails in nylon have taken on play and, in strong winds, the panels rattle on the rails. But the major problem is in the inadequate height of the step between the terrace and the inside.

Le Corbusiers' Apartment. Window Wall. Exit to the terrace (8th floor).
Version of 1933
View from the staircase from Le Corbusier & P. Jeanneret. "Oeuvre Complète Tome 2 (1929-1934)".
Girsberger ed. Zürich



Le Corbusiers' Apartment. Window Wall. Exit to the terrace (8th floor).
Version of 1950
View from the staircase from Le Corbusier. "Oeuvre Complète Tome 5 (1946-1952)."
Girsberger ed. Zürich



During violent storms, a great deal of water enters and finally deteriorates the ceilings of the apartments below.
The analysis of the restorations made or carried out by Le Corbusier in his apartment shows that facades exposed directly to prevailing winds -west winds characteristic of low pressures - in this case the window wall of the dining and bed rooms as well as the roof-structure, do not withstand bad weather, since every fifteen years their replacement becomes inevitable. It is therefore imperative to choose durable protection by the use of inert materials. Le Corbusier came to that conclusion himself, since in 1962 he deliberately abandoned wood, considering it too unreliable whereas esthetically it gave him satisfaction.

It is this final fact that will create a dilemma for the restoration. For the authorities, the problem is simple: to respect the work and consequently to replace the components in their original frame and proportions. But the second version of the west facade represents an important stage in the work of Le Corbusier! The research led under his direction for the window section of the Duval factory in Saint-Dié in 1946-47, the restoration of the Armée du Salut hostel in Paris in 1948, contributed a great deal to resolve the problems of the west facade of the apartment. The same principles were used for the windows of the housing units of Marseilles, Rézé, and Briey, and finally the Jaoul houses (1956). But contrary to these last examples, neither the west facade or the roof-structure had the advantage of the efficient protection given by the loggias and the sun-breakers, so when it was decided to do the facades again, better materials were chosen. It was necessary to follow in that direction.

There remained the question of the repair of the roof-structure which he had left in wood. The evolution of techniques and materials are such today that all the solutions imaginable, if one is willing to pay for them, are guarantied for a long life, since the materials are capable of withstanding the worst exposures to bad weather. The logical solution was to go back to the original version (1934) and to the window wall in metal sections. Once that was decided the only reason making an identical result impossible for the restorers were the famous "Documents Techniques Unifiés " (DTU) (unified building code or standards) made compulsory by the Ministry of Construction. In our case the height of the flashings and steps under doors to terraces has gone up to a minimum of 15 cm and the profiles taking insulated glazing have become much heavier than those of 1934.

The DTU, on the other hand, are compulsory for new construction. If a building is left unrestored, or does not need restoration, they are not applicable.
Is it logical for them to become compulsory retroactively without discrimination for all restorations? Judgement should be applied case-by-case; if something has held up for a long time, for instance steel sections, it is probable they will continue to do so, with lesser margins no doubt than the new dimensions required.

The solution chosen, in our case, taking the DTU in consideration, with a strip of flashing all around the roof-structure raised to standard, window frames in stainless steel colored in depth, double glazing with outside anodised glazing bars in standard sections, have clearly modified the dimensions of the original window wall especially the vertical ones. But the relationship of the proportions of the glazing and the intermediate sections have been respected.

Another detail which is important in Corbusean architecture, is the continuity sought for between inside and outside floor levels. It is the case of the dining and bed rooms that open on the terrace. The same detail is found in the living area of the villa Savoye at Poissy (1929). In both cases, the height of the flashing is no more than the paving that covers the terrace. If one were forced to apply present regulations the designer's intention would be completely disfigured. But there are now satisfying technical solutions (for instance the use of resins or polymers) which make it unnecessary to follow literally the regulations which are made for new buildings.

Conclusion

The objectives of the "Direction du Patrimoine" are clear. The classified buildings should not be modified in any way that may change the spirit of the original work. Otherwise, why classify them? The experience of restoration of the Le Corbusier apartment will have allowed to identify the special problems of modern buildings. The poor quality of the construction, among many of them, explains for many the rapidity of the deterioration of the building, which requires a technically appropriate intervention and the utilisation of materials particularly efficient in performance. But the representatives of the "maitres d'ouvrage", in this field, the chief architects and the architects of the "batiments de France", usually engaged in the restauration of historical buildings prior to the 19th Century are not prepared for this sort of work. It is time now for the concerned governments to envisage measures to improve the situation which can, in the near future, become out of reach. Below are several suggestions, based on the experience of work on such buildings:

1. Restoration chart.
Establishment of a chart of restoration and rehabilitation of buildings and sites of the Modern Movement based on a policy initiated and developped by the responsable ministerial authority. A commission including architects, technicians, lawyers, and ministry officials concerned, will assist in the formulation of such policy and chart documents.

2. Documentary file.
A serious and extensive historical study of all aspects of monuments and/or sites of this category to be restored, must be carried out. The files should include:
repertories of plans and working drawings, (such plans would certainly help to rediscover the exact proportions of the parts to be restored); quantity surveyors' descriptions; contemporary photos, texts and correspondance. Also for each building a summary of its history, with the name of the present owner, the present state of the building (kept up to date!) major legal or technical problems to be solved.

3. Conservation
Evolution of the programme. Actual changes performed.
Establishment of a complete chronological file showing the successive uses since the origin.
Environmental aspects. The building in its immediate surroundings. Successives changes in these from the beginning on.

4. Rehabilitation policy.
Respect of the work. Restoring without change.
In case of alternative: choice of the appropriate version considering the different mutations underwent and its present use. Justifications of the choice.
Legal constraints. Consequences of the adaption (or no adaptation) to the present building standards (safety, comfort, sanitation etc....).
Technical constraints. Choice of suitable and/or efficient materials respecting the project with the aim of prolonging the life of the building with a minimum of maintenance.
Future use of the building as part of the architectural heritage of the 20th century. International demension of the project.

5. Education of the public.
Publication of booklets or guide explaining the quality of the restoration, and presenting the different stages of the site work.

Damiano Cattaneo
Architect, Como; Italy

Translated from Italian

Restoration of the ground floor of the "Casa di Affitto" or "rented house" at Cernobbio (Cesare Cattaneo, 1938)

The "Rented House" by Cesare Cattaneo was built at Cernobbio in 1938/1939. It is a three-story house with only one apartment per story and a shop on the ground floor, with the front facade on the main road of the village, the sides being limited by buildings of no particular architectonic merit, since they are built in the traditional local style. Cattaneo immediately opts for the road of "non-ambientalism", i.e. the sharp contrast with the existing buildings, thus defending the right of modern architecture to exist within historic centres. Against the symmetric, static, compact facades, which are crowned by the traditional pitched roof of a yellowish colour, he places a complex and dynamic architecture. The ground floor is mitigated by a glass "cage" behind the pillars, and is interrupted at the right-hand side by a roofed corridor, which transverses the building, and in which is located the entrance to the staircase and to the shop (by means of a revolving door), so that in that way the expository space along the front is done more justice, that continues until the barrier and that does not interrupt the continuous line of the glass wall.
The glass wall consists of three horizontally slideable elements, as if they are "sliding walls", which confirm the dynamic set-up of the building, which is conceived as a living being, which comes to life as the hours of the day pass, because it opens and closes itself under the influence of the light.
At the beginning of the 1950's the new tenant has tampered considerably with the ground floor. The changes consisted mainly of the replacement of the original external glass wall with constructions in masonry of with strong (robust) iron bars, because these were considered too vulnerable, if exposed to attempts of house-breaking, whereas, according to the tenant, they also offered insufficient thermal insulation. The automobile showroom which used to be established in the house, was succeeded by an agency of a credit bank, with the result that the locks and the outer walls had to be made stronger, whereas such climatic conditions had to be created that an extended stay of employees and customers in the building was possible. As a result of these interventions the architectonic basis of the building was affected essentially. The glass wall of the entrance hall was replaced over its entire height with a blind wall. The main entrance was moved to the street level, the shape and the finish of the metal closing and locking gear were modified casually, and were also connected with pillars, instead of being implanted more to the rear and structurally free, as had been conceived and realized by the architect.

More than 30 years later, in 1988, when the building is returned by the tenant to the owner, the occasion presents itself to undo these modifications.
The restoration immediately faces some difficulties, for the available archive material appears to be incomplete. There are only a few floor plans and elevations on a scale of 1:100, which, moreover, do not mention specific measures. Furthermore, there are some old photographs, reproductions of details, depicted in the journals "Il Vetro" ("Glass") from 1939, and "L'Architettura - Cronache e Storia" ("Architecture - Chronicle and History") from 1961. However, only the following three documents are of concrete importance for the execution of the restoration:
- the elevation on a scale of 1:100, not dimensioned;
- construction details of the window and door frames and fixtures, not dimensioned;
- an old photograph.

All these documents are available to the restoration designers, since they are depicted in the journal "L'Architettura - Cronache e Storia" from 1961. The originals of the last two are lost.
The verbal testimonies appear to be contradictory and are therefore of little use to the restoration.
In a certain sense there is question here of a disagreeable peculiarity, since the archives of Cattaneo, with regard to the design of the House of Cernobbio, contains a great deal of documentation, also on the execution of the work. The documentation about the (wooden) fixtures on the upper floors can be considered as complete and extremely detailed.
Still, a great deal of research remains to be performed, so that the scarce available documentation material can be supplemented with established facts.
This research does not require a great deal of time, not only because they relate to a building of small dimensions (about 90 m^2), but also it was precisely known from the very beginning which elements had to be found. These consist essentially of the revolving door of the entrance, the anchorage of the guiding elements of the glass sliding doors, the device in the floor for dust collection, the recess in the west wall for the accommodation of the door in open position.
Fortunately, the preliminary analysis appeared to yield a great deal of information, so that pins, cramps, guides and numerous other small, but valuable objects were discovered under plaster work or in the floor foundation. All these components were found exactly at the places where they should be on the ground of the analyses.

The restoration activities therefore consisted of:
1) reconstructing the elements of the glass doors;
2) selecting new steel sections, which had to be suitable to replace the original profiled beams, which no longer could be produced and could not be found on the market either;
3) determining the dimensions of the new profiled beams, which had to be so that glass doors could be mounted in them which enabled the required safety and thermal insulation.

Apart from the evolution of crime and theft in the period between 1938 and the present, the necessity of a new inspection of the thermal efficiency of the building, which must be capable of coping with a temperature difference of about 25°, must be considered. Originally, a temperature difference of only 10 - 15° was assumed. Furthermore, a choice must be made, so that loss of heat due to thermal conduction is avoided as much as possible, as well as the phenomenon of the misting over of window panes by the formation of condensation on a cold surface. A new design is made for the profiled beams on the basis of the available graphic documentation and the information which has been brought to light in the course of the research, the dimensional ratios being found in the proportions of 2, 3 and square foot. These new profiled beams are made using drawn bars and section bars, mainly L-shaped and T-shaped and flat bars, so that square measures are obtained which approach the original dimensions. As the glass doors must provide the required safety and thermal insulation, the profiled beams must be 35 to 45 mm larger. The total thickness of the glass doors must be at least 30 mm (12 mm for the laminated glass at the outside, 12 mm for the air chamber, taking into account the large dimensions of the door panels, and 6 mm for the pane at the inside. Furthermore, in establishing the thickness of the glass, also the thickness of the door cam, the metal hook for closing the glass doors, and also a small dimensional tolerance must be taken into account.
Unfortunately, the weight of these new glass doors, which have a surface of more than 16 m^2, is substantially greater than that of the original doors (their weight is 900 to 1000 kg instead of the original 400 kg), whereas it must still be possible to slide them horizontally in order to open the main room entirely. For this reason it seems recommendable to use a sliding system on floor guides, instead of guides suspended from the ceiling. For this reason, also the ingenious device in the floor for dust and soil collection is cancelled (which is very characteristic for the attention for details in the architecture of Cattaneo), which device, by the way, was found completely intact in the floor.
On the one hand, the above objective conditions do not allow to realize a rigorous reconstruction of the original, but they do not prevent the architecture of this building to be restored to the original configuration, and to restore the typical spatial and volumetric accentuation, which are so characteristic for the style of Cesare Cattaneo.

Construction year: 1938/1939.
Restoration year: 1988.
Restoration design: Elina Bianchi and Enrico Bulgheroni.

General view of the Casa di Affitto in Cernobbio
photo: Wessel de Jonge

The restored groundfloor showing one of the sliding doors opened
photo: Wessel de Jonge

The reconstructed revolving door
photo: Wessel de Jonge

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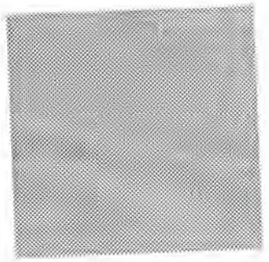
Translated from Russian by C. Cooke



The fate of Melnikov's buildings in Moscow

A few weeks ago in Moscow we marked the centenary of the birth of the outstanding Russian architect Konstantin Melnikov. The importance of his contribution to 20th Century architecture now seems evident, but the condition of his built legacy is dramatically less secure.

Melnikov was one of the most inherently Moscovite of architects, both in respect of his biography, as a man who was born, lived, worked almost exclusively in that city, but also in his whole mode of aesthetic thinking with its unusually sensitive feeling for the 'native place'. The majority of his projects were designed specifically for Moscow, and 24 of them were built, ranging in date from 1917 to 1938.

Ten of those structures have by now gone, mainly for perfectly objective reasons of their temporary nature. Amongst these the most notable were the Makhorka exhibition pavilion, the catafalque for the funeral of L.B. Krasin and the kiosks of the New Sukharev market. Their fate was shared by schemes that were essentially cosmetic refacings, inevitably destined for short life, such as the new facade treatments he did for three production sheds at the great AMO automobile factory and another for a meat processing plant.

Thirteen of his works are still standing in the city. These are his own house in Krivoarbatsky Lane; five workers' clubs, one of them with a further cafetaria and canteen building; four large garage structures; the administrative building of the AMO factory; the office building in the New Sukharev market and a portion of his planning for Gorky Park.

So far there has been no serious inspection of the state and condition of these buildings, and no proper measurement of them. Far less have any projects been prepared for their restoration. The sole exception here is Melnikov's own house, which is the subject of my colleague Vladimir Rezvin's paper at this conference. The only present source of information about the physical condition of the others, or about the extent to which original details and features remain, is relatively cursory visual inspection. There can be absolutely no doubt that the majority of these buildings are in need of repair or restoration work, and since virtually all of Melnikov's buildings were well documented in design and construction drawings, as well as period photographs, this should in principle be easy to carry out.

From the numerous written documents, design drawings and notes by Melnikov himself, as well as publications of the twenties and thirties, it seems fair to conclude that over half of the buildings still standing were not executed in full, or were built with significant deviations from the design variants available to us. In as far as Melnikov's clubs are concerned, such deviations were recorded in considerable detail in Nikolai Lukhmanov's small but most valuable book, The Architecture of the Club, published in Moscow in 1930, and written on the basis of intimate contact between Lukhmanov's account confirms, in particular, that Melnikov's concept of 'living walls', which was one of his greatest single conceptual innovations in workers' club design, was not actually executed in any one of the buildings where he proposed it. These various systems for transformation of internal accomodation into flexible and dynamic 'systems of halls' were the key to his design for this building type.

In general terms, all his extant buildings have preserved their original usage, but those usages are not themselves of quite the same nature as they were in the twenties. Whilst the clubs still bear that generic name for example, they may in fact be used principally as cinemas, and the garage in Novo-Ryazanskaya Street is now used for vehicle repair, rather than just for storage. Changes such as these have naturally caused alterations to be made to the building's structure, to its planning or to its elevations. In some cases the character of the urban environment immediately around the building has also changed dramatically. Thus losses, partial reconstructions, additions, alterations and painting in non-original colour schemes are characteristic of practically every Melnikov structure in varying degrees: the Kauchuk and Burevestnik clubs have suffered relatively less, the Svoboda club considerably more.

Melnikov's architecture never proceded by the application of standard canons or design motifs. Each project explores its own particular spatial and structural order, with a fresh reading of the function, with new constructional devices and details. Each of his design concepts, each of his formal treatments, is a new synthesis worked from first principles. This is one factor which makes all of his buildings equally important for preservation and restoration, as each one incorporates a unique concept and way of realising it.

At the same time, the significant differences in their overall condition demands a highly differentiated approach to their restoration, and this is one of the particular features of the challenge posed by Melnikov's Moscow legacy.

The building whose position is most complex, and most difficult to retrieve, is certainly the club he built for the Svoboda factory, which is now known as the Gorky Palace of Culture. It was initially executed with considerable deviation from the architect's intentions and has subsequently undergone innumerable partial rebuildings, which have altered the whole volumetric and spatial principle on which the composition was based as well as the stylistic treatment of the building. In restoration terms, this is the most problematic of the Melnikov buildings, and it is manifestly impossible to envisage it being tackled in the near future.

On the other hand the majority of his buildings, despite the conspicuous changes that have been made, could perfectly well be restored to their original state, since they have not been submitted to any fundamental alterations. This applies above all to his own house.

Another example in this respect is the administrative building of the New Sukharev market, which Melnikov built in 1924-26. This is a two-storied brick structure, triangular on plan. The flat roof was reached by an open staircase, located on the inner side of one of the corners. This administrative building was the core of Melnikov's complex composition for this retail market of little stalls. In his words, it was built literally "at the centre point of all the visual rays", to rise above the saw-toothed rows of single-storied timber cabins as a focus to the whole complex.

The market as a whole was demolished in the thirties. This office building lost the whole environment that had created the richly expressive contrast of scales, rhythms and materials. For all its isolation amidst the multi-storied buildings around, this tiny little building still retains a great monumentality and presence as a result of its sharply expressive triangular volume and the plastic treatment of its elevations, where flat blind walls alternate with the frequent rhythm of the verticals.

This building now houses administrative offices of a transportation department of the city council, and thus has essentially retained its original function. Overall, it retains its original appearance, with the most significant changes having taken place in those parts of the structure adjoining the former open staircase. The two walls forming this corner have been significantly extended upwards. The openings which formed the entrance on the ground floor have been filled in, and a low double-pitched roof has been erected over the previous flat one.

This partial rebuilding destroyed the remarkably rich system of interpenetrating inner and outer spaces, impoverished the formerly rich silhouette and the composition of facades. However, the additional height of the walls was done in half the thickness of the lower original part, and below them all the original volumes of the building are preserved undisturbed. The flat roof and the staircase are still there (the stairs merely being deprived of any function), and a significant part of the internal planning and original details such as window sashes remain. All this creates an opportunity for returning the building to its full original state.

With the single exception of the Svoboda, Melnikov's clubs are in an analogous situation. It seems to me highly important that even if only in the case of one building, there is a full realisation of the architect's conception, and a complete execution of those details within the building which were not carried out to his design in the initial construction.

Manifestly the most appropriate candidate for such a treatment is the Rusakov club. This was the first of Melnikov's series of club buildings, through which he proposed a completely new way of approaching the architectural programme of this building type, and of resolving its planning and functional organisation. In notes of the early seventies, shortly before his death, Melnikov dreamed of creating moveable planes even only for the two upper side balconies of the auditorium, to realise at last his concept of the 'living walls'. Once at least he would have executed the idea of the transformable auditoria which was the whole basis of this design. Today, multi-functional buildings with such flexible, changeable spaces are so widespread throughout the world that it is hard to realise that this modest building which brought Melnikov such fame was where the idea was first proposed.

In the archives remaining in Melnikov's family there are detailed instructions for the restoration of this building, which was of such importance to the architect himself at the level of principle. The proposals are entirely realistic and practicable. He considered it essential to reopen the window apertures in the two side elevations of the building which have been filled in with brick, to restore the original perforated surfaces here; to restore the typographical treatment on the outer end-walls of the three upper auditoria on the main facade, and to return the whole exterior to its original colour scheme. By these operations the original sharply expressed treatment of the powerful cantilevered volumes would be restored, with its rich play of volume in space, to restore the dynamic image and formal structure of the building.

One factor which strongly reinforces the suggestion for restoring these club buildings in accordance with the original designs is the great increase in popular political and community activity that is taking place now within the city, which could support the revival of a club function for these buildings in something approaching its original sense.

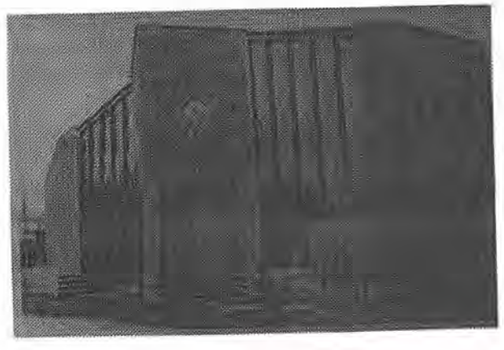
Another approach to preserving the Melnikov legacy which deserves careful examination in certain cases, is that which we call "renovation". In this approach the structure is restored as closely as possible to the original planning, architectural treatment, detailing etc., and gets a new lease of life through some entirely new function appropriate to today's needs. That is the sort of approach which would seem applicable to two of Melnikov's garage structures, on Bakhmatevskaya and Novo-Riazanskaya Streets.

The bus garage on Bakhmatevskaya Street was erected in 1926 in what was then a quiet, lightly populated area of the city. By now the area has become totally built up, and the building is surrounded by multi-storied residential and administrative buildings. On the one hand this impedes its operation as a fully functioning bus depot, and on the other, it has caused a significant lowering of environmental standards within the building. The type of bus being garaged here has changed, and despite

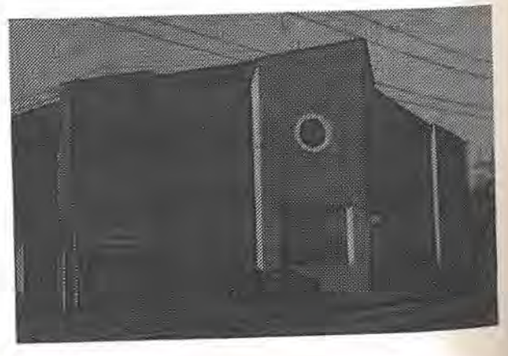
powerful ventilation and extract equipment, which in its turn has spoiled the appearance and spatial freedom of the interior, the level of powerful fumes and exhaust gases prevailing inside is may times higher than is permitted by current health and safety norms. In terms of its original function, therefore, the building has virtually outlived its usefulness. Working conditions inside are dreadful, and the organisation which operates here would be glad to leave at the first opportunity.
Even the direct-flow system of bus circulation inside the garage, which Melnikov invented and was initially one of the great delights to the bus-drivers, has not been used for years. It was this circulation system which generated the whole configuration of the plan, as a parallelogram with saw-shaped edges. The majority of the great garage doors that provided such easy entry and exit for the vehicles have been closed and unused for years. A mass of improvised partitions and internal structures have been erected at various times, fragmenting the internal space. The great monumental lettering by Melnikov on one gable end which read 'Entrance side' was destroyed long ago, and the exterior walls have been spoiled by defaced by painting in the most appalling choice of colours.

Despite all that, the powerful brick walls are all still there, as well as the three-dimensional form of the elevations. The superb steel roof structure by the famous Russian engineer Vladimir Shukhov remains, as does the upper roofing of timber with its system of rooflights, and even, almost completely, the timber window frames and great doors. In this case we have the full design drawings by Melnikov as well as copious detailed notes, right down to his specifications for the decorators and painters. We have extensive photographs taken shortly after completion and in the following years.
With all that, there is no question that the building would readily be restored to its original state and appearance. Given the vast spatious interior and the richness of its natural lighting, the best suggestion for reuse of this building must certainly be as an exhibition hall. It would make a superb one, and Moscow is in dire need of such accomodation. The situation with the Novo-Ryazanskaya Street garage is very similar. There is thus an immediate choice for the application of such imaginative thinking to this other principal building type pioneered by Melnikov, and so well represented in the legacy of buildings he left to the city of Moscow.

Melnikov: Truck garage on Novo-Riazanskaya Street, Moscow, 1926-29;
photograph by Rodchenko, taken in 1929 during final stages of construction.



Melnikov: Truck garage on Novo-Riazanskaya Street, Moscow, 1926-29;
photograph by the author, August 1990.



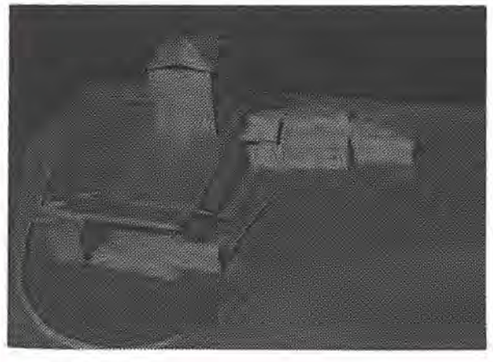
Mauro Saito
Architect, Matera; Italy

The architectonic restoration and consolidation of the San Vicenzo Church in La Martella (Ludovico Quaroni, 1951)

Introduction

The parish church of the Borgo di La Martella in Matera dedicted to St. Vincent de Paolis, designed in 1951 (and consecrated in 1955) by the architect Ludovico Quaroni, stands at the center of the residential village designed and built by UNRRA-CASAS to house approximately 250 farmers' families evacuated from the Sassi district. The church, built on the highest point of the town's site, constitutes the physical and symbolic fulcrum of the village, and together with the other surrounding public buildings conveys an impression of urbanity which the UNRRA-CASAS was commissioned to confer upon the new farming settlements. The religious building is articulated in two masses linked to a central tower: the hall projecting eastward in the direction of one of Matera's principal roads, and the two-story rectory oriented northwards, which together form a partially open courtyard. After the disastrous sismic events of the years 1980-81, the complex was observed to have suffered damage and to require provisional buttressing in several places. The consolidation planning work for the complex was entrusted to the professional team of arch. Mauro Saito (for the architectonic restoration) and eng. Giovanni Grande (for the structural consolidation). Successively this office authorized the involvement of prof. arch. Gabriella Esposito Quaroni who contributed both the preliminary data for the scientific restoration and other original graphic materials for the project design.
The aim of the project was to furnish the client with the detailed technical directives relevant to the reconsolidation of the architectonic structure and to the artistic and decorative apparatus belonging to the construction. The constructional techniques and modern materials utilized require a scientific study in order that their coherence and resistance may be understood for the restoration (and where feasible, the improvement) of the original functional quality of the structure. Post-conciliar "contemporary" liturgy has necessitated a rethinking of the relationship between officiator and faithful, with consequent - sometimes fundamental - typological variations made to the church furnishings.
A sum total of critical and historical methodologies must be brought into play in order that the best adapted tools can be identified for the restoration of contemporary architecture, a nascent and experimental sector of the field of monument restoration. The restoration of the La Martella church is amongst the first experiments in this sector.

Model of the San Vicenzo Church in the original lay-out, seen from the north-east



Historical-critical notes

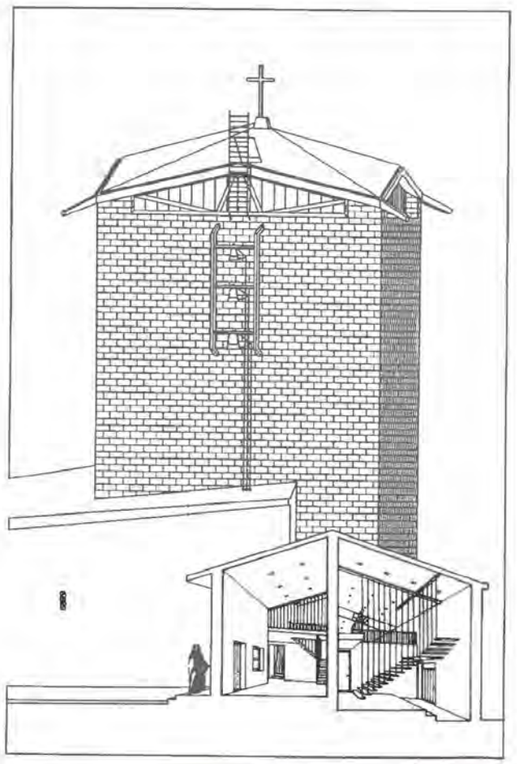
The forty years separating the design and construction from the present moment are rich in historical and critical references. The notoriety of this religious building as well as the importance of its position within the history of modern Italian architecture derive from its intrinsic formal and spatial constructional qualities, and are also linked to the focal position which it occupies within its architecturally outstanding urbanistic context, the Martella village.
For the other churches Quaroni had designed, (Prenestino 1947, Francavilla 1949) he had created the division between the zones of the public and officiant by means of an accentuated differentiation between the lateral aisles and central nave. Instead, at La Martella he finally adopted a definitive solution which granted a "greater volumetric importance" to the structure with respect to the surrounding urban complex of the village.
Here Quaroni abandoned the nave (basilican) scheme, creating a plan with three volumes consisting in a low, dimly lit congregational hall completely void of

ornament, which leads towards the high altar, centrally placed beneath a high tower, the principal source of illumination for the presbitery. The latter space is given a rich ornamentation both in its sacred furnishings and flooring, and is flanked by the simple structure of the rectory. This renouncing of an "overly intellectual" architectonic language and the use of nonprecious materials (stone, tuff, plaster) borrowed from the architecture found locally throughout the neighbourhood, inspired the architect to reveal mystical emotion in the dramatization of the volumetric encastres texturing the tower. This verticle volume functions simultaneously as a cupola on a polygonal base and a bell tower, and has an auxiliary aesthetic function deriving from the simple play of light and shadow on its varied surfaces.

Problems in the restoration of contemporary architecture

If by restoration we also mean "the restoration of original meaning", than the planners are necessarily required to reflect at length on the overall totality of operations necessary (static, architectonic, functional) for the building in question. They must begin from the overall value judgement given to the building whose 'meaning value' must be rediscovered and communicated in the process of the restoration.
The practice of restoration begins from an acquired, scientifically accurate knowledge attained through a careful study of the present state of the building. An analysis of the typological and functional quality of the building and of its "performance" value in the urban context, is fundamental for its accurate restoration.
The analytic survey drawing made of the extant structures reveals the original state and successive modifications at a typological and functional level, listing geological failures and damage to the super structure of the building; combined with bibliographic research and a study of the original drawings of the project, it has been possible to recognize all of the original materials, altered or disperded, from the planning and realization. The historical-critical research (and the bibliographic research) on the original materials has revealed the tampering and alterations which have been exercised on the extant building and has also resulted in the discovery of the original project drawings and in the possibility of finalizing the construction of the village's community colonization center, which was never realized.
The restoration project has two phases, the first being the restoration and geotechnical/structural consolidation planned by eng. G. Grande; the second phase, designed by arch. M. Saito is that of a functional and architectonic recuperation, with particular attention given to the original state of the artistic works and the church's furnishings.

Perspective and section through the rectory, that shows the particular form of the tower



Constructional and structural characteristics

The religious complex rests on clayey ground, whose characteristics convinced the architect of the necessity for a load bearing structure for the church in reinforced concrete, with a tuff plugging. The hall roof is constructed of reinforced concrete as "a thin, light roof made rigid by the beam over the entrance and by the other reversed V beam located at the point of contact with the tower". All the reinforced concrete structures are plastered. The tower of the presbitery and the baptistery (now plastered) are in exposed tuff. The roof structure of the tower (originally in metal) consists of a cement brick ceiling resting on corner piers and upon a framing in reinforced concrete of the four spandrels (originally planned as a structure in metal).
The church has plastered ceilings and walls, the flooring of the congregational hall is in yellow terracotta tiles, and the flooring of the presbitery, altar supports and church furnishings are all in hand-crafted multicolored ceramic tiles with a glossy blue background. The church furnishings are of carved and painted wood, iron, and embossed copper. The illumination of the church was carried out with direct and indirect lighting appliances in copper and glass. Frames of the main doors were in sectioned wrought iron, while the doors themselves were made of wood, sometimes covered with hammered copper, sometimes with inlayed wood.
The rectory is built using a support masonry in tuff which rests directly upon its foundations. The roof is constructed with small prefabricated beams in reinforced concrete resting on perimetrical trimmed joists alternating with hollow gauged brick, and the attic ceiling is of cement and brick; the ceiling of the meeting room, which has an unusual geometric form, is in reinforced concrete fabricated in situ; the original design of the double pitched roof was planned as continuous with the external portico which leads towards the unexecuted community center building.

Furnishings and ornament

The great slab of Trani stone for the high altar rests on a base of sculpted ceramic which rises from the presbitery's tiered pavement of colored ceramic tiles. The pulpit, candelabrum for the paschal candle, and baptismal font also have base plates made of colored ceramic tiles. The holy water font, the base of the secondary altar and the facing of the pediment over the entrance portico are also in ceramic tiles. The tiles nearly all have a dominant blue background upon which all the colours of the rainbow are superimposed; another group of tiles are terracotta coloured with a transparent glaze. The great crucifix, the confessional, baptismal font, bishop's chair, communion rail, the pascal candle and lectern are all in painted, inlaid wood. The tabernacles of the high and secondary altars are in copper embossed with ornamental fish. The preliminary studies for the restoration were made together with a local expert in ceramics, Giuseppe Mitaronda. During the course of these investigations, the original glazes themselves were located, proving greatly useful for individuating the techniques which would be most suitable for the restoration of the ceramic materials present in the church.

The present state of the building

After the foundation of the village of La Martella, the difficulties which this social-urbanistic experiment encountered, resulted in the mass emigration of the inhabitants between the 1950's and 1970's . The village was never brought to completion, and most importantly, fell critically short of the population for which it was planned and built. As is true of all the village housing, the religious complex was built too rapidly, and during its execution suffered several changes in the structure and materials; it has since fallen rapidly into disrepair due to the low quality of the building materials and general lack of maintenance given it over the last four decades. The architectural style of the church was judged "too modern", the symbology of the artistic works it contains, too recondite; the atypicality of its typological arrangement has been considered by some to be uncomfortable, and thus over the years the building has been interfered within the disposition of its furnishings as well as in some details of finish.
Even before the damage suffered in the 1980's from earthquakes, the rectory had undergone serious damage to its masonry due to the settling of its foundations which are insufficiently scaled and inadaquete to the type of terrain upon which they stand. The sismic shocks of 1980-81 acted upon a building which was already unde stress. Here it is pertinent to note the areas which suffered

The external portico with the original pergola that collapsed during the 1980-81 earthquakes

the most damage: the baptistery, the flooring of the congregational hall and presbitery, one squint quoin of the tower wall, the coupling between the church and rectory, and in general, the entire masonry structure of the rectory, the portico for the partially lowered external pavement, and the totally collapsed pergola. The building had undergone various alterations in the interior as well, such as the displacement of the baptismal font and wall lamps and the removal of candle holders, parts of the crucifix etc.
The furnishings which had been removed over the years were recovered in the attic and will either be reintegrated into the decor according to the plan of the restoration project, or else displayed in an appropriate space set up in the rectory library. Also in the exterior alterations have been carried out: the sacristy's entrance portico has been closed to house an air heating system, many of the characteristic details of windows and doors have been replaced or other elements have been attached to them, etc.
Serious damage in the masonry occured by humidity rising from the ground, where no socle had been provided. Neglect of the site resulted in damage of pavements etc, while trees obstruct the visibility of the church.

The general restoration and consolidation project

By taking into account the analytic survey (architectonic and structural) as well as the sum total of damage sustained, it has been possible to determine the steps necessary for returning the building as closely as possible to its original condition.
As can be seen, the project includes not only the restoration and structural consolidation, but also a study of how the religious building should be completed with the reactivating of pastoral services inserted into the totality once planned for the contiguous community center, in the form and dimensions planned in the original project. The opportunity and necessity of completing the religious complex is directly linked to the present developmental initiatives in process in the area near to La

Martella, which will require the relaunching of a completely rehabilitated village, by now evolved into an urban residential suburb. The now imminent construction of homes for an additional 300 families represents the completion and new expansion of the village; this will necessitate the expansion of religious, social and cultural services offered by the local parish which must be scaled in the near future to a population of from 2500-3000 inhabitants.

Operations performed for structural consolidation

In his report on structural consolidation, the structural engineer has individuated the geometry of the extant structures, the fissures, and the causes of the damage, and has defined the reinforcement operations necessary for the foundations of the tower and baptistery. The latter will be treated analogously by underpinning, the method judged both more practical and economical than removing the extant foundations and rebuilding them anew. The foundations of the church will be reinforced by means of an enlargement of the foundation base accomplished by a preliminary underpinning with girders in reinforced concrete followed by the insertion of foundation piles into the deep layers of soil. All of the church's flooring will necessarily have to be removed in order to execute this work, and the floor roughly consolidated by means of insertion of a reinforced ceiling in the case of the presbitery and a reinforced slab over a drain in the case of the hall. The restoration of the deteriorated reinforced concrete will be done using lime cemented mortar EMACO after the sand-blasting of the existing structure. The damage to the plugging of the tuff masonry will be repaired by detaching and reconnecting it. The wretched condition of the rectory, the instability of its foundations and the damaged pairing of rectory and tower require that the extant rectory structure be dismantled. In addition, a part of the volume with the loft linking the sacristy and tower should also be taken down and rebuilt, in order to carry the renewal through to the structural linkage between the two buildings. The rectory will then be completely reconstructed in reinforced concrete on foundations of reversed beams, and the ceilings and coverings done in brick and cement. The subsequent reconstruction of the rectory will be carried out following the original project design with philological exactitude.

The architectonic restoration

The architectural restoration project of a contemporary building such as the church of La Martella requires the application of the most highly evolved design, analytical and diagnostic methods derived from the field of the restoration of monuments. Only this will ensure that even the most basic qualities of the architectonic design of the building will not be lost in the course of the work, since the architect used a great economy of form and expressive means which can, incidentally, be observed elsewhere in the architecture of the village, with analogous "minimalist" intentions. Thus the principal objective of the restoration has been to protect and ensure this "broadly diffused characteristic", realized in nonprecious materials. The mixed origin of contemporary constructional materials, produced industrially or by craft methods (stone, tuff, clay, ceramic tiles, cement either prefabricated or made in situ, plaster, wrought iron, wood, glass) creates the necessity of a check on their state of conservation for possible problems which have arisen in the reciprocal linkages, and requires a comparison of performance characteristics (of the industrial materials) with those currently in use (ie. impermeability systems). The restoration project decisions regarding the generalized protection of the original materials employed, now in a state of reduced efficiency, have thus had to be made comparing the extant structure and results of its analysis with the original project drawings, in order to ensure that the "replanning techniques" utilized for many of the constructional details are in harmony with the original intentions of the architect. The "replanned" details essentially involve the attachment of the building to the ground (for the best insulation of the masonry in tuff from the ground soil), the system dealing with rainwater and the exterior window and door frames. Industrial products on the market today with the best performance characteristics (thermal insulation, impermeability systems, door and window frames, coverings, flooring) have been substituted by current industrial products analogous to those used in the original building construction, to achieve a satisfactory technological updating.

The correct restoration of the original state of the architectonic structure at the time of its planning and construction aims at obtaining, at least in the phase of the restoration, the trustworthy binomial, 'contemporary architecture - quality construction' which is often absent in contemporary practice, and very far from Vitruvian objectives. In making the concept of "the preservation of monuments" valid for contemporary architecture, it is a natural consequence that restoration methods for this architecture aim at a resolution of the problems of duration and conservation just as they do for far older monuments. In the restoration of contemporary architecture, the choices for intervening on constructional, typological and function materials must take conservation, demolition and designing anew equally into account, in a process of "redesigning" that goes beyond the material data of building preservation, fidelity to the monument/text, and the integration of technological, formal and functional "lacunae".

The replanning method already adopted for constructional details, has been employed in the church of La Martella for the problems of liturgical renewal and junctional and technological adaptation, as well as in the architectonic completion of the building. Thus in the restoration project, for small and large-scale decisions, as regards the problem of fidelity to the realized text as well as to the planned (and never completed) text, a search for fixed rules has not governed planning decisions. Rather, these have been made according to an interpretation of the architect's original intention, in a logical extension of what might be defined as the planning process of contemporary architecture. For such an essential and delicate text, the planned restoration interventions have adopted both the categories of "analogy" and of "counter position", distinguishing between the strong and expressive parts of the text, and those which are weaker or unfinished. But each of these contrasting approaches maintain a constant relationship to the "global unity of the project" which is its ultimate aim.

The completion of the religious complex

The general restoration project of the religious complex of La Martella takes into account all of the planning directives for the urbanistic completion of the planivolumetric scheme originally designed for the area in question. In accordance with the methodological criteria of "replanning" selected and developed by the planners, an architectonic solution has been arrived at, which would integrate the extant structures while at the same time volumetrically respecting Quaroni's original project drawings.

The new buildings which have been planned, complete the "S" form already suggested in the rectory's groundplan as it projects northwards and create two courts open on one side.

A double-pitch roofed portico echoes the corner of the rectory building, which today is abruptly and ungracefully terminated, linking it to a lower building facing onto the Via Monterosa where new parochial offices, the parochial museum and hygenic facilities of the assembly hall are planned. The exterior walls of this low building are plastered to harmonize with the treatment of the rectory, and its external and internal door and window fixtures are identical to those of the rectory. The assembly hall extrudes from the portico as a taller volume in exposed tuff, covered with a double pitched roof and lit from above, having a false ceiling with three suspended vaults which focus in the direction of the stage. Various aspects of this building were conceived as analogies: the south tympanum recalls the church tower, and the "house within a house" created by the view at the north recalls the residential architecture in the surrounding residential zone.

The three row buildings with plastered walls and double pitched roofs that house the social services are set close to the portico of the assembly hall and have a similar portico.

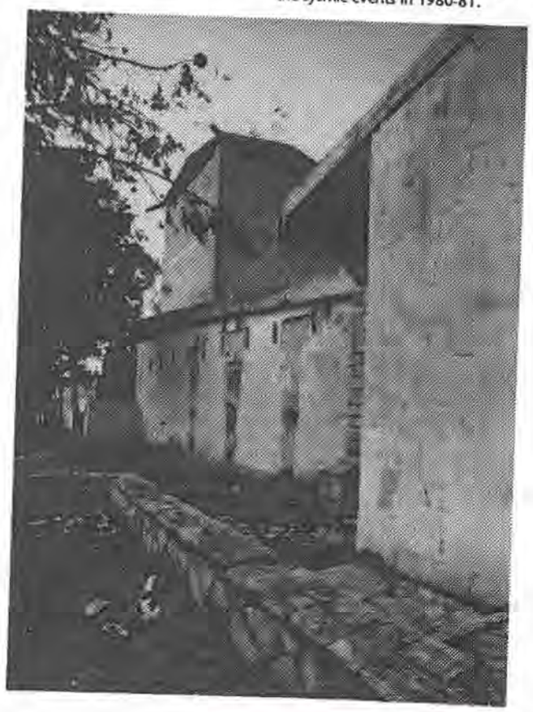
The "recomposition" of the original urbanistic unity of the religious complex with the surrounding village aims at completing the formal integration, both ideal and functional, between the church and the residential zones.

The church tower, restored and completed at an interval of 40 years from its foundation, dominates the center of the residential village, and guides whoever approaches towards the "system of intercommunicating piazze", the heart of the religious and civic life of this new suburb of Matera.

Notes:

1. 1949 L. Quaroni: Perche' ho progettato questa chiesa, in Metron No.31-32.
2. 1949 A. Prandi: L'architettura della chiesa oggi, in Rassegna Critica di architettura No 6-7.
3. 1955 Il villaggio La Martella a Matera, in Mutual Security Agency Special Mission to Italy.
4. 1955 L. Quaroni: La chiesa del villaggio La Martella, in Casabella No 208.
5. 1955 L. Quaroni: La chiesa: lo spazio interno, in Casabella No 208.
6. 1956 A.V.V. Dieci anni di architettura sacra in Italia, Bologna.
7. 1956 B. Zevi: Le chiese senza lacrime.
8. 1957 G. Vindigni: Kirche und Dorf La Martella, in Werk No 44.
9. 1959 P. Ciampani: Tradizione e progresso nell 'architettura sacra, in La Rocca No 15.
10. 1963 P. Portoghesi: Omaggio a Quaroni, nell 'opuscolo della mostra: Aspetti dell 'arte contemporanea, l'Aquila.
11. 1964 M. Tafuri: Ludovico Quaroni e lo sviluppo dell ' architettura moderna in Italia.
12. 1985 Ludovico Quaroni - Architettura per cinquant ' anni, A. Terranova, con P. Ciorra, P. Micalizzi, M .N. Neri.
13. 1989 P. Ciorra: Chiesa parrocchiale per il borgo La Martella, in L. Quaroni 1911-1987 - Opere e progetti, pp. 106-109, Milano.

The southern elevation of the church shows the serious damage due to the sysmic events in 1980-81.



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DOCOMOMO

Program of the First International DOCOMOMO Conference

Schedule of the Conference Program

Wednesday 12 September 1990: P.O.C.

Opening Session	morning
Session 1: Dilemma's concerning conservation of Modern Movement architecture	afternoon

Thursday 13 September 1990: Eindhoven University of Technology

Session 2: Technology	Session 3: Architectural history	morning
Session 4: Analysis and documentation	Session 5: Urban conservation	afternoon

Friday 14 September 1990: Eindhoven University of Technology

Session 6: Policy	Session 7: Case studies		morning
Poster Session 1	Poster Session 2	Founding Session	afternoon
Closing Session			

Wednesday September 12, 1990
P.O.C.

Opening Session

09:30 **Opening and welcome**
Prof. Hubert-Jan Henket, Chairman DOCOMOMO.
Prof. M. Tels, Chancellor Eindhoven University of Technology; Member DOCOMOMO Committee of Recommendation.
L. van Nispen tot Sevenaer, Director Netherlands Department for Conservation; Member DOCOMOMO Consultative Council.

09:45 **The meaning of the Modern Movement for contemporary architecture**
Pierre Vago, Honorary President International Union of Architects.

09:55 **Principles of protection of the Modern Movement in architecture**
Sherban Cantacuzino, Chairman Icomos UK, Secretary Royal Fine Arts Commission; Great Britain

10:05 **The role and action of the Commission of European Communities**
Benedicte Selfslagh, Representative of the Cultural Division of the General Directorat 10 of the CEC

10:15 **The role and action of the Council of Europe**
Nic Tummers, Representative of the Council of Europe

10:35 **The Modern Movement and Italian razionalismo**
Prof. Enrico Mantero, Milan University of Technology; Italy

11:00 Coffee break

11:30 **Modernism's Soviet connections; how do they influence our criteria**
Dr. Catherine Cooke, Open University Cambridge; Great Britain.

11:55 **The issue of transitoriness in modern architecture**
Dr. Hilde Heynen, Catholic University Leuven; Belgium.

12:20 **Controversy between functionalism and restoration: keep 'Zonnestraal' for eternity as a ruin**
Prof.dr. Wessel Reinink, University of Utrecht; the Netherlands.

12:30 Conclusion of the Opening Session

12:30 Luncheon

Session 1: Dilemma's concerning conservation of Modern Movement architecture

14:00 **Jan Riezenkamp**, Director General of the Netherlands Ministry for Welfare, Health and Cultural Affairs

14:15 **Hubert-Jan Henket**, Professor Faculty of Architecture and Building Technology, Eindhoven University of Technology; the Netherlands.

14:40 **Dennis Sharp**, Editor World Architecture; Great Britain.

15:10 **Wiek Röling**, Professor Faculty of Architecture, Delft University of Technology, Member of the National Conservation Board; the Netherlands.

15:40 **Peter Palumbo**, Chairman Arts Council; Great Britain.

15:55 Tea break

16:20 **Martin Pawley**, Architectural Critic; Great Britain.

16:45 Discussion

17:15 Conclusion of Session 1

17:30 Reception

19:00 Dinner

Thursday September 13, 1990
Conference Centre, Conference Room A

Parallel Session 2: Technology

09:00 **Recent developments in history of structural design**
Dr. Jos Tomlow, Institute for Lightweight Structures (IL); BRD.
09:30 **The development of steel framed windows**
David Blake, Crittall Windows Ltd; Great Britain.
10:00 **Renovation of the Bergpolder apartment building in Rotterdam (Van Tijen & Van der Vlugt, 1934)**
Casper van den Thillart, Architect Buro Opten Noort-Blijdenstein; the Netherlands.

10:30 Coffee break

11:00 **Contemporary requirements and the conservation of typical technology of the Modern Movement**
Wessel de Jonge, Eindhoven University of Technology; the Netherlands.
11:30 **The conservation of an architectural concept versus the restoration of its' technology**
Luc Verpoest, Catholic University of Leuven; Belgium.
12:00 Discussion
12:30 Conclusion of Session 2

12:30 Luncheon

Parallel Session 4: Analysis and documentation

14:00 **Analysis of historic buildings as an educational tool**
Dr. Jan Molema, Delft University of Technology; the Netherlands.
14:30 **The Duilio Building at the Lido of Rome (Luigi Moretti, 1937)**
Christiana Marcosano dell'Erba, University of Rome La Sapienza; Italy. Co-author Marco Biuzzi.
15:00 **The periodical publications in France, 1920-40; their use today**
Françoise Hamon, IV University of Paris Sorbonne; France.

15:30 Tea break

16:00 **Research and restoration of the Melnikov House in Moscow (Melnikov, 1927-29)**
Vladimir Rezvin, Head of Restoration Design Institute, Ministry of Culture; USSR.
16:30 **Conservation of the work of Lubetkin**
John Allan, Avanti Architects; Great Britain.
Tecton's Finsbury Health Centre, a proposal for renovation
Geoffrey Ashworth, Monk Dunstone Associates; Great Britain.

17:10 Discussion
17:30 Conclusion of Session 4

20:15 Cultural Program
Theater, ballet or music performance at the Eindhoven Theatre.

Thursday September 13, 1990
Conference Centre, Conference Room B

Parallel Session 3: Architectural history

09:00 **Architectural conservation. Traditionalism and the Modern Movement**
Dr. Eberhard Grunsky, Head Department of Conservation Westfalia; BRD.
09:30 **The new school buildings in Greece 1930-38**
Andrea Giacumacatos, University of Saloniki; Greece.
10:00 **Functionalist shopfronts in Brno, their destruction and protection** (presented in German)
Petr Pelcák, Architect; Czechoslovakia.

10:30 Coffee break

11:00 **Bauhausbuildings in the DDR** (presented in German)
Dr. Klaus-Hermann Wirth, HAB Weimar; DDR.
11:30 **Bata; maecenas of modern architecture ?**
Vladimír Slapeta, Head Department of Architecture, National Museum of Technology Prague; Czechoslovakia.
12:00 Discussion
12:30 Conclusion of Session 3

12:30 Luncheon

Parallel Session 5: Urban conservation

14:00 **The future of housing of the Modern Movement in the Netherlands: "existenz" or deterioration**
Dr. Ben Rebel, University of Amsterdam; the Netherlands.
14:30 **Petseri: Russian monastary as a centre of a functionalist town**
Sergei Fedorov, Leningrad Institute of Architectural and Urbanistic Theory; USSR.
15:00 **Neighbourhoods of the 1920's and 30's**
Rob Docter, Netherlands Department for Conservation; the Netherlands.

15:30 Tea break

16:00 **Conservation of Modern Movement neighbourhoods in Berlin**
Helge Pitz, Architect; West Berlin.
16:30 **Restoration of the Kiefhoek in Rotterdam (J.J.P. Oud, 1925-30)**
Wytze Patijn, Architect; the Netherlands.

17:10 Discussion
17:30 Conclusion of Session 5

20:15 Cultural Program
Theater, ballet or music performance at the Eindhoven Theatre.

Friday September 14, 1990

Conference Centre, Conference Room A

Parallel Session 6: Policy

09:00 **Modern heritage; conservation or integration ?**
Peter van Dun, Netherlands Department for Conservation; the Netherlands.
The Dutch way: the MIP inventory Project for historic buildings 1850-1940
Dr. Marieke Kuipers, Netherlands Department for Conservation; the Netherlands.

09:30 **Rome 1932-42: the modern and the antique** (presented in French)
Prof. Giorgio Muratore, University of Rome La Sapienza; Italy.

10:00 **Some questions on the restoration of constructivist buildings, illustrated with the Tsentrosoyuz Building in Moscow (Le Corbusier, 1928-35)**
Irina Chepkounova, Shushev Museum for Architecture Moscow; USSR.

10:30 Coffee break

11:00 **Functionalist architecture in Budapest; the question of protecting modern historic monuments**
Tamás Pintér, Hungarian Department for Conservation; Hungary

11:30 **Conservation of functionalist architecture in Czechoslovakia, focused on Brno** (presented in German)
Dr. Jan Sedlák, Brno University of Technology; Czechoslovakia.

12:00 **The Charter of Venice outdated ?**
Rob Apell, Netherlands Department for Conservation; the Netherlands.

12:20 Discussion
12:40 Conclusion of Session 6

12:40 Luncheon

Poster Session 1

14:00 **Urban conservation in Indonesia**
Ronald Gill, Delft University of Technology; the Netherlands

14:15 **Some remarks about the Modern Movement in Poland**
Olgierd Czerner, director of the Museum for Architecture Wroclaw; Poland

14:30 **The modern house in Rome and the experimental quarter in 1930**
Giuseppe Strappa, University of Rome La Sapienza; Italy.

14:45 **Restoration of the Papaverhof housing project in Den Haag (Jan Wils, 1919-22)**
Jaap Franso, Architect; the Netherlands.

15:00 Tea break

15:30 **Functionalist architecture in Leningrad: a city with classical traditions**
Boris Kirikov, Leningrad Institute of Architectural and Urbanistic Theory; USSR.

15:45 **The architecture of Kozma, a way from Jugendstil to functionalism**
András Hadik, Budapest Museum for Architecture; Hungary.

16:00 **The preservation of an early example of Modern Movement in the Netherlands; Société Céramique Maastricht**
Jan-Bernard Vercauteren, Architect; the Netherlands.

16:15 **Documentation and restoration project for the newspaper plant Dagblad Vooruit in Gent (Brunfaut, 1931)**
Carmen Espegel, Gabriela Lee, Peter Verhaeghe, Catholic University Leuven; Belgium.

16:30 Conclusion of Poster Session 1
16:45 See Closing Session

Friday September 14, 1990

Conference Centre, Conference Room B

Parallel Session 7: Case studies

09:00 **Restoration of the elementary school Sant'Elia in Como (G. Terragni, 1936-37)** (presented in French)
Emilio Terragni, Architect; Italy.

09:30 **Reconstruction of the Barcelona Pavilion (Mies van der Rohe, 1929)**
Fernando Ramos, Director School of Architecture in Barcelona, Mies van der Rohe Foundation; Spain.

10:00 **Reconstruction of the Tugendhat House in Brno (Mies van der Rohe, 1930)**
Jan Sapák, Architect; Czechoslovakia.

10:30 Coffee break

11:00 **Restoration of the Bauhaus in Dessau (W. Gropius, 1925-26)** (presented in German)
Dr. Wolfgang Paul, Design Institute City of Dessau; DDR.

11:30 **The New Frankfurt and it's neighbourhoods**
Dr. Christoph Mohr, Head Department for Conservation Hessen; BRD.

12:00 **Comparitive study on two buildings in Zürich; Wasserwerk (M. Haefeli, 1928) and Bleicherhof (O. Salvisberg, 1939)**
Ruggero Tropeano, Architect; Switzerland.

12:20 **Restoration of buildings of Le Corbusier**
Christian Gimonet, Architect; France.

12:40 Conclusion of Session 7

12:40 Luncheon

Poster Session 2

14:00 **The tradition of modern sacral architecture in Slovakia** (presented in German)
Stefan Slachta, Slovak Department for Conservation; Czechoslovakia.

14:15 **Bauhaus buildings** (presented in German)
Dr. Karl Schleichert, Bauhaus Dessau; DDR.

14:30 **Modern Movement in Hungary** (presented in German)
Dr. Nora Pamer, Publicist; Hungary.

14:45 **Housing architecture of the 1920's and 30's compared** (presented in German)
Dr. Simone Hain, Bauakademie der DDR.

15:00 Tea break

15:30 **The campaign for Erno Goldfinger's Alexander Fleming House**
James Dunnett, Architect and critic; Great Britain.

15:45 **Bulgarian architecture in the twenties and thirties**
Cristo Ganchev, National Institute for the Monuments of Culture; Bulgaria.

16:00 **The modern architectural movement in Rumania**
Cornel Ghenciulescu, Institute of Architecture Ion Mincu; Rumania.

16:15 **Documentation of the Royal Pavilion of the Santa Maria Novella railway station in Florence (a.o. Michelucci, 1933)**
Alessandro Conti, Lidia Fiorini, University of Florence; Italy.

16:30 Conclusion of Poster Session 2
16:45 See Closing Session

Friday September 14, 1990

Conference Centre, Conference Room C

DOCOMOMO Founding Session

To be attended by National DOCOMOMO Representatives and Members of the National DOCOMOMO Working parties

14:15 **Opening**

14:30 **First Session:**

- General aims of the Working-party
- Limitation to the period 1920-1940
- Manifesto
- Appointment of the International DOCOMOMO Board

15:15 Tea break

15:45 **Second Session:**

- Organisation and financing
- Appointment of the host city for the Second International DOCOMOMO Conference in 1992

16:30 **Conclusion**

Closing Session

Conference Room A, B and C

16:45 **Opening**

17:15 **Final Statement**

17:30 **Reception**

19:00 **Informal gathering and dinner**

Saturday September 15, 1990

Post Conference Tour

09:00 Departure from the Eindhoven University of Technology

Kiefhoek Housing Project, Rotterdam (Oud, 1925-1930)

Van Nelle Factory, Rotterdam (Brinkman, Van der Vlugt, 1925-1931)

Townhall, Hilversum (Dudok, 1924-1930)

Hotel Gooiland, Hilversum (Duiker, Bijvoet, 1934-1936)

Zonnestraal, Hilversum (Duiker,Bijvoet, Wiebenga, 1926-1931) (see cover photo)

Schröderhuis, Utrecht (Rietveld, Schröder, 1924)

18:30 Drinks in Utrecht
19:30 Dinner
23:00 Arrival in Eindhoven

List of participants

Mrs. Adriana R. Buhas	University of Buenos Aires, School of Architecture	ARGENTINA
Mrs. Stella M.N. Casal	University of Buenos Aires, School of Architecture	ARGENTINA
Mr. Marcel Celis	Ministry of the Flemish Community, Brussels	BELGIUM
Dr. Hilde Heynen	Catholic University Leuven, Department for Architecture	BELGIUM
Mrs. Benedicte Selfslagh	Commission of the European Communities	BELGIUM
Mr. Christian Spapens	Ministry of Monuments and Sites, Region Brussels	BELGIUM
Mr. Herman Stijnen	Foundation Koning Boudewijn, Brussels	BELGIUM
Mr. Peter Verhaege	Catholic University Leuven, Department for Architecture	BELGIUM
Dr. Luc Verpoest	Catholic University Leuven, Department for Architecture	BELGIUM
Mr. Christo Ganchev	National Institute for Monuments of Culture, Sofia	BULGARIA
Mrs. Iveta Cerná	Department for Conservation, Brno	CZECHOSLOVAKIA
Dr. Klara Kubickova	National Gallery, Bratislava	CZECHOSLOVAKIA
Mr. Petr Pelcák	Architect, Brno	CZECHOSLOVAKIA
Mr. Jan Sapák	Architect, Brno	CZECHOSLOVAKIA
Dr. Jan Sedlák	Brno University of Technology, Dept. for Architectural Theory	CZECHOSLOVAKIA
Mr. Stefan Slachta	Academy of Fine Arts, Bratislava	CZECHOSLOVAKIA
Mr.. Vladimír Slapeta	Museum of Technology, Dept. of Architecture, Prague	CZECHOSLOVAKIA
Mrs.Maija Kairamo	Museovirasto, Helsinki	FINLAND
Ms. Anne Mäkinen	National Board of Antiquities, Helsinki	FINLAND
Mrs. Maarit Mannila	Student, Helsinki	FINLAND
Mrs. Laura Tuominen	Ministry of Environment, Helsinki	FINLAND
Mr. Yrjö Tuppurainen	Technical Research Centre of Finland, Helsinki	FINLAND
Mrs. Cécile Briolle	Architect, Hyeres	FRANCE
Mr. Philippe Chantre	National Office for Monuments and Sites, Paris	FRANCE
Mr. Christian Gimonet	Architect, Bourges	FRANCE
Mrs. Françoise Hamon	University of Paris IV - La Sorbonne	FRANCE
Mrs. Christine Mengin	University of Paris I - Pantheon Sorbonne	FRANCE
Mr. Gerard Monnier	University of Paris IV - La Sorbonne	FRANCE
Mr. Jacques Repiquet	Architect, Hyeres	FRANCE
Mr. Pierre Vago	Honorary President International Union of Architects	FRANCE
Mr. Karl-Heinz Burmeister	Bauhaus, Dessau	DDR
Dr. Christine Engelmann	University of Jena	DDR
Dr. Rainer Gräfe	Institute for Lightweight Structures (IL) Stuttgart	BRD
Dr. Eberhard Grunsky	Department of Conservation Westfalia, Münster	BRD
Dr. Simone Hain	Building Academy, Berlin	DDR
Dr. Christoph Mohr	Department of Conservation Hessen	BRD
Dr. W. Paul	Design Institute City of Dessau	DDR
Mr. Helge Pitz	Architect, Berlin	BRD
Mrs. Erika Richter	Institute for Foreign Affairs, Stuttgart	BRD
Dr. Karl Schleichert	Bauhaus, Dessau	DDR
Mr. Dietrich Schmidt	University of Stuttgart, Institute for Building History	BRD
Dr. Jos Tomlow	Institute for Lightweight Structures (IL), Stuttgart	BRD
Dr. Hermann Wirth	HAB Weimar	DDR
Mr. John Allan	Architect Avanti Architects Ltd, London	GREAT BRITAIN
Mr. Geoffry Ashworth	Architect Monk Dunstone Associates, London	GREAT BRITAIN
Mrs. Charlotte Benton	Editor Building Design, Cambridge	GREAT BRITAIN
Mr. David Blake	Crittall Windows Limited, Braintree, Essex	GREAT BRITAIN

Mr. Edwin Brierly	Leicester Polytechnics, Department of Architecture	GREAT BRITAIN
Mr. Sherban Cantacuzino	Secretary Royal Fine Arts Commission, Chairman Icomos UK	GREAT BRITAIN
Mr. George Chedburn	Architect, Somerset	GREAT BRITAIN
Dr. Catherine Cooke	Open University Cambridge, Faculty of Technology	GREAT BRITAIN
Mr. Christopher Dean	Architect, London	GREAT BRITAIN
Mrs. Maya Dean	Architecte, London	GREAT BRITAIN
Mr. James Dunnett	Architect, London, Oxford Polytechnics	GREAT BRITAIN
Mr. Murrey Fraser	Oxford Polytechnics, School for Architecture	GREAT BRITAIN
Mr. Jeremy Gould	Polytechnics South West, School of Architecture, Plymouth	GREAT BRITAIN
Mr. David Granmer	Crittall Windows Limited, Braintree, Essex	GREAT BRITAIN
Mr. Michael Hill	Crittall Windows Limited, Braintree, Essex	GREAT BRITAIN
Ms. Hermione Hobhouse	Royal Commission on the Historical Monuments of England	GREAT BRITAIN
Mr. Peter Palumbo	Chairman British Arts Council, London	GREAT BRITAIN
Mr. Martin Pawley Esq.	Architectural Critic and Historian, Kingsbridge, Devon	GREAT BRITAIN
Mr. John Pyatt	Crittall Windows Limited, Braintree, Essex	GREAT BRITAIN
Mr. Mark Schlotel	Crittall Windows Limited, Braintree, Essex	GREAT BRITAIN
Mr. Dennis Sharp	Editor World Architecture, Hertford	GREAT BRITAIN
Dr. Andrea Giacumacatos	University of Saloniki	GREECE
Mr. András Hadik	Museum of Hungarian Architecture, Budapest	HUNGARY
Mrs. Elizabeth Kovács	Constr. Company for Public Building Pro Domo Ltd, Budapest	HUNGARY
Dr. Nora Pamer-De Sorgo	Archeolog, Budapest	HUNGARY
Mr. Tamás Pintér	Hungarian Architects Association, Budapest	HUNGARY
Mr. Sean O'Toole	University College Dublin, School of Architecture	IRELAND
Mr. Fabrizio Aggarbati	University of Rome Tor Vergata	ITALY
Mr. Gino Anzivino	Editor DOMUS, Florence	ITALY
Prof. Clementina Barucci	University of ReggioCalabria, Faculty of Architecture	ITALY
Mr. Marco Biuzzi	University of Rome La Sapienza	ITALY
Mr. Renato Cervini	University of Basilicata, Potenza	ITALY
Mr. Alessandro Conti	University of Florence	ITALY
Mrs. Federica dal Falco	University of Rome La Sapienza	ITALY
Mrs. Lidia Fiorini	University of Florence	ITALY
Mrs. Aline Leroy	Editor Azzurra, Milano	ITALY
Prof. Enrico Mantero	Milano University of Technology	ITALY
Mrs. Chr. Marcosano dell'Erba	University of Rome La Sapienza	ITALY
Prof. Giovanni Morabito	University of Rome La Sapienza	ITALY
Prof. Giorgio Muratore	University of Rome La Sapienza	ITALY
Prof. Maria Caterina Redini	Institute for Architecture, Venice	ITALY
Mrs. Carla Saggioro	University of Rome Tor Vergata	ITALY
Mr. Giuseppe Strappa	University of Rome La Sapienza	ITALY
Mr. Emilio Terragni	Architect, Como	ITALY
Mr. Luca Veresani	University of Rome La Sapienza	ITALY
Ms. Marjan Akse	Student, Veenendaal	NETHERLANDS
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Cover design
Kees Ruyter, Amsterdam
Cover printing
Spinhex, Amsterdam
Contents printing
Eindhoven University of Technology

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photo: collection E. J. Jelles