

rilem

50

ans d'expérience
years of experience

au service
in the service

des matériaux
of building materials

et de la construction
and structures

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Ladies and Gentlemen,

We have met here today to celebrate the fiftieth anniversary of our association, and I am honoured and delighted to present you with a copy of the brochure which we have prepared especially for this occasion.

I am certain that you will share the emotion and pleasure I felt when I first held this book in my hands several days ago.

After a fascinating year during which we assembled our memories, explored our archives and consulted our entire membership, I see that this book relates the (already!) long history of our association, the work and the commitment of those who, day after day, gave life to RILEM and continue to do so, and all our moments of friendship.

I thank you for your presence here and wish you happy reading. May this book contribute to further strengthening the ties that unite RILEM members throughout the world—and convince those who do not yet belong that they should join us!

Zurich, 25 September 1997

Folker WITTMANN, President (1994-1997)



Madame, Monsieur,

En ce jour où nous sommes réunis pour fêter le cinquantième anniversaire de notre association, j'ai l'honneur et la joie de vous remettre un exemplaire de l'ouvrage que nous avons réalisé tout spécialement pour célébrer cet événement.

Je suis convaincu que vous partagerez l'émotion et le plaisir qui ont été les miens lorsque j'ai tenu ce livre entre mes mains pour la première fois, il y a quelques jours.

Alors, à l'issue d'une année passionnante durant laquelle nous avons rassemblé nos souvenirs, exploré nos archives et consulté l'ensemble de nos membres, j'ai vu se matérialiser sous mes yeux la — déjà ! — longue histoire de notre association, le travail et l'engagement de ceux qui, jour après jour, ont fait et continuent à faire vivre la RILEM, et tous nos moments de convivialité partagés.

En vous remerciant pour votre présence aujourd'hui, je vous souhaite une bonne lecture. Puisse cet ouvrage contribuer à resserrer encore les liens qui unissent les membres de la RILEM à travers le monde... et convaincre ceux qui n'en font pas encore partie qu'ils auront raison de nous rejoindre !

préface

Il y a des moments dans la vie où il devrait être permis

de marquer un temps d'arrêt dans la bousculade de tous les jours, où l'on devrait cesser de courir d'un rendez-vous à un autre et s'accorder le temps d'une réflexion attentive sur le passé. Utile au particulier tout comme à une association telle que la RILEM, ce temps de réflexion ne devrait pas être considéré comme un loisir futile ou encore comme l'apanage des historiens professionnels. Nous avons beaucoup à apprendre des évolutions du passé, des exploits aussi bien que des inévitables erreurs, et nous serons toujours mieux placés pour définir les orientations de l'avenir après une réflexion impartiale sur l'histoire de notre association. La RILEM fête son cinquantième anniversaire. Cinquante années qui sont chargées d'évolutions majeures, autant dans nos sociétés que dans le domaine des sciences ou de la technologie. Cette brochure, nous la voulons comme une chronique objective de l'évolution de l'association. Et nous laissons au lecteur le soin de tirer ses propres conclusions quant à cette histoire riche et fascinante.

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L'histoire de la RILEM

peut être considérée comme l'histoire de la croissance d'un réseau international. Constituée de laboratoires d'essais et de recherche, d'industries et d'instituts universitaires au rayonnement mondial, ce réseau est d'abord un réseau de scientifiques et d'ingénieurs de haut niveau. C'est une évidence, l'éventail des sujets traités par les commissions techniques de la RILEM est très large. Mais il est impossible de recenser en détail l'impact de la RILEM en général et dans le domaine des recommandations en particulier, impossible aussi de mesurer son impact sur les évolutions techniques. Nous espérons que quiconque lira cette brochure aura le sentiment que la RILEM est une association qui demeure bien vivante après cinquante ans d'efforts. La détermination qui a poussé ses fondateurs à créer l'association est toujours sensible. Cette chronique et ces témoignages pourront rappeler à certains de nos membres des événements marquants du passé, mais ils sont avant tout un moyen de clarifier notre perception de l'avenir. La RILEM est une association qui peut être fière de son passé et qui regarde le futur avec confiance et résolution. La RILEM, déjà armée pour remporter les défis d'aujourd'hui, est également prête pour l'aventure de demain.



Folker WITTMANN, Président

preface

There comes, at certain points, a moment in life

where it seems permissible to pause in the hectic pace of our daily routine and, instead of rushing ahead from one meeting to the other, to turn around and take a closer look at the past. This maxim applies to any individual and all the more so to an association such as RILEM and should therefore not be regarded as an idle pastime nor as the privilege of professional historians. There is plenty to be learned from the evolution of the past with all its achievements as well as its inevitable errors, and it will strengthen our position in defining priorities if we take an impartial look back into the history of the association first. RILEM is celebrating its fiftieth anniversary this year. These past five decades have been a time of drastic changes not only in our societies but in science and technology as well. With this document we would like to present a brief and albeit selective survey of the development of our association. It shall be left to the reader to draw his own personal conclusions from its rich and fascinating history.

The history of RILEM is consistent with that of the growth

of a world-wide network of leading testing and research laboratories, industries and internationally active university institutes but also, and above all, a network of individuals, namely a host of outstanding scientists and engineers. The tremendously wide range of topics dealt with by RILEM Technical Committees is well-known and documented, yet it seems nearly impossible to present a detailed outline of the diverse impacts which RILEM results in general and recommendations in particular have on technical development. We hopefully expect that all the readers of this booklet recognize what a vital and fruitful association RILEM continues to be after five decades of unceasing effort and striving. The impulse and dedication that guided the initial founding members can still be felt in the association as it stands today. This historical survey may well remind some of our active members of highlights and achievements from the past, while at the same time they are meant to sharpen our outlook on the future. The association of RILEM is amply justified in proudly presenting its past and at the same time taking a strong and confident stance in regard to the future. RILEM is well-prepared to meet the challenges of the present and to adjust itself to the demands of the future.



Folker WITTMANN, President



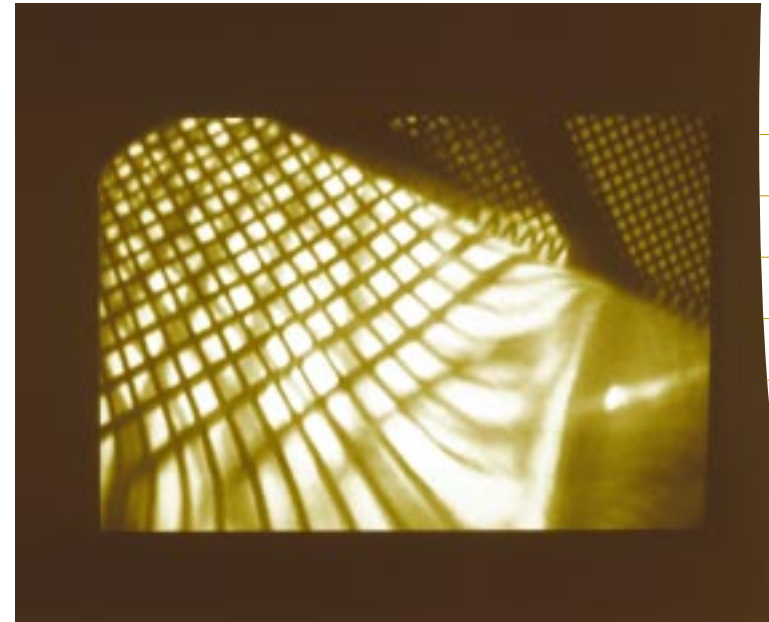
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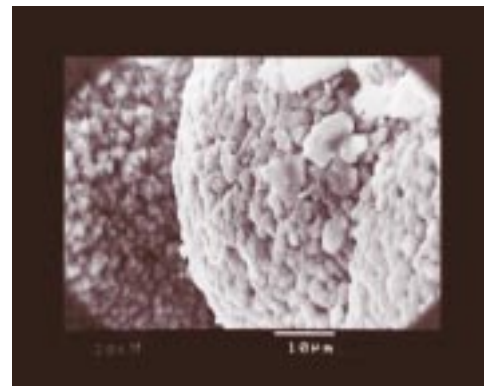
A world-wide network of experts



- Excellence above all
- A prestigious history
- Competence and conviviality
- A structure to support RILEM's objectives
- An international dimension

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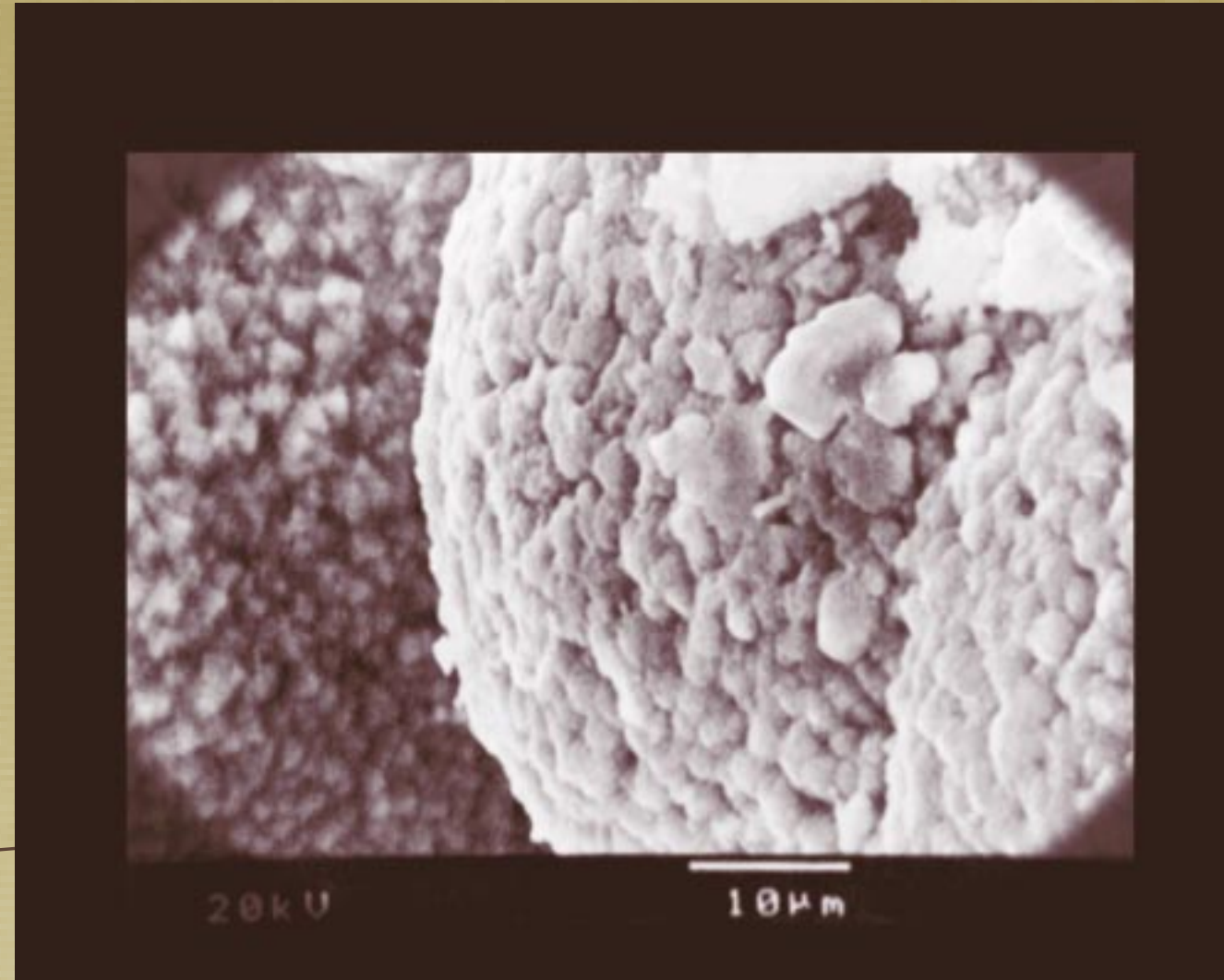
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A commitment to the future



- In the age of electronic communications
- A partner for tomorrow's construction
- 50 ans déjà, 50 ans seulement
- Join to enhance your career
- The women and men of RILEM

Réseau international d'experts renommés, la RILEM (Réunion Internationale des Laboratoires d'Essais et de recherches sur les Matériaux et les constructions) constitue un carrefour unique pour les ingénieurs d'essais, les chercheurs, les universitaires, les enseignants et les hommes de terrain. Créée en 1947, la RILEM a pour vocation de rassembler, de produire et de diffuser les connaissances sur les matériaux et les constructions et de développer des méthodes d'essais appropriées. Les travaux des spécialistes du monde entier, regroupés au sein des Commissions Techniques de la RILEM, constituent des contributions essentielles à la recherche sur les propriétés et les performances des matériaux et des constructions. Ils participent également à l'unification et à l'amélioration des méthodes utilisées par les laboratoires d'essais. La RILEM travaille de façon active à la promotion des échanges entre les experts, la recherche de base et la recherche appliquée, tout en stimulant les transferts de technologie.



RILEM (The International Union of Testing and Research Laboratories for Materials and Structures) is an organization which permits exchanges through an international network of testing engineers, researchers, academics, educators and practitioners. Created in 1947, RILEM collects, produces and disseminates knowledge on building materials and structures, and develops appropriate testing methods. Within the framework of RILEM Technical Committees (TCs), specialists throughout the world produce essential contributions to research on the properties and performance of materials and structures. These specialists also participate in the unification and improvement of test methods used by testing laboratories. RILEM actively promotes exchanges between experts working in basic research and applied research which stimulates the transfer of technology.

A scanning electron micrograph (SEM) showing a complex, porous, and interconnected network of fibers or structures. The image is in grayscale and has a purple tint. The structure consists of many small, interconnected components that form a mesh-like or sponge-like appearance. At the bottom of the image, there is a scale bar and technical information.

Research
ON **materials**
and
structures

Sharing knowledge—a necessity.

In a world of continually-expanding population, construction is a key economic activity. For this reason, on an international scale, the exchange between specialists of information about materials and their use in structures is of vital importance.

Structures composed of industrially-produced materials make up the surroundings of the majority of the women and men on earth today. Almost everywhere, over the past fifty years, the setting of men's daily lives has undergone an unprecedented transformation. And these changes are intensifying. Soon urban dwellers will represent almost 80% of the population in most countries. Within this context, construction is a key economic activity which both demonstrates economic growth and contributes to it.

In the twentieth century, men have learned to live with concrete, steel, glass, aluminium, plastic – with high-rises, monuments, roads, dams, bridges, airports. Technical feats no longer astonish them. Yet, progress in materials and structures during the twentieth century, and especially over the past 50 years, has been considerable.

A new era for construction began after the war. It was characterised in particular by the extensive use of more complex materials which resulted from involved industrial processes. Civil engineering introduced profound changes in techniques, inventing new, more effective, dynamic and economically-viable construction methods.

“From prehistoric times, men's lives have been completely conditioned by their capacity to master the use of materials. In fact, quite early on historians differentiated the most active periods by naming them ‘Stone Age’, ‘Bronze Age’, ‘Iron Age’...”

“La vie des hommes, depuis la préhistoire, est complètement conditionnée par la capacité qu'ils ont eue à maîtriser les matériaux. D'ailleurs, les historiens ont très tôt distingué les plus actives des différentes périodes en les nommant ‘l'âge de la pierre’, ‘l'âge du bronze’, ‘l'âge du fer’...”

Prof. Yves Malier,

Materials and Structures/Matériaux et Constructions, editorial, March 1997

1 Dr Åke Skarendahl

Director, Swedish Cement and Concrete Research Institute, SWEDEN

INTERNATIONAL LINKING INCREASES R&D PRODUCTIVITY

There is no doubt in my mind that cooperation brings synergy into research and development. This is true for most research tasks as well as for development. As R&D work is very focused and specialised, dialogue is not always possible at the national level, at least in a small country. An international approach to the solving of research and development challenges then becomes beneficial.

These aspects are, to me, the very basis for engagement in RILEM.

Those who finance research and development, of course, have the right to ask for the best possible return from the resources they allocate to a specific task. To me, it has been proven over and over again that spending money on international cooperation gives more productive results than the same amount of money spent on work in the office. Thus, our researchers are instructed to link their work with the international R&D community. For us, RILEM is the natural forum for this linkage. Having participated in several TCs, we feel we have been able to give our clients high value for the money spent.

Builders have tamed modern materials, but they have also begun to rediscover the secret of ancestral techniques for working with stone, masonry, wood and metals. Industrialists have rationalised production methods. Their common objective is to provide mankind with a safer, more comfortable and more functional environment.

Scientists occupy a central place in civil engineering. To respond to the growing needs and expectations of architects and designers, testing, standardisation and regulation have taken on new importance. In the adventure of modern construction, basic and applied research are naturally called upon to play a determining role.

Information is a vital necessity for laboratory research, as well as for companies whose industrial processes depend on the results of research. The rapid development of knowledge, the multiplication of information, the globalisation of construction mean that the knowledge available today is richer, more complex and more diversified – it is also more difficult to master. Construction does not escape this trend which affects all modern science and technology, marked by constant economic pressure.

Engineers and researchers need to exchange, synthesise and share their knowledge, in particular in countries where they are limited in number and isolated. Testing and research laboratories must be able to compare and verify their results. Companies must have simple, direct and reliable access to the results of international research.

Created in 1947 to respond to these needs, RILEM is at the cross-roads of the international scientific community. The General Secretariat of the association is located in France, near Paris. The association is also represented by several national groups. **1 2**

2 *Mme Moema Ribas Silva, professeur, Université de Brasilia, Brésil*

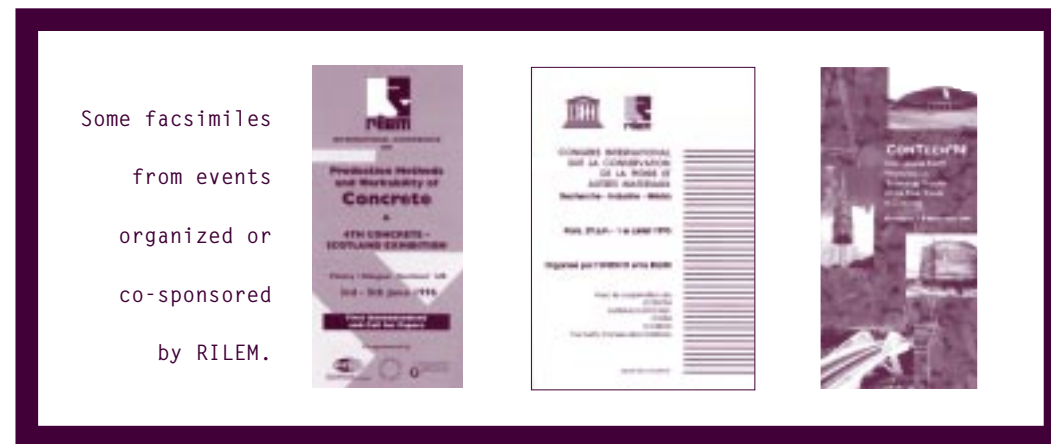
UN POINT DE REPÈRE POUR LES BRÉSILIENS

La RILEM a toujours été, dans le domaine des matériaux de construction et des structures, un point de repère pour ses membres brésiliens, leur permettant d'être au courant de recherches réalisées partout dans le monde et spécialement en Europe.

Ce lien leur offre l'opportunité de participer à des recherches internationales et de faire connaître les recherches réalisées au Brésil. Le Brésil, pays en pleine croissance où la diffusion des connaissances est difficile, compte seulement 11 membres RILEM, aussi la participation des chercheurs brésiliens dans les commissions techniques est-elle encore faible. Dans le futur, les membres brésiliens souhaitent élargir leur participation dans l'association, et faire ainsi connaître les événements scientifiques du Brésil.

The richness of an open scientific community. On the basis of its key objectives, RILEM has created a rigorous framework to promote work on building materials and structures – a framework within which each member can play a role.

An international network of renowned experts, RILEM is concerned with testing, quality control, properties, innovation, calculation and construction. The aim of its activity is to develop knowledge on the properties of materials and the performance of structures, to define methods of evaluation in the laboratory and *in situ*, to standardise the measurement and testing methods employed.



The association provides a forum available to scientists throughout the world. Within this unique community, they share the fruit of their work and explore new fields, thus contributing directly and decisively to the progress of knowledge. The association offers internationally-recognised support to testing and research laboratories. It provides a means for building materials industries and contractors to access the latest research results in a reliable and practical manner. ³

³ **Dr Bernard Espion, Belgique**

La RILEM offre un forum particulier d'experts de différents horizons. J'apprécie ce milieu très enrichissant, aussi bien en tant que chercheur, grâce aux contacts noués avec les meilleurs experts, qu'en tant qu'enseignant, en faisant bénéficier mes étudiants des nouvelles connaissances.

La Commission Technique dont je fais partie, "Modelling of the behaviour of concrete in service, a guide for the engineer", est particulièrement efficace grâce à la présence d'industriels du bâtiment et de participants américains.

RILEM's key objectives

RILEM's key objectives have been defined so that each member can recognise his place within the association and participate in its work. There are six key objectives:

- To identify and make widely-known important new or emerging knowledge in the fields of building materials and structures.
- To provide a framework within which interdisciplinary teams of experts can freely discuss their various approaches to the solution of particular problems; to prepare syntheses; and to suggest new orientations for research and application.
- To promote exchange between basic and applied research work.
- To promote dissemination of the most recent results of research work on building materials, both in engineering practice and in materials testing.
- To facilitate transfer of recognised and standard testing techniques among members in all countries.
- To promote progress in materials testing as concerns reliability, rapidity and cost savings, in relation to quality systems and certification procedures for building materials industries.

The scientific contributions corresponding to these key objectives are achieved in the following ways:

- Knowledge is disseminated through the organisation of workshops. During these events, a synthesis of the most recent research can be made, indicating new orientations for future research and suggesting the formation of Technical Committees.
- Interdisciplinary teams meet within Technical Committees. The work of the Technical Committees is, of course, subject to a policy of rigorous quality.
- Exchanges between basic and applied research are promoted, in particular, by coupling workshops with international conferences on basic research. Such events may focus on a specific theme, concerning, of course, building materials and structures.
- Promoting dissemination of the most recent research implies the development of a coherent and sustained editorial policy. *Materials and Structures*, the RILEM journal, is the most appropriate means of transferring knowledge to users. In particular, the journal is a means of making known the work of the Technical Committees. Other regularly published works are an integral part of RILEM's editorial policy.
- The transfer of recognised technology towards members in all countries is based on the specific needs of the countries in question, as a function of their characteristics: climate, local resources, existing technical context, etc.
- Finally, in the field of materials testing, the Technical Committees are responsible for the association's specific contributions.

Technical Committees

are at the heart of the scientific activity of the association. The main forum where RILEM members meet and exchange their expertise, RILEM TCs play a major role in furthering scientific knowledge.

A RILEM Technical Committee is a group of international experts working together in a given field, with the aim of collecting and evaluating research data, standardising testing methods and suggesting new areas of research (which may then be treated by new TCs). A Technical Committee may be organised into several working groups. With conferences and symposia, questionnaires and surveys, the Technical Committees furnish RILEM's essential contributions to furthering the progress of knowledge.

The TCs have kept the place intended for them by RILEM's founders: at the heart of the association. It is during international meetings that the major part of RILEM's work is performed.

In principle, each TC must produce recommendations. These will then be published in *Materials and Structures* and may serve as a scientific basis for future international standards. ⁴

The compendium of
RILEM Technical
Recommendations: a
major reference work
and a best-seller.



Birth and life of a TC

Interview of Michel BRUSIN, Secretary General
Cachan, 24 April 1997. We asked Michel Brusin to briefly describe the creation of a TC (abbreviation for a RILEM Technical Committee) and to explain the conditions for its activities to be successful.

For example, let's take TC SCC, "Self-compacting Concrete", which was created in September 1996 during your annual meeting in Garston, UK. What were the reasons for deciding to create this TC?

Michel Brusin: This subject is of major interest for the placing of fresh concrete having superior flowability under maintained stability. Pioneering work in this area has been developed in countries such as Japan, and new applications are already emerging. So it was time for RILEM to prepare a state-of-the-art report, including the analysis of test methods for extremely flowable mixes and recommended practice.

⁴ **Mr James H. Pielert, U.S.A.**

I HAVE BEEN A MEMBER OF RILEM SINCE 1984
My first involvement with RILEM was as a presenter at the Joint RILEM-ASTM-CIB Symposium on the Performance Concept in Buildings, held in Philadelphia in 1972.
I have been a member of RILEM since 1984, when I became chairman of Technical Committee 91-CRL on Testing and Control Procedures for Cement and Concrete Reference Laboratories. TC 91-CRL completed its work in 1988 and published its results in Materials and Structures.
I became active again with RILEM in 1994 when I was appointed the U.S. Delegate to RILEM, taking over from Dr Richard Wright. I was elected to the RILEM Bureau in 1995. I have found working with individuals from many different countries and cultures in addressing issues of common interest very rewarding. My best memories of RILEM are the meetings of TC 91-CRL in Israel and Slovakia, and Bureau meetings in the United Kingdom, Morocco and Italy.

How was this subject defined? What were the limits?

M. B.: In this specific case, the proposal to create the TC was prepared by our National Delegate to Sweden, Dr Åke Skarendahl. When the person who proposes the subject of the TC assumes its leadership from the beginning, the chances are good to have a very motivated chairman who will bring the TC's work to fruition.

But that is not enough. Each proposed creation of a TC, as soon as it is received at the Secretariat General in Cachan, is transmitted to the members of our Technical Advisory Committee, which carefully examines the project and sends its recommendations to the Bureau. Thus, to return to the example of TC SSC, the Bureau asked Dr Skarendahl who would be the potential users of the results of this TC's work.

Only after this additional information had been received, and a preliminary list of interested experts was communicated, was the project submitted to the General Council, which accepted the proposal for creation.

How long will the work of this TC take and how does it perform its work?

M. B.: The proposed schedule for this TC's work is three to four years. Each TC has a defined work programme, which usually can be completed in about 5 years. The first meeting, according to an established tradition, was held in Cachan on the invitation of the Secretary General. The participants came from Europe, North America, Japan and Southeast Asia. This geographical diversity lead the TC Chairman to consider holding the second meeting in the form of a video-conference, in order to limit travel time and corresponding costs.

But don't worry! RILEM is not going to replace the type of meetings which allow experts to get to know and appreciate each other by virtual forums where they only

communicate with a 15" monitor. In fact, the members of this TC will have other meetings of the more classical type, perhaps on the occasion of one of our coming Annual Meetings, during which our TCs are invited to meet. The progress reports of their activities and their future projects are also presented during a Technical Session lead by the chairmen of active TCs.

In conclusion, when will you have the final assessment of this TC's work?

M. B.: In 1999. But until then, I invite you to follow the progress of their work in our annual report, our newsletter (for announcements of workshops organised by the TC) or, even better, if the subject directly concerns you, by contributing personally to its work. I might mention that TC meetings are limited to 15 to 20 persons, as beyond that number it becomes difficult to work efficiently. However, even the corresponding members of a TC must play an active role, by preparing comments on working documents and by their personal written contributions.

Well, now you know everything, or practically everything, about the life of RILEM TCs. I almost forgot – in addition to E-mail, which has greatly developed exchanges between members – each TC has a private directory on RILEM's Web server where each TC member can consult the latest documents (minutes of meetings, up-to-date membership list, selective bibliography, etc.).

In ending this interview, I would like to invite experts the world over to join us if they are ready to contribute to the development of our actions, whether on-going or proposed.

Selective index of past and active TCs

001-CW: Winter concreting • 002-HC: Concrete and reinforced concrete in hot countries • 003-TT: Testing methods of timber • 004-CDC: Durability of concrete • 005-LC: Lightweight concretes • 006-PAN: Natural and artificial stones: methods of testing • 007-NDT: Non-destructive tests of concrete • 008-SR: Research and testing on synthetic resins in building construction • 009-RC: Test and specifications of steel for reinforced and prestressed concrete • 010-SC: Statistical control of the quality of concrete • 011-A: Admixtures • 012-CRC: Concrete reinforcements corrosion • 013-MR: Mortars and renderings • 014-CPC: Concrete permanent committee • 015-PM: Investigation on porosity in building materials • 016-C: Investigation on carbonation • 017-BM: Bitumens and bituminous materials • 018-REF: Refractory concretes • 019-FRC: Fibre reinforced cement composites • 020-TBS: Testing building structures *in situ* • 021-IL: Impact loading on building • 022-AT: Accelerated tests • 023-GP: Gypsum plasters • 024-BW: Load-bearing walls and masonry • 025-PEM: Preservation of natural stone monuments • 026-GM: Granular materials • 027-EVS: Evaluation of external vertical façades • 028-MIM: Moisture insulating materials • 029-PSP: Pore structure and properties of materials • 030-TE: Testing equipment • 031-PCM: Performance criteria for materials • 032-RCA: Resistance of concrete to chemical attack • 033-AC: Analysis of fresh and hardened concrete • 034-APB: Ageing of polymers in building • 035-PMB: Methods of predicting moisture conditions in building materials and components • 036-RDL: Long-term random dynamic loading of concrete structures • 037-DRC: Demolition and reuse of concrete • 038-AAR: Ageing, appearance and restoration of materials • 039-BH: Winter concreting • 040-TPC: Testing of precast concrete elements • 041-HOL: Holography in testing models of structures • 042-CEA: Properties of concrete at early ages • 043-CND: Combined non-destructive testing of concrete • 044-PHT: Properties of materials at high temperatures • 045-LT0: Long-term observation of structures • 046-FST: Fatigue of steel temperature effects • 047-SM: Synthetic membranes • 048-FC: Testing of ferrocement • 049-TFR: Testing methods for fibre reinforced cement-based composites • 050-FMC: Fracture mechanics of concrete • 051-ALC: Light-weight aerated concrete • 052-RAC: Resin adherence to concrete • 053-MTC: Multi-axial testing of concrete • 054-PIC: Polymer impregnated concrete • 055-CCA: Corrosion of galvanized steel tap-water piping • 056-MHM: Hydrocarbon materials • 057-TSB: Testing of timber structures and building boards • 058-VPM: Aging of monument stones • 059-TPM: Treatment and protection of monuments • 060-CSC: Corrosion of steel in concrete • 061-SLB: Effects of seismic loading on building materials • 062-SFC: Soiling and cleaning of façades • 063-LBM: Laterite-based materials • 064-BT: Bearing transfers by joints and interfaces • 065-MDB: The dynamic behavior of concrete structures • 066-BJS: Building joint seals • 067-FAB: Use of fly-ash in building • 068-MMH: Mathematical modelling of cement hydration • 069-MMC: Mathematical modelling of creep and shrinkage of concrete • 071-PSL: Prediction of service life of building materials and components • 072-SMS: Stochastic methods in material and structural engineering • 073-SBC: Use of siliceous by-products in cement and concrete • 074-THT: Test methods for high temperature properties • 075-SLR: Single layer roofing • 076-LUM: Load bearing masonry • 077-RRT: Reciprocal recognition of test results • 078-MCA: Recommended practice for aerated concrete based on RILEM testing methods • 079-PAC: Phase analysis of cement • 080-TMS: Tension modulus of prestressing steel stands • 081-LCP: Load bearing concrete panels and assemblies • 082-PGP: Properties of gypsum plaster • 083-CUS: Fundamental mechanical properties of metals • 084-AAC: Application of admixtures to concrete • 085-TAC: Test methods for chemical admixtures for concrete • 086-PCW: Protective coating for wood • 087-LAC: Lightweight aggregates for concrete • 088-TPP: Testing of plastic pipes • 089-FMT: Fracture mechanics of concrete—test methods • 091-CRL: Guidelines for cement and concrete reference laboratories • 093-ES: Expert systems for materials and structures • 094-CHC: Concrete for hot countries • 095-PPC: Physical properties of precast concrete elements • 096-EB: Earth construction • 097-GCR: Applications of geotextiles to crack prevention in roads • 098-PDE: Probabilistic methods in experimental studies • 099-TRC: Measurement of temperature rise in concrete after setting • 100-TSL: Prediction techniques of service life • 101-BAT: Bitumens and asphalt testing • 102-AFC: Ageing and durability of fibre concrete • 103-MGH: Mechanical

and hydraulic testing of geomembranes • 104-DCC: Damage classification of concrete structures • 105-CPC: Concrete-polymer composites • 106-AAR: Alkali-aggregate reaction • 107-CSP: Creep and shrinkage prediction models • 108-ICC: Interface between cement paste and concrete constituents • 109-TSA: Behaviour of timber structures under seismic action • 110-TFM: Application of fracture mechanics to timber structures • 111-CST: Behaviour of timber and concrete composite load bearing structures • 112-TSC: Creep in timber structures • 113-CPT: Test methods for concrete-polymer composites • 114-CCS: Computer programmes for creep and shrinkage analysis of concrete structures • 115-HSC: High strength concrete • 116-PCD: Permeability of concrete as a criterion of its durability • 117-FDC: Freeze-thaw and de-icing resistance of concrete • 118-IC: Ice and construction • 119-TCE: Avoidance of thermal cracking at early ages • 120-MRS: Membrane roofing systems • 121-DRG: Guidance for demolition and re-use of concrete and masonry • 122-MLC: Microcracking and lifetime performance of concrete • 123-MME: Use of microstructural models and expert systems for cementitious materials • 124-SRC: Repair strategies for concrete structures damaged by steel corrosion • 125-DT: Design by testing • 126-IPT: In-place testing of hardened concrete • 127-MS: Masonry materials and structures • 129-MTH: Test methods for mechanical properties of concrete at high temperatures • 130-CSL: Calculation methods for service life design of concrete structures • 131-ONM: Testing methods for characterizing old and new mortars • 132-MGI: Geometrical and mechanical imperfections of metal components and structures • 133-TF: Fracture of timber • 135-MHC: High cycle fatigue behaviour of metallic materials, joints and structural components • 136-NDI: Non-destructive inspection of materials and structures • 137-CS: Composite structures • 138-MTW: Test methods for thin-walled metal structures and members • 139-DBS: Durability of building sealants • 140-TSL: Prediction of service life of building materials and components • 141-SSM: Stainless steel as building material • 142-MCL: Testing of metallic structural materials for determining stress-strain relations under cyclic loading • 143-QSC: Quality assessment of sprayed concrete • 144-GMP: Geomembranes – mechanical and physical testing • 145-WSM: Workability of special concrete mixes • 146-TCF: Tightness of concrete with respect to fluids • 147-FMB: Fracture mechanics applications to anchorage and bond • 148-SSC: Test methods for the strain softening response of concrete • 149-HTS: Diagnosis and repair of historic load-bearing timber structures • 150-ECM: Efficiency of concrete mixers • 151-APC: Adhesion technology in concrete engineering – physical and chemical aspects • 152-PBM: Performance of bituminous materials • 154-EMC: Electrochemical techniques for measuring metallic corrosion • 157-PRC: Systems to prevent reflective cracking on pavement • 158-AHC: The role of admixtures in high performance concrete • 159-ETC: Engineering of the interfacial transition zone in cementitious composites • 160-MLN: Methodology for life prediction of concrete structures in nuclear power plants • 161-GMC: Modelling the behaviour of concrete in service: a guide for the engineer • 162-TDF: Test and design methods for steel fibre reinforced concrete • 163-TPZ: Interfacial transition zone and properties of transfer • COM: Characterization of old mortars with respect to their repair • CSD: Data bank of concrete creep and shrinkage • CSH: The structure of CSH • EBM: Mechanics of earth as a building material • ECB: Environmental criteria for building products • EDM: Environmental design methods in materials and structural engineering • EID: Systematics of the environmental impact database of building materials • IDC: Internal damage of concrete due to frost action • ISA: Internal sulfate attack • LPC: Long-term performance characteristics of fibre cement composites • MMM: Computer modelling of mechanical behaviour of masonry structures • MTE: Test methods for load transferring metalwork used in timber engineering • QFS: Size effect and scaling of quasibrittle fracture • QIC: Qualitative identification of clinkers and cement • RMS: Roofing membranes and systems • SCC: Self compacting concrete • SLM: Computer bases on service life methodology • SRM: Sustainable application of mineral raw materials in construction.

A mission: to transfer knowledge.

RILEM's international renown is based not only on the conferences and workshops it organises, but also in large part on its editorial policy. The journal *Materials and Structures* is its flagship publication.

5 6 7 8 9 RILEM organises or sponsors conferences and workshops with the objective of collecting, producing and transmitting knowledge and information. These events provide association members with exceptional opportunities to exchange information. They offer experts and institutions the possibility of working together at the international level. Conferences have been organised by the association since its foundation. The list of proceedings of these events features more than 110 titles. 10

The editorial policy of the association is supported by *Materials and Structures*, a high-level bilingual scientific periodical. *Materials and Structures* provides a forum where leading scientists can express themselves and publish the results of their research. It is also an important medium for publishing the work carried out by the association itself: above all, the work of the TCs, but also RILEM-organised scientific events (conferences, workshops, symposia). RILEM Recommendations, in particular, are published in the journal.

The journal publishes papers on experimental research and tests pertaining to building materials and structures. These papers provide their authors with recognition by the scientific community. *Materials and Structures* is published in France, under the responsibility of the Secretary General. An Editorial Board defines and monitors editorial policy. A Scientific Committee evaluates all the papers submitted for publication in the journal.

11 12



Materials and Structures (Matériaux et Constructions). 1997, 30th year, published today by our subsidiary.

5 Dr Abderrahim Acharhabi, Laboratoire Public d'Essais et d'Études (LPEE), Maroc

Le LPEE a rejoint la RILEM pour être informé des développements dans le domaine des matériaux, des structures et de la réglementation, et pour découvrir ce réseau d'échange d'informations, d'organisation d'ateliers et de séminaires, atout important en matière de transfert technologique. La RILEM m'a permis de mener mes travaux avec plus de compétence ; ainsi, à défaut de normalisation, les prescriptions des comités RILEM m'ont souvent aidé à dépasser certaines difficultés.

L'une des principales missions du LPEE consiste à promouvoir et à réaliser des projets de recherche dans le secteur du BTP : programme autoroutier, infrastructures portuaires, grands barrages, 200 000 logements économiques, réalisations définies dans le programme décennal de recherche du Conseil supérieur d'orientation de la recherche.

Ma participation à la vie de la RILEM est très active, participation aux travaux, représentation de l'association au niveau national... Je garde de chaque réunion, grâce à la diversité des actions menées par le bureau et le secrétaire général, un souvenir différent et toujours très attachant.

6 Dr Damijana Dimic (Ms), AHC—Slovenian National Building and Civil Engineering Institute, Slovenia

Slovenia is a small country, and therefore to a considerable extent dependent on internationally-available technical knowledge. Due to RILEM's important role on a world-wide scale, particularly in the co-ordination and unification of testing activities, the cooperation of Slovenia's experts and testing institutes in RILEM's work represents an important contribution to the development of Slovenia's testing and research capabilities in the fields of building and civil engineering.

7 Prof. Christopher L. Page, University of Aston Department of Civil Engineering United Kingdom

Having succeeded Dr Ivan Dunstan in 1995 as National Delegate for the United Kingdom, the most significant event in which I have participated was the 50th General Council held at the Building Research Institute, Garston, U.K. in September 1996. RILEM has made an outstanding contribution to the development of academic and industrial collaboration in the field of materials and structures in the U.K., through the work of its Technical Committees. Its capacity to respond effectively to the challenges that lie ahead was well illustrated by the BRE-RILEM seminar on "Sustainable Use of Materials".

8 Dr Stelios Koliass, National Technical University of Athens, Highways Laboratory

Some decades ago, the RILEM Recommendations on concrete were the first input for the preparation of our national Concrete Specifications. Nowadays, RILEM Committee Reports and RILEM Recommendations continue to be the basis of any new national specification or recommendation and of many research projects. They are a major part of the invaluable contribution made by RILEM to my country.

9 O. Univ. Prof. Dr Ulrich Schneider, Austria

Austria is a small country with a long tradition in building materials technology and testing. We are very much in support of RILEM because of its technical jurisdiction and extensive efforts in the field of materials testing and structures. We appreciate the role of RILEM as an international body in those fields, especially the evaluation and distribution of technical knowledge. We congratulate RILEM on celebrating its 50th anniversary and wish you all the best for the forthcoming years.

10 Prof. Hernani S. Sobral, Federal University of Salvador de Bahia, Brazil

Thirty-five years ago, I joined RILEM, on the advice of Professor F. L. Carneiro, Brazilian researcher, leading engineer and professor, and at present Honorary Member of the association. Since that time, I have had precious help from its publications: the journal Materials and Structures, symposium and workshop proceedings and recommendations, which make known in my country the most advanced research on materials and structures.

During four years, as Vice-President and President of the RILEM Latin American Group, I organised three seminars on low-cost housing, teaching about materials for construction and structures.

A National Delegate to Brazil since 1982, I organised the RILEM 2nd International Symposium on “Vegetable Plants and their Fibres as Building Materials”, Salvador, Brazil, September 1990, the proceedings of which were published by Chapman and Hall, London.

11 Prof. Dr Ing. Hans-Wolf Reinhardt, Chair of Construction Materials of Stuttgart University and Managing Director of Otto-Graf-Institute, Stuttgart, Germany

ALL TYPES OF PUBLICATIONS OF RILEM HAVE GROWN UP

There is a cluster of publications coming from RILEM: the journal Materials and Structures, RILEM Recommendations, Symposia Proceedings, Technical Committee Reports, Newsletters.

All serve a special aim. Materials and Structures is a platform for RILEM members and other researchers to present and discuss the latest research developments. Unlike the typical journal for the structural engineer wishing to be informed on computations and striking structures, the RILEM journal focuses on understanding the behaviour of materials and the structures of which they are made. The journal is an excellent means for young

researchers to publish and become known. Recommendations are a continuous chapter in the journal; after becoming final, they may later be collected in a book.

Since 1986, there has been a regular series of books produced in conjunction with symposia and workshops. Over the years, their titles reflect the development of research and modelling. Their layout and publishing have become very professional. These Proceedings collect papers from many authors, whereas the RILEM Reports are prepared only by members of RILEM Technical Committees. Such reports are often concerned with the state-of-the-art in a given field and provide a very welcome source of comprehensive information. Finally, Newsletters regularly inform about RILEM events and people. In my opinion, all these types of RILEM publications have grown up. They form a cornerstone in the academic and professional community of construction materials. I for one would not like to miss them.

12 Prof. Sandor Popovics, U.S.A.

I joined RILEM in 1962 because RILEM published the type of research that was being neglected at time in the U.S.A. Since then, my RILEM-related activities have concentrated on writing. My first paper was published in the RILEM Bulletin no. 16 in 1962, the last one in the Proceedings of the RILEM Symposium on Diagnosis of Concrete Structures in 1996. Altogether, 20 of my papers have appeared in RILEM publications. I know RILEM has helped me in my research, and based on the number of researchers who used my RILEM papers as references, I like to think that my activities have contributed, to a small extent, to the success of RILEM.



A

WORLD-WIDE

network

OF EXPERTS

Excellence above all.

It is RILEM's objective to gather together the most eminent specialists throughout the world in the fields of building materials and structures. Aiming for excellence in all its activities, RILEM awards two recognised distinctions annually.

¹³ Each year, the Robert L'Hermite Medal is awarded to an author of less than 40 years – not necessarily a member of the association – who has made a written scientific contribution of outstanding quality in research on materials and structures.

A first medal was awarded in 1967 to Professor Ferdinand Campus, one of RILEM's founder members. The Robert L'Hermite Medal was so-named in 1981, after one of the founders of RILEM. Since 1970, twenty-seven scientists have received this award.

The authors published in *Materials and Structures* are the natural “reservoir” for candidates for the Robert L'Hermite Medal. In addition, the National Delegates may propose other authors who meet the criteria for the award. The medal is awarded each year by a jury composed of three persons:

- the Chairman of the Coordinating Committee (CC);
- the Chairman of the Technical Advisory Committee (TAC);
- a member-at-large elected by the General Council.

ROBERT L'HERMITE MEDALLISTS

(former RILEM Medal)

- Dr M. SOSORO (1997) • Dr P. ROSSI (1996)
- Dr B. MENG (1995) • Prof. G. GUINEA (1994)
- Dr A. NONAT (1993) • Dr E. J. GARBOCZI (1992)
- Dr E. STANG (1991) • Dr L. VANDEWALLE (1990)
- Dr F. de LARRARD (1989) • Prof. L. TAERWE (1988) • Dr J. G. M. VAN MIER (1987)
- Dr C. ANDRADE (1986) • Prof. J. M. RIGO (1984)
- Dr C. L. PAGE (1983) • Prof. A. CARPINTERI (1982) • Dr Y. W. MAI (1981) • Dr S. P. SHAH (1980)
- Dr G. MASARANI (1979) • Dr G. FAGERLUND (1978) • Prof. T. JAVOR (1977) • Prof. F. H. WITTMANN (1976) • Dr Z. P. BAŽANT (1975)
- Dr I. FACAORU (1974) • Prof. S. KAJFASZ (1973) • Dr B. WARRIS (1972) • Prof. L. M. MACHADO (1971) • Dr M. MAMILLAN (1970) • Prof. F. CAMPUS (1967).

¹³ Prof. Dr Zdenek P. Bazant, U.S.A.,

RILEM Fellow

The 50th anniversary of RILEM is a moment for reflection on the past.

After 50 years, we can say that the vision of RILEM founder and my mentor, Robert L'Hermite, has finally been fulfilled. From its beginnings as, at first, a mainly French and then primarily a European association,

RILEM has finally become the most important world-wide organisation of researchers in the field of civil engineering materials and their structural applications.

Compared to the situation half a century ago, the analysis of structures, taking into account real, experimentally-determined material properties and their sophisticated models, has become possible due to the vast expansion of computational capabilities. This has greatly elevated the importance of materials research.

This trend will no doubt continue, and RILEM is well placed to play a dominant role in this field during the next half century.

Created in 1993 by the General Council, the honorary title of **RILEM Fellow** is bestowed upon RILEM Senior members having made exceptional contributions to RILEM in their capacities as research scientist, engineer, technical leader or educator. RILEM Fellows are selected from the past or acting chairmen of RILEM Technical Committees or Standing Committees and must be under the age of 60 when nominated. ¹⁴

RILEM FELLOWS

Dr Carmen ANDRADE • Prof. Zdeněk P. BAŽANT • Prof. Luigia BINDA • Prof. Ario CECCOTTI
 • Dr Louis FRANCKEN • Mr Hermann FRITZ • Prof. Tibor JAVOR • Dr Sidney MINDESS
 • Prof. Yoshihiko OHAMA • Prof. Dr-Ing. Hans Wolf REINHARDT • Prof. Alpo RANTA-MAUNUS
 • Prof. Raymundo RIVERA-VILLARREAL • Prof. Peter SCHIESSL • Prof. Surendra P. SHAH • Dr Åke SKARENDAHL.

RILEM also distinguishes **Honorary Members**. These are persons having rendered exceptional services to the association – for example, having successfully chaired the work of several TCs, or having contributed to giving a new orientation to the association.

HONORARY MEMBERS

Prof. F. L. CARNEIRO (BRAZIL) • Prof. T. H. ERISMANN (SWITZERLAND) • Mr M. FICKELSON (FRANCE) • Prof. E. GIANGRECO (ITALY)
 • Dr A. HÖNIG (CZECH REPUBLIC) • Prof. C. JAEGERMANN (ISRAEL) • Prof. P. A. O. JAUHO (FINLAND) • Prof. P. C. KREIJGER (NETHERLANDS) • Mr P. NERENST (DENMARK) • Dr C. D. POMEROY (UNITED KINGDOM) • Prof. Dr T. P. TASSIOS (GREECE) • Prof. Dr Ing. K. WESCHE (GERMANY) • Dr J. R. WRIGHT (USA).

¹⁴ **Dr Carmen Andrade (Ms.) (Spain)**

Director of the “Eduardo Torroja” Institute of Construction Sciences,

RILEM Fellow 1996, Robert L’Hermite Medal 1986

I have a doctorate in Industrial Chemistry.

I am the Director of the “Eduardo Torroja” Institute of Construction Sciences and a

Research Professor at the Consejo Superior de Investigaciones Científicas of Spain.

I am also currently the President of the European Union of Technical Agreement in Construction (UEATC).

The study of the corrosion of steel in concrete was the subject of my Ph.D. dissertation and I am still trying to understand all the mechanisms involved.

My first contact with RILEM came in 1982 when I joined RILEM TC 60-CSC

(Corrosion of Steel in Concrete), chaired by Dr Schiebl. I was also a member of

TC 124-SRC, also chaired by Dr Schiebl.

At present, I am the chairlady of TC 154-EMC.

After being awarded the Robert L’Hermite Medal in 1986, I became a

member and was later chairlady of the TAC until 1992. In 1994, I joined the CC, of

which I became chairlady in 1996.

A prestigious history.

RILEM's first fifty years have been marked by the personalities and determination of the founder members, and by the presidents who have headed the association.

“ La mémoire a ses fêtes, ce qui s'appelle commémorer, et la tradition du jubilé est bien celle d'une fête de la mémoire, à laquelle je me réjouis de pouvoir encore participer avec les quelques lignes qui suivent, ne serait-ce que pour me rappeler ma longue liaison avec la RILEM, quand elle va fêter ses cinquante ans.

C'est un étrange exercice que d'interroger le passé pour en tirer quelque lueur sur l'avenir, et déjà le dixième anniversaire de la Réunion en avait été le prétexte. Comme les garants de cet avenir, dans une plaquette alors publiée, se retrouvaient les visages de tous ceux qui avaient donné à la RILEM existence et excellence, les L'Hermite, Campus, Ros, Colonnetti, Olszak, Glanville, Torroja, Lea, Granholm, Rüsck, Lobry de Bruyn, Bechyne, Dutron... Tous hommes de science, de talent et de caractère.

Il faut dire que ceux-là qui avaient répondu à l'invitation de Robert L'Hermite dix ans auparavant, n'étaient venus à Paris que pour renouer des contacts interrompus par la guerre et n'avaient sans doute pas dans l'esprit de créer une association.

C'est à l'issue de leur rencontre que la RILEM est née — paradoxalement de la mémoire que l'on gardait de l'AIEM, l'Association Internationale des Essais de Matériaux, qui n'avait pas survécu à la guerre. L'avenir s'est nourri de ce regret.

Mais si l'on s'est inspiré de l'AIEM, on a toutefois adapté ses principes à une pratique nouvelle, moins pesante, plus libre, excluant les grands congrès d'antan pour privilégier les colloques de spécialistes dont la RILEM a produit le modèle.

Les adaptations successives qui ont permis à la RILEM de remplir sa mission, et peut-être de durer, semblent avoir suivi, à peu près, les décennies. La décision prise à Mexico, en 1966, de rénover une structure qui se sclérosait, est à l'origine

de la réforme conçue par J. Stork et N.M. Plum, et que ce dernier a conduite à son terme avec M. Rocha et R. Shalon.

Nous leur devons notre Comité de Coordination aussi bien que notre Comité Consultatif Technique, et le remplacement progressif de lourdes commissions permanentes par de petits groupes de travail à durée déterminée par les objectifs à

atteindre. Une autre époque commençait, où la RILEM allait perdre son caractère de club assez fermé de chercheurs et

de directeurs de laboratoire pour se convertir en une organisation ouverte à l'industrie comme à la recherche. C'était préparer l'avenir — et celui-ci s'obscurcissait déjà au moment où l'on célébrait le trentième anniversaire de la Réunion, à Budapest, en 1977. Jusque-là, la RILEM s'était accommodée d'une présidence annuelle plus honorifique qu'effective.

La prémonition de temps incertains incitait à concéder au Président la durée qui lui permettrait de jouer son rôle de leader, et à rechercher un nouvel équilibre des rôles et des fonctions dans un souci de performance. Cette réforme fut accomplie en 1979, à Rio de Janeiro.

Les temps incertains étaient venus — ou plutôt, la certitude de restrictions budgétaires toujours plus sévères dans les domaines de la recherche et des relations internationales. La contribution financière de la Fédération Nationale du Bâtiment de France, sur laquelle la RILEM avait en grand partie vécu, se réduisait, et, en 1987, elle ne pouvait plus compter que sur ses seules ressources. Les questions se posaient dans l'urgence : comment mieux répondre aux besoins de ses membres ? Comment répondre aux besoins de l'industrie ? Ce sont bien les questions qui ont déterminé la création d'un Comité Consultatif de Gestion et d'une catégorie de membres industriels au cours de la décennie 1977-1987.

Mais, voici que je me demande : est-ce que l'évolution de la RILEM des vingt dernières années la conduit à devenir, principalement, une “ agence de service ” ? Par une sorte de myopie, j'ai une vue beaucoup moins nette de ce qui est plus proche. Et peut-être, aussi, que je me sens maintenant — c'est dans la nature humaine — bien plus près des temps anciens de la Réunion. Je préfère donc me retirer derrière une simple question, que les organisations telles que la RILEM ne peuvent cesser de se poser : comment satisfaire à des demandes spécifiques sans cesser d'œuvrer pour l'intérêt général et demeurer ainsi fidèle à sa vocation ?”

**Maurice Fickelson,
Membre d'honneur**

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Participants at the RILEM founders meeting: • S. A. DELPECH, Buenos Aires, Argentina • F. CAMPUS, Liege, Belgium • E. L. ...
Da FONSECA COSTA, Rio de Janeiro (Brazil) • G. HANSEN, Copenhagen (Denmark) • E. TORROJA, Madrid (Spain) • M. P. WHITE, US ...
Army (United States) • R. L'HERMITE, Paris (France) • F. LEA, Garston-Watford (United Kingdom) ▶ ...
▶ • W. GLANVILLE, West Drayton (United Kingdom) • J.-L. BIENFAIT, Amsterdam (The Netherlands) • G. COLONNETTI, Rome (Italy)
• W. OLSZAK, Cracow (Poland) • M. ROCHA, Lisbon (Portugal) • E. FORSLIND, Stockholm (Sweden) • M. ROS, Zurich (Switzerland)
• S. BECHYNE, Prague (Czechoslovakia).

15 16 17 From June 17 to 20, 1947, upon the invitation of Robert L’Hermite, Director of the “Laboratoires du Bâtiment et des Travaux Publics de Paris”, a group of laboratory directors met in Paris. They represented fifteen different nations and their goal was to renew international relations which had been interrupted by the war. From this goal RILEM was born. In meetings which followed – in Italy, then in Switzerland – a structure was defined for international cooperation between institutions for testing and research on materials and structures.

From RILEM’s rich past, a few key dates:

1947: Founders meeting, on the initiative of Robert L’Hermite (June 20, 1947).

1951: Publication of the first RILEM Bulletin (of which 44 issues were published).

1954: Adoption, at Trondheim (Norway), of the Statutes and Bylaws of the association.

1956: Creation of the first Technical Committee, 01-CW (Winter Concreting), chaired by N.P. Plum. Task: to gather information and promote research on the properties of concrete and winter concreting. (To date, there have been 181 TCs.)

1959: First issue of the new series RILEM Bulletin (of which 37 issues were published).

1966: Launching of the association’s internal reform, in Mexico. Finalisation of the existing structure was completed in 1969.

1968: First issue of *Materials and Structures*. (As of September 1997, 201 issues have been published).

1971: First meeting in Buenos Aires. The involvement of Latin America furnished an important contingent of members as a result of this meeting.

1977: The association celebrates its 30th anniversary in Budapest. A commemorative brochure is published.

1983: Approval of a Long Range Plan for RILEM at Brno, proposed by Dr James R. Wright in 1981 at Casablanca.

1987: First RILEM Congress in Versailles, on the occasion of the association’s 40th anniversary.

1987: RILEM Strategic Workshop: Madrid I- “New Prospects for RILEM”.

1992: RILEM Strategic Workshop: Madrid II- “New Prospects for RILEM”.

1994: First edition of the Compendium of RILEM Technical Recommendations.

1994: Key objectives established for RILEM, under the impetus of Mr Jacques Baron.

1996: RILEM on Internet:

<http://www.rilem.ens-cachan.fr>

1997: Creation of RILEM Publications SARL, a subsidiary of RILEM.

Thirty-eight persons having thirty different nationalities have presided over RILEM’s fortunes, from Professor Gustavo Colonetti (Italy), founder member of the association, to Professor Folker

Since I joined RILEM for the first time at the International Symposium on Adhesion between Polymers and Concrete, I have participated in RILEM by joining or chairing Technical Committees 52-RAC, 105-CPC, 113-CPT, 151-APC and 156-CPD and by organising workshops. Such participation in the association has brought me many good friends in the fields of construction materials research, and enriched my professional life. The best memory for me since joining the association is receiving the distinction of RILEM Fellow, which was awarded to me at the 50th General Council Meeting in United Kingdom, in September 1996.

Wittmann (Switzerland), whose mandate ends in 1997, the year of the 50th anniversary. The President, as well as the Vice-President, are elected for three years by the General Council, the decision-making body of the association. The President presides over meetings of the General Council and of the Bureau, the executive body of the association. He maintains the right to sit in the Bureau for three years after ending his mandate as President. The nominations for President and Vice-President are proposed by a Nominating Committee formed of the Bureau and the chairmen of the Standing Committees. The election of the Vice-President takes place at the General Council meeting during which the new President assumes office. ¹⁸

¹⁶ Dr C. D. Pomeroy, United Kingdom

Like-minded people have always grouped together to form Guilds (as in medieval times) or societies where ideas could be exchanged in a friendly atmosphere. Standards were set to ensure that the highest levels of craftsmanship were not only preserved, but also improved. RILEM has continued these traditions for construction materials, bringing together specialists from across the world, fostering friendships and providing a forum where mutual problems can be aired.

Concrete has always been an important construction material. Many years ago, I was invited to join the “Concrete Permanent Committee” (14-CPC), which had established a wide range of recommended testing methods for cement and concrete. Later, when I had become the Committee President, the Bureau and the General Council decided that this Committee should have a new “mission”. The Committee was broadened and delegates were invited from other international associations (e.g. CEB, CIB, CEMBUREAU, etc.)

in an attempt to instil some discipline into the overlapping activities of the disparate bodies. I was honoured to become the first President of this new Committee, CCC, the “Concrete Coordinating Committee”. It was difficult to coordinate the activities of the diverse bodies, since they had different aims and priorities and were also competing with one another for prestige and support. However, we had many friendly, valuable and necessary exchanges. Regretfully, the CCC has now been disbanded, but I hope RILEM will find other ways to achieve closer collaboration between those working in the concrete field.

Later, I gained from my involvement with the “Coordinating Committee”, responsible for stimulating and monitoring the work of all the Technical Committees. As there are often 50 or more active Committees, the work load of the CC is very heavy, but it was a pleasure to work with the small team reviewing the work in progress. The greatest strength of RILEM has been the structure of the TCs which have precise objectives and a limited time to complete their tasks. The limited terms of CC membership did much to maintain the impetus of the work and, once again, introduced me to some wonderful friends. I gained so many benefits from my involvement within the family of RILEM. I made friends from every continent. I enjoyed my visits to numerous countries, to the laboratories and to the cultural centres where meetings were held. I hope in some small way I have been able to repay RILEM for the benefits I received. In my retirement, I have been grateful to be invited to contribute to the discussions of the Technical Advisory Committee as they plan for the future. I thank everyone with whom I collaborated in RILEM and wish them all an enjoyable and successful future.

17 Prof. Elio Giangreco, Département Analyse et Conception des Structures,

Université de Naples Federico II, Italie

C'est en 1953 que se situe mon premier contact avec la RILEM, grâce à une bourse d'études de cette jeune association que Robert L'Hermite a bien voulu me faire attribuer pour un court stage à Madrid, auprès de l'institut dirigé par Eduardo Torroja.

A mon retour, j'ai eu la chance de représenter mon pays à la réunion de Casablanca.

J'ai ainsi fait la connaissance de la plupart des fondateurs de la RILEM, que j'ai ensuite

revus à l'occasion d'autres rencontres. Je me souviens, comme si c'était hier, d'avoir apprécié la classe et la qualité de ces personnalités qui avaient, d'un côté, l'expérience

et la sagesse d'une autre génération et, d'un autre côté, l'intuition et l'enthousiasme

pour un futur déjà commencé. Entré dans ce club, je me suis retrouvé, quelques années

après, membre d'une association internationale qui participait activement, dans un

contexte mondial en évolution, au progrès et à la diffusion des connaissances scientifiques

et techniques "de pointe" dans le domaine des matériaux et des structures.

La grande réforme de la fin des années soixante a marqué la prise de conscience du rôle

qui revenait à la RILEM et le congrès de Versailles, en 1987, a démontré d'une façon

significative la synergie entre la science des matériaux et le génie des structures.

18 Prof. Torben C. Hansen, RILEM past-President, Denmark

The most significant development in RILEM in the past decade has been the strengthening of all aspects of the organisation such as the Secretariat General, the budget,

the publications policy and user-friendliness. In my opinion, RILEM is now in the best

possible position to serve its membership well into the next century. On a national level,

RILEM has continued to serve its members in the best way, by making their participation

possible in a number of technical committees on topics of immediate importance.

The 38 Presidents of RILEM

- 1994-1997: Prof. Dr. Folker H. Wittmann (Switzerland). Prof. Wittmann was born in 1936 in Karlsruhe, Germany. In 1988, he was named professor of building materials at the Swiss Federal Institute of Technology in Zurich (ETH), after having held the same position at Delft University and the Ecole Polytechnique Fédérale de Lausanne. He chaired TCs 50-FMC and 78-AHC. For many years he was the RILEM Delegate to Switzerland. He was awarded the Robert L'Hermite Medal in 1976.
- 1991-1994: Prof. Torben Christen Hansen (Denmark). Born in 1933 in Denmark, since 1967 he has been professor of building materials at the Technical University of Denmark. He is an *ad hoc* member of the World Bank panel of experts on the Jamuna Bridge in Bangladesh. Prof. Hansen is the RILEM Delegate to Denmark.
- 1988-1991: Dr Ivan Dunstan (United Kingdom). Dr Dunstan was a RILEM Delegate to the United Kingdom and Director General of the British Standards Institution. As a member of the RILEM Management Advisory Group, Dr Dunstan took a particular interest in long-range planning and the role of regional and national groups.
- 1985-1988: Prof. Elio Giangreco (Italy). Prof. E. Giangreco has been present at RILEM from the very beginning: as representative for the Italian Delegate of RILEM, he participated in the Bureau meeting attended by the main founder members of RILEM. Most of Prof. Giangreco's career has been within the Università degli Studi di Napoli, where he is director of the Istituto di Tecnica delle Costruzioni.
- 1982-1985: Dr James R. Wright (U.S.A.). Now retired, he was Deputy Director of the National Engineering Laboratory (NIST) from 1978 to 1985. He has been a RILEM Honorary Member since 1985. His fields of expertise are organic chemistry, surface chemistry, photochemistry and technical management.
- 1979-1982: Prof. Theodor H. Erismann (Switzerland). Born in 1921, Prof. Erismann is now retired. He was President of EMPA (Federal Laboratory for Materials Testing and Research). Besides his activities as Delegate and Treasurer (1970-1988), he took part in RILEM's reorganisation in 1979.
- 1979: Prof. Fernando L. Carneiro (Brazil). Now retired, Prof. Carneiro was Director of the Department of Applied Mechanics of the Engineering Faculty of Rio de Janeiro and President of the association's Latin American Group. The concrete test method prepared by Prof. Carneiro and presented by Prof. Fonseca Seca at the founders meeting of RILEM in 1947 is universally known as the "Brazilian test method".
- 1978: Dr Theodossius P. Tassios (Greece). Born in 1930, Dr Tassios is a professor at the National Technical University of Athens. Recognised world-wide as an expert (UNESCO, EEC, etc.), he is also an international consultant.
- 1977: Dr R. Tobias (Hungary).
- 1976: Prof. P. C. Kreijger (Netherlands). Born in 1923, Prof. Kreijger retired in 1984. He still acts as a scientific research expert for the Dutch Committee Reporting

on Environmental Effects. He served the Dutch section of RILEM from 1958 and was a RILEM Delegate for 14 years. • 1975: Dr B. Steele (United Kingdom). • 1974: Prof. E. Giangreco (Italy). • 1973: Prof. Eng. Dimiter Vatchev Ivanov (Bulgaria). A professor at the Concrete and Reinforcement Department of the Building Research Institute (NISI, Sofia), Prof. Vatchev Ivanov retired in 1986. He produced more than 80 scientific publications. Prof. Vatchev Ivanov died in 1994 in Sofia. • 1972: Dr James R. Wright (USA). • 1971: Prof. Simon A. Delpech (Argentina). Prof. Delpech took part in the founders meeting of RILEM. In 1963, he organised in Buenos Aires the first meeting of the Latin American Group, of which he was named President. Prof. Delpech died in 1984. • 1970: Prof. Georg Wästlund (Sweden). Prof. Wästlund was appointed professor of bridge construction at the Royal Institute of Technology in Stockholm, in 1941 at the age of 36. An essential part of his professional career was devoted to concrete. He died in 1980. • 1969: Prof. Ing. Dan Dumitrescu (Romania). Prof. Dumitrescu was born in 1925. In recognition of his achievements at the Bucarest Structures Institute, he was appointed Director of the Institute in 1956. Since its foundation, Prof. Dumitrescu has presided over the Commission of Structures and Materials Testing of the Romanian National Council of Engineers and Technicians. • 1968: Prof. Dr Ing. Alfred Hütter (Germany). Prof. Hütter was appointed professor at Dresden University, where he was awarded the Chair for Building Materials and Strength of Materials in 1963. He acted as the RILEM National Delegate to the former German Democratic Republic. • 1967: Dr Robert L'Hermite (France). A founder of RILEM, Robert L'Hermite was the veritable moving force of the Association. He had a great taste for research, seeking to know and to understand. An engineer, but above all a physicist, he moved from the resistance of materials to materials science, from the mechanics of solids to the thermodynamics of porous media. In so doing, he contributed to advancing knowledge about the complex material which is concrete. He was man of great learning who sought to share his knowledge. Born in 1910, Robert L'Hermite died in 1982. **19** • 1966: Prof. Emilio Rosenblueth (Mexico). Prof. Rosenblueth simultaneously pursued activities as a researcher, engineer and professor. In 1959, he became Director of the Institute of Engineering at the National University of Mexico. He was the RILEM Delegate to Mexico during the 1960s. • 1965: Prof. Erol Yaltkaya (Turkey). Born in 1914, Prof. Yaltkaya launched upon a brilliant career as an engineer. In 1953, he was put in charge of the Laboratories for the Study and Testing of

Materials of the Turkish State Highways Organisation. He also trained engineers at the Middle East Technical University of Ankara. • 1964: Prof. Boris Grigorievitch Skramtaev (Russia). Prof. Skramtaev was born in 1905 in Russia. He obtained his civil engineering diploma in 1926 and moved to Moscow in 1931, where he pursued scientific, teaching and social activities. In 1960, he turned to work on the calculation of concrete cooling in winter, methods of winter concreting, etc. • 1963: Prof. Waclaw Olszak (Poland). Prof. Olszak began his scientific activities in the early twenties in the fields of structural mechanics, strength of materials and theory of elasticity. He was a co-founder of RILEM. Elected a member of the Polish Academy of Sciences in 1956, he was one of the organizers of the Polish Society of Theoretical and Applied Mechanics. Prof. Olszak died in 1980. • 1962: Mr Edvard Amstutz (Switzerland). Born in 1903, Mr Amstutz was in charge of the Federal Materials Testing Laboratory (EMPA) at Zurich. In 1959, he was named President of the Swiss Materials Testing Association (SMVT). • 1961: Prof. Stanislas Bechyne (Czechoslovakia). Born in 1887, Prof. Bechyne became a member of the Technical Academy of Sciences and Arts in 1946, and in 1955 of the Czechoslovak Academy of Science, where he was a member of the Scientific

19 *FONDATION, REFONDATION*

Robert L'Hermite a été le fondateur de la RILEM. C'est à son initiative qu'en 1947, à Paris, lors d'une réunion de seize personnalités de différents pays, la RILEM a été créée. Il s'agissait, après la guerre, de réparer les ruines. La RILEM devint alors un lien de coopération internationale entre les laboratoires et les instituts d'essais et de recherche sur les matériaux et les constructions. Les membres en étaient principalement les responsables de ces grands laboratoires qui organisaient l'information dans leur domaine. Le fonctionnement de la RILEM était alors comparable à celui d'un cercle, à celui d'un club. Très vite, elle s'est transformée en un réseau d'experts renommés donnant naissance à des commissions techniques de grande réputation et organisant des colloques de grande notoriété. Alors que les compétences de chacun étaient reconnues et qu'une grande amitié était partagée, vingt ans avaient passé. Il s'est donc avéré nécessaire de vivifier un réseau dont l'influence grandissait. Niels Munk Plum a été à ce moment crucial le refondateur de la RILEM ; c'est sous son instigation et par sa volonté qu'à la fin des années soixante, le Comité Consultatif et le Comité de Coordination ont été créés.

Council of the Institute of Theoretical and Applied Mechanics. • 1960: Prof. Rahel Shalon (Israel). Professor Shalon was born in Poland in 1904 and immigrated to Israel in 1925. She enrolled at the Department of Civil Engineering of the Technion Israel Institute of Technology and became the first female civil engineer in the country. She joined the academic staff of Technion, where she rose in rank until her retirement as Professor Emeritus in 1972. She organised two RILEM international Symposia in Haifa on "Concrete in Hot Climates". • 1959: Prof. Dr Julije Hahamovic (Yugoslavia). Prof. Hahamovic was one of the most well-known teachers and researchers of the Faculty of Civil Engineering of Sarajevo, and founder and dean of the Testing Institute for Materials and Structures of the same Faculty, of which he was director for many years. Within RILEM, he was the first Delegate to Yugoslavia and an Honorary Member. • 1958: Sir Frederick Lea (United Kingdom). Sir Frederick Lea served for 40 years at the Building Research Station, twenty of them as Director, until his retirement in 1965. He combined the roles of research scientist and senior manager in a positive and distinctive way. His national achievements were matched by an international role and as a founder of RILEM. He died in 1984. • 1957: Prof. Edward Wegelius (Finland). Prof. Wegelius worked at VTT (Technical Research Institute of Finland) as Director from 1948 until he retired in 1970. Among many other activities, he was Chairman of ISO from 1959 to 1961. He died in Helsinki in 1993. • 1956: Prof. Hubert Rüsçh (Germany). Prof. Rüsçh, after completing his studies, played an active part in the development of shell structures, prestressed concrete and precast construction. Prof. Rüsçh was the RILEM Delegate to Western Germany from 1952 to 1963. • 1955: Mr Jean Delarue (Morocco). Mr Delarue entered the French Building and Public Works Laboratory in 1946. In 1948, he was sent to Morocco to found the Public Testing and Study Laboratory there. During his stay in Morocco he was the RILEM Delegate to that country. • 1954: Dr Inge Lyse (Norway). Dr Lyse was professor of Reinforced Concrete at the Norwegian Institute of Technology of Trondheim for 30 years. He served as a UNESCO expert from 1951 to 1962. • 1953: Prof. Manuel Coelho Mendes da Rocha (Portugal). At age 33, Prof. Rocha directed the research activities of LNEC (Laboratorio Nacional de Engenharia Civil) at Lisbon. He was one of the founder members of RILEM and among those who participated in giving the association its new structure. He died in 1981. • 1952: Prof. C. A. Lobry de Bruyn (Netherlands). • 1951: Prof. Eduardo Torroja Miret (Spain). Prof. Torroja was born in Madrid in 1899. He was a great scientist, a great

engineer and a great organiser. In 1945, he was Director of the Technical Institute of Building and Cement. He was a co-founder of RILEM in 1947. His work, "The Philosophy of Structures" was a success world-wide. He died in 1961. • 1950: Prof. Ferdinand Campus (Belgium). As professor, then rector of the Faculty of Applied Sciences at the University of Liege in 1950, Prof. Campus published some 350 papers and reports. One of the founders of RILEM, he was the association's Delegate to Belgium for many years. In 1967, he was awarded the first RILEM Medal, to honor his example and encouragement to young researchers. Prof. Campus died in 1983. • 1949: Prof. Mirko Ros (Suisse). One of the founders of RILEM, Prof. Ros was born in 1879 at Zagreb. As of 1906, he practiced as an engineer in Switzerland, where he became a citizen. In 1924, he was named Director of the Federal Laboratories for Materials Testing and Research (EMPA) which, under his leadership, became known world-wide. He was also a professor at the Swiss Federal Institute of Technology, Zurich. Prof. Ros died in 1962. • 1948: Prof. G. Colonnetti (Italy). Prof. Colonnetti was elected President at the first RILEM meeting in 1947 and began his mandate in 1948. He was also President of the National Research Council of Italy.

Le Comité Consultatif avait la charge de proposer au Bureau les activités techniques futures.

Le Comité de Coordination avait la mission de suivre et de superviser les activités techniques en cours.

Ces dispositions restent en vigueur trente ans après. Si cela fit perdre à la RILEM quelques-unes de ces qualités que l'on reconnaît à un club, elle y gagna en efficacité et fut encore mieux connue et reconnue internationalement. Le fondateur a donné vie à la RILEM, le refondateur a su proposer une réponse à sa crise de croissance.

Ils étaient de la même génération, l'un et l'autre hommes de caractère, hommes de science, hommes de grande culture et hommes d'intuition.

L'un a été mon professeur puis mon patron, l'autre mon guide à la RILEM ; aussi, pour les cinquante ans de notre association, je suis heureux de porter ce témoignage et de rendre hommage à ces deux personnalités reconnues.

Jacques Bresson,

Vice-Président,

mai 1997

Competence and conviviality.

To join RILEM, it is indispensable to demonstrate one's competence. Originally conceived of as a club, the association attaches particular importance to conviviality.

To join the association as an **individual member**, it is necessary to exercise a profession in one RILEM's fields of activity. Senior Members are specialists who either conduct research themselves or require the results of research in their professional activities. However, it is possible for researchers or engineers below the age of 30 to become Affiliate Members. Finally, for younger scientists, there is a Student Member category, because it is felt that future experts should be associated with RILEM's work from the beginning of their careers.

To become a **corporate member** of RILEM, national and/or international recognition are indispensable conditions. Titular Members are large public or private research organisations of national renown, universities (or divisions thereof), or national and international standardisation organisations.

There is an Industrial Member category for companies who play an important role in the materials or construction industries. Finally, smaller organisations or companies may join RILEM as Associate Members.

RILEM encourages conviviality. All of its members attach great importance to the ties which develop within national groups and during meetings of experts from different countries. All types of gatherings – whether Technical Committees, workshops or conferences – are occasions to meet placed under the sign of friendship. ²⁰ ²¹ ²²

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²⁰ **Dr Necat Cilason**

General Manager, STFA Quality Expertise and Auditing Ltd, Turkey

The best contribution that RILEM has made to my country through my being a Delegate is that we have made very good friends with at least 80% of RILEM members who are authorities in their specific fields of activity. There is a chance any time to contact them and get their ideas on my problems.

Of course, we are making the most out of the second basic objective of RILEM, that is, to collect, produce and disseminate knowledge and information. Within this context, I feel very proud of being a member of TC 94-CHC for nearly six years.

²¹ **Mr Hermann W. Fritz**

EMPA Dübendorf, Switzerland

Mes premiers contacts avec la RILEM remontent à 1978 avec ma participation à un séminaire sur la "Susceptibilité thermique des liants bitumineux" au cours duquel notre laboratoire avait présenté des résultats de projets de recherche appliquée sur différents liants bitumineux, consacrés en particulier à des mesures rhéologiques. J'ai participé, comme membre ou président, à différentes commissions techniques et au Comité de Coordination, ce qui m'a permis de perfectionner mes connaissances et de nouer des contacts personnels avec des scientifiques du monde entier dans les domaines les plus divers. Les réunions du Conseil Général, les réunions des commissions techniques sur les liants et les matériaux bitumineux, les symposiums internationaux et les ateliers auxquels j'ai participé sont tous d'excellents souvenirs qui méritent d'être mentionnés du fait de leur haute tenue scientifique. Leurs organisateurs ont toujours réussi à en faire des événements marquants sur les plans professionnel, humain et souvent même touristique.

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Un souvenir occupe une place particulière dans ma mémoire. Il remonte à 1988, au temps où j'assumais la présidence du TC 101-BAT "Bitumen and Asphalt Testing". Il était décidé d'organiser, à Dubrovnik, petite cité moyenâgeuse des bords de la Méditerranée magnifiquement restaurée, un atelier "Formulation, Contrôle et Comportement des bitumes modifiés aux polymères soit pour les étanchéités soit pour la construction routière" pour 60 participants. Trois mois avant la date prévue, inscriptions et réservations d'hôtel disparurent inexplicablement. Le membre yougoslave de la RILEM et moi-même mîmes alors tout en œuvre pour recontacter tous les participants et assurer leur hébergement. Grâce à nos efforts, y compris pendant nos vacances, nous réussîmes à accueillir à la date prévue plus de 100 participants dans cette ville qui, depuis, a malheureusement beaucoup souffert de la guerre qui a sévi dans cette région de l'Europe.

22 *Dr Åke Skarendahl, Director, Swedish Cement and Concrete Research Institute, Sweden*

In my own work, I was rather early sent to a RILEM TC by my mentor, Professor Sven G. Bergström, to learn, to make my best effort to contribute and to make friends. The work gave me rapid insight about the research front and gave me an opportunity to work with more experienced colleagues on the subject. My participation in the TC not only gave me a possibility to perform better in my own R&D work, it also gave me a lot of friends whom I still come across now and then, always with the greatest pleasure.

A structure to support RILEM's objectives. The association's structure has shown its capacity to support RILEM's development and growing openness towards the world.

RILEM has maintained the flexible organisation, geared towards efficiency and reactivity, intended by its founders in 1947. The structure which exists today has benefited from the association's past experience. RILEM adopted its statutes and bylaws in 1954, at Trondheim (Norway). RILEM today is organised as follows:

- **The General Council.** The General Council is the decision-making body of RILEM. It is called upon to vote on all important decisions submitted by the Bureau. It is composed of National Delegates and, in some cases, National Representatives. When a National Group exists, it must designate a National Representative. In countries where no National Group exists, the RILEM National Delegate designates the National Representative after consulting the RILEM members in the country. The National Representative, like the National Delegate, has the right to vote at the annual meetings of the General Council and participates in the decisions which affect the life and development of RILEM. The Honorary Members, as well as the representatives of the Titular and Industrial Members, are invited each year to attend the General Council.
- **The Bureau.** The Bureau, the members of which are elected by the General Council, exercises control of the current affairs of RILEM and ensures that the statutes are observed. It is responsible to the General Council to which it submits an annual report.

The Bureau is assisted by three Standing Committees:

- The Management Advisory Committee (MAC);
- The Technical Advisory Committee (TAC);
- The Coordinating Committee (CC).

The Management Advisory Committee (MAC). A single permanent role has been assigned in 1996 to the Management Advisory Committee: the evaluation of conformity of RILEM products with the objectives of the association. This evaluation is based on the statements of RILEM's Key Objectives as approved in Trento in September 1994.

The Technical Advisory Committee (TAC). All proposals submitted to RILEM, such as working programmes for new Technical Committees and objectives of conferences and workshops, are transmitted by the Secretary General to the TAC for examination. The Technical Advisory Committee presents recommendations to the Bureau. Twice a year, the TAC can also propose new RILEM activities. The TAC ensures that new activities fit within the framework of RILEM.

The Coordinating Committee (CC). The CC is responsible for the overall coordination and monitoring of the work and the outputs of the Technical Committees. The CC reports in particular to the Bureau whenever problems arise within the work of a TC.

The CC must take initiatives for actions deriving from the results, such as insuring transfer of relevant information to target groups.

Each CC member – also named Counsellor – supervises the programme, activity and general efficiency of four to ten TCs.

The CC Counsellors produce a sectorial survey once a year, and review the final documents of their assigned TCs before they are submitted for publication.

• **The Secretariat General.** The Secretariat General implements the decisions of the General Council and the Bureau. It is responsible for the daily activities and management of the association. It furnishes the necessary assistance for the proper functioning of the Bureau and its Standing Committees. It also organises the first meeting of all new TCs and coordinates RILEM's publishing activities (journal and books). Finally, it is responsible for disseminating information to the members of the association.

The Secretary General, Mr Michel Brusin, directs and coordinates all of the above activities. He is assisted in these tasks by:

- Ms Pascale Callec, Assistant, who is also in charge of the RILEM Web server and coordination of book publishing activities,
- Ms Gregg Colin, Editorial Secretary, responsible for the RILEM journal, *Materials and Structures*,
- Ms Brigitte Bourbé, Secretary, who handles membership, subscriptions and RILEM administrative tasks.

The association has several means to provide its members with information on its activities:

- The RILEM Newsletter, published quarterly;
- The RILEM Bulletin, published in the journal *Materials and Structures*;
- The RILEM Web server on Internet (*see page 64*);
- The RILEM publishing subsidiary, RILEM Publications SARL, founded in 1997.

An international dimension.

To reinforce links between researchers throughout the five continents – that has been the mission undertaken by RILEM from its very beginning and which, today, it steadfastly maintains. Several members of the association give their views.

The international dimension of RILEM was affirmed from

the date of its creation. Among the founder members were researchers from Argentina, Brazil, the United States... among others. Another striking fact was the presence, in the midst of the Cold War, of representatives from Eastern Europe (Poland and Czechoslovakia). As the years passed, these ties did not lose their strength. On the contrary, several of RILEM's presidents came from this area of Europe. In 1963, the association's annual meeting was held in Warsaw; the following year, it took place in Moscow. And in 1968, it was Romania's turn!

The Latin American Group met for the first time in 1963 in Argentina. And today, RILEM's presence has extended to Australia and Japan. The reinforcement of participation in RILEM by countries outside Europe is one of the objectives the association has established for the decade to come.

On the occasion of the association's 50th anniversary, the Secretariat General asked RILEM members throughout the world, via the Newsletter, to give their personal accounts. Their contributions follow. **23** **24** **25** **26** **27**

23 *Dr David W. S. Ho, RILEM National Delegate, Australia*

I obtained my Ph.D. in 1972. My early career was in the structural design of steel and concrete bridges. It was not until 1978 that I found the type of work I enjoyed most—research.

In relation to RILEM activities, I was chairman of the organising committee for the 1992 RILEM-CSIRO-ACRA International Conference on Rehabilitation of concrete structures. I am a member of the coordinating committee and also the coordinator for APRIM—the Asian Pacific Rim RILEM group. Currently I am on the Board of Directors for the Concrete Institute of Australia. I was invited by the CANMET-ACI to represent Australia in 1993 and again in 1996 on the international referee panel reviewing papers on concrete durability. I am on the editorial board of an international journal on construction and building materials and a referee for the New Zealand Foundation for Research, Science and Technology. I am also a director of SCE Ltd, a company with interests in exporting Australian technology to aid the manufacture of building products in China.

24 *Arq. Heraclio Esqueda Huidobro, National Delegate of RILEM, Mexico*

As National Delegate of RILEM to Mexico, I have promoted the foundation of our Organismo Nacional de Normalización y Certificación de la Edificación y la Construcción, ONNCCE (National Organisation for the Standardisation and Certification of Building and Construction), of which I have been named Managing Director. This organisation promotes quality, productivity and competitiveness for the construction industry in Mexico by the standardisation and certification of goods and services involved with this industry.

I have been named a Consulting Member of our national project for the modernisation of technical education and training, and also for the pilot programme for education and qualification based on labour competence for the construction industry.

At IMCYC, I have edited and now manage the publication of technical books and our magazine Construcción y Tecnología, providing information about materials, equipment and construction systems for engineers, architects, builders and contractors in Mexico.

Several RILEM
members at
Concreto'97,
Guadalajara, Mexico



25 *M. Ahmed Hakimi, Directeur du LPEE, Casablanca, Maroc*

Ma plus importante réalisation professionnelle fut en 1973 la création du Laboratoire Public d'Essais et d'Etudes (LPEE) de Casablanca dans sa forme actuelle, puis la constitution sur près de 25 ans d'une équipe marocaine d'experts, de chercheurs et d'ingénieurs ou de techniciens dont la compétence et les prestations couvrent les besoins du secteur du BTP du pays. Cette institution nationale, le LPEE, entretient des relations privilégiées avec les pays européens et américains, lui permettant de transférer les technologies dans le secteur du BTP et des industries connexes.

Mes domaines d'intérêt ou d'expertise couvrent ceux du LPEE : ils vont des secteurs du bâtiment, des ouvrages d'art, routes, barrages, aux matériaux, structures, environnement, hydraulique, chimie, en passant par le béton, la terre, le métal et les matériaux naturels et l'eau. Ainsi j'ai contribué à la création du Centre Expérimental de l'Hydraulique en 1983, à la mise en place en 1984 du Centre d'Etudes et de Recherche de Structures, puis en 1986 à l'organisation de la recherche appliquée dans le BTP et, en 1989, à la mise en place d'une Décennie Qualité placée sous la présidence du Premier Ministre du Maroc. Mon affiliation à la RILEM a largement favorisé les contacts et les échanges du LPEE avec les savants, les institutions scientifiques et les universités des pays des cinq continents.

Commission
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TC EBM :
Mécanique de
la Construction
en Terre



26 Dr Ing Sylva Modry, RILEM National Delegate, Czech Republic

I received my Ph.D. degree in materials science at the Technical University of Brno. After a short practice in the Raw Materials Institute, Kutna Hora, I joined the Klokner Institute (former Building Research Institute) at the Czech Technical University of Prague. Currently, I am a senior principal research scientist. My main fields of interest are: durability of building materials, mainly durability of concrete, pore structure of materials and methods for its assessment, and environmental topics (solidification and encapsulation of toxic materials). I have also participated in many research and consulting activities in the building industry, e.g. rehabilitation and restoration of historical architectural monuments in the Czech Republic and the Lithuanian Republic. I am also a consultant for durability questions concerning the metro in Prague, the dewatering tunnel in Slovakia, bridges on the Czech highway D5, and for other structures in the Czech Republic. I am the author or co-author of 4 books, 150 papers and research reports, and several patents. I am a member of the Czech Silicate Society, of which I am the Chairman of the Porosimetry Working Group. I have organised two national conferences on "Durability", as well as ten national seminars on "Porosimetry". In 1974-1975, I was a visiting scientist at Purdue University, Indiana, U.S.A. and in 1990 and 1995, at the University of Malta. My involvement in RILEM has been long-standing since 1960: as RILEM Delegate to Czechoslovakia (later to the Czech Republic), member of the RILEM Coordinating Committee, and Secretary of the Czech National Group. I was a member of several RILEM TCs (TCs 15, 32, 116, 124) and an organiser of two RILEM International Symposia, "Durability of Concrete" and "Pore Structure and Properties of Materials".

27 Dr James J. Beaudoin, RILEM National Delegate, Canada

I have served as a researcher and project leader at the Institute for Research in Construction (National Research Council, Canada) for about 25 years. Since 1989, I have been head of the Materials Laboratory. I am a principal researcher for the Ottawa Centre of the Canadian Network of Centres of Excellence on High Performance Concrete and also Adjunct Professor of Civil Engineering, University of Ottawa. I have participated in and lead NRC and industry collaborative research projects addressing the development of new durable concrete mixtures, corrosion of steel in concrete and the performance of micro-fibre reinforced cement systems. My recent research includes microstructural characterisation of cement systems using A.C. impedance spectroscopy; development of new conversion inhibitors for high alumina cement concrete and the development of highly electrically conductive concrete. The latter is a major achievement as the applications related to concrete infrastructure renewal appear to have tremendous potential cost benefits for Canada. I have written or co-authored more than 250 publications, of which 175 have been published in refereed journals and 26 in conference proceedings, I have written two books, am currently co-editing a book (with Dr V.S. Ramachandran) on experimental techniques, and am contributing to a book on high performance concrete for the Canadian Network of Centres of Excellence.

Autés : # Accueil : RILEM Home
www.ens-cachan.fr/rilem/index.html
Charger Images
A voir Manuel Rechercher

RILEM, The International Union of Test Laboratories for Materials and Profit-making, non-governmental technical vocation is to contribute to progress in the communication and industries, essentially by activity therefore aims at developing the materials and performance of structures and their assessment in laboratory and testing methods unifying measurement and testing methods

1. OBJECTIVES, PARTICULAR AIMS AND THEME
2. TECHNICAL COMMITTEES
3. CONFERENCES AND WORKSHOPS
4. OUR SCIENTIFIC JOURNAL: MATERIALS
5. RECOMMENDATIONS, PROCEEDINGS

A
commitment
to the

future

In the age of electronic communications. Many recent talks with RILEM members outside Europe have shown the importance of extending the use of modern means of communication, such as E-mail, Web or mailing lists on Internet, for the more rapid and less expensive spread of information world-wide.

RILEM opened its Web server on Internet in 1996. This bilingual service brings the entire membership the power of international electronic communications in real time. The RILEM server is a new exchange site open to all. In particular, it offers:

- a "News" heading, reserved for association members;
- a heading for the RILEM journal, *Materials and Structures*, providing the detailed contents of issues published since January 1996, as well as forthcoming issues;
- the detailed programme of all Technical Committees created since 1994;
- the complete list of the association's publications;
- and finally, the electronic directory of RILEM members.

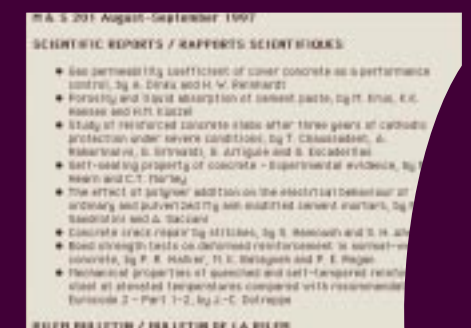
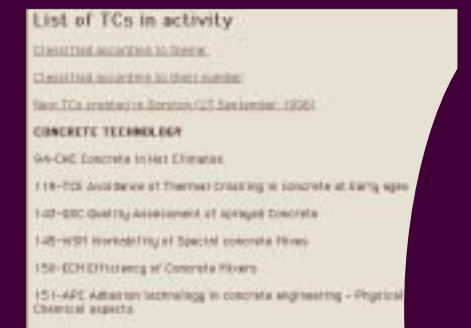
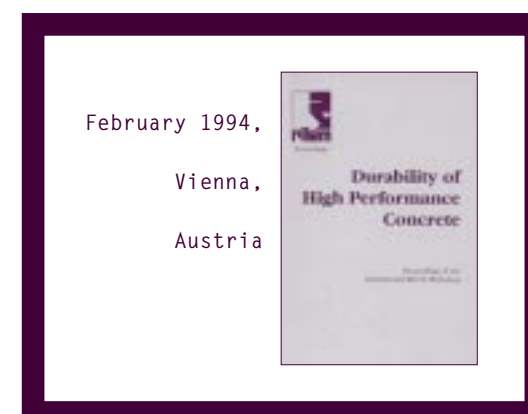
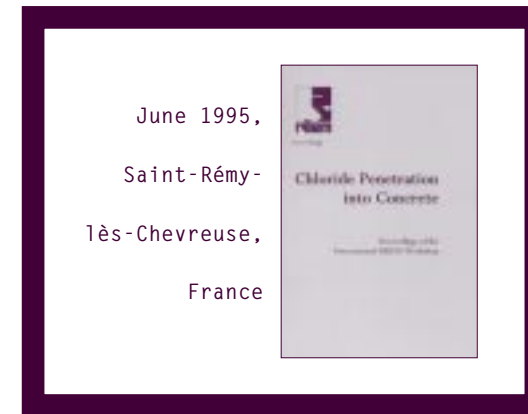
Electronic mail is an efficient and inexpensive way to transfer information. It allows rapid and brief communication between members and the Secretariat General.

The development of the Web server, electronic mail and other means of modern telecommunications by the association is part of its strategic plan.

In parallel, RILEM is reinforcing its traditional publishing capacities (*see below, "RILEM Publications"*).

The objective of these efforts is to pursue RILEM's development, in particular outside Europe. In this way, the association continues in the pioneering spirit shown by the founder members in Paris in 1947.

RILEM Publications: created the year of the 50th anniversary, the vocation of RILEM's publishing subsidiary is to publish proceedings of workshops and conferences, as well as the productions of the Technical Committees (recommendations, state-of-the-art reports and other documents). In deciding to publish these works itself, the association has shown its intent to ensure the quality of its publications, in accordance with its strategic objectives.



A partner for tomorrow's
construction. RILEM's ambition is to
play an important role in seeking solutions
to reduce the environmental impact of
construction. 28 29 30

28 *M. Marcel Cheyrezy, Directeur à la Direction Scientifique du Groupe Bouygues, France*

VERS UNE VÉRITABLE INGÉNIERIE DU BÉTON

Pendant longtemps la conception des ouvrages a été dominée par des considérations de résistance des matériaux. Les matériaux étaient présumés entièrement définis par une caractéristique mécanique unique (résistance à la compression à 28 jours pour le béton et limite élastique pour les aciers), ce qui conduisait à les considérer comme une donnée extérieure au projet. Avec l'apparition des BHP au début des années quatre-vingt, on a pu commencer à formuler des bétons adjuvantés mieux adaptés aux différents usages. Afin d'exploiter au mieux toutes les propriétés de ces nouveaux bétons, il est devenu nécessaire de s'intéresser à des problèmes nouveaux tels que la rhéologie, le comportement au jeune âge et la micromécanique.

Pour beaucoup d'ingénieurs peu au fait de ces problèmes, les publications de la RILEM ont constitué une source d'information précieuse. De la même façon, les travaux de la RILEM et de l'AFREM, groupe national français créé en 1948, concernant la mise au point de procédures d'essais ont contribué à développer un langage commun entre les maîtres d'œuvre et les concepteurs.

Cette évolution vers une meilleure prise en compte de l'approche "matériaux" dans la conception et la réalisation des ouvrages a été particulièrement forte chez Bouygues, où un laboratoire de recherche sur les bétons a été créé en 1990, complété peu après par un centre expérimental. L'apport de la RILEM a facilité cette démarche. Un pôle de compétence a ainsi été constitué qui, en retour, permet aujourd'hui aux ingénieurs de la Direction Scientifique de Bouygues de participer pleinement aux travaux des Commissions Techniques de la RILEM.

29 *M. Bruno Gérard, EDF, Centre des Renardières, France*

J'ai rejoint la RILEM en 1994 parce qu'elle réunissait des personnalités scientifiques et industrielles de haut niveau me permettant de progresser dans mes activités professionnelles. J'étais en thèse de doctorat et je débutais dans les TC 146-TCF et TC 163-TPZ. Je pense que ce cadre d'échange a été très favorable au bon déroulement de mes travaux et a contribué à la richesse et à la diversité des résultats obtenus.

L'annuaire de la RILEM est aujourd'hui un véritable outil de travail que j'utilise régulièrement pour maintenir mes contacts scientifiques et industriels et pour monter des projets de recherche.

Mes meilleurs souvenirs sont : d'avoir organisé à Paris la dernière réunion du TC 146-TCF en 1996, d'avoir fait publier par le Secrétariat Général mon résumé de thèse sur Internet (disponible en anglais et en français sur le serveur RILEM) et d'avoir célébré, en compagnie de six autres membres, les 50 ans de la RILEM à bord d'une Porsche 911 Carrera sur le circuit de Trappes (France).

30 *Prof. Asko Sarja, Chairman, RILEM Technical Advisory Committee, Finland*

RILEM'S ROLE IN ENVIRONMENTAL ISSUES

The need to move towards economically, socially and ecologically sustainable technology has been internationally recognised in recent decades, leading to international agreements on environmental objectives. The building sector is a major factor in consumption of resources and in pollution, and therefore this sector will have to play a leading role in the march towards sustainable technology.

As an association devoted to research on building materials and structures, RILEM can mobilise a vast range of scientific knowledge and skills leading to environmentally sustainable building technology. Several technical committees have been established on the themes of service life, durability, performance control and recycling of materials.

In September 1995, RILEM arranged a workshop on "Environmental Aspects of Building Materials and Structures", which affirmed the need for a generally-accepted and comprehensive procedure for environmental decision-making. This led to the establishment of three RILEM Technical Committees: "Systematics of the environmental impact databases of building materials" (EID), "Environmental criteria for building products" (ECB) and "Environmental design methods in materials and structural engineering" (EDM), soon to be joined by another, "Sustainable application of mineral raw materials in construction" (SRM). A specific aim is to encourage producers of building materials and products, contractors and designers to work closely with researchers. In this way, RILEM hopes to help development of environmental standards, product information, design and product development.

50 ans déjà, 50 ans
seulement. "Intéressons-nous à
l'avenir puisque nous y passerons le plus
clair de notre temps." (Paul Valéry)

Construire son avenir sur des bases solides, c'est porter un regard lucide sur son passé. Pas plus mythique que condamnable, le passé ne doit faire l'objet ni de louanges excessives, qui bloquent les évolutions, ni de critiques systématiques, qui découragent. C'est James R. Wright, Président de la RILEM de 1982 à 1985, qui lança dès 1980 la notion de Plan à Long Terme. Ce fut lui, l'un des premiers, qui formalisa les réflexions sur l'avenir de la RILEM. Dès cette époque, il s'agissait de fixer un ensemble d'objectifs à atteindre, à travers un certain nombre de tâches à réaliser. Sur cette lancée, la dernière version du Plan à Long Terme, cette fois dénommé Plan Stratégique, a été rédigée sous l'égide du MAC pour la période allant de 1993 à 2000. Y ont été pris en compte les apports successifs des deux ateliers de Madrid organisés par le TAC en 1987 et 1992, qui avaient pour but de déterminer les priorités techniques de la RILEM. Cependant, bien que réfléchissant à son avenir depuis longtemps, force est de constater que la RILEM n'a pas réussi l'adéquation entre une politique annoncée par le Plan Stratégique et la politique de tous les jours, perçue surtout au travers des propositions de création de commissions techniques et d'organisation de colloques émanant d'individualités. Cela tient probablement au fait que le Plan Stratégique — exercice difficile — préparé et écrit, là encore, par quelques individualités, ne donne de ce fait pas lieu à appropriation, ni par des groupes constitués — CC, TAC, MAC, Bureau et Conseil Général — ni par les membres de la RILEM. Cependant, la notion de Plan Stratégique, qui permet une politique à moyen terme, ne doit pas être remise en cause pour autant. Ce qui doit être renouvelé, ce sont les conditions de son élaboration. Si l'on veut que le Plan Stratégique soit une vision de l'avenir qui puisse faire l'objet d'une appropriation par tous à la RILEM, il est indispensable que chacun participe à sa définition, il faut qu'il y ait débat. C'est par le débat que chacun se convaincra des raisons qui rendent l'évolution de la RILEM inéluctable et que de nouvelles idées surgiront. C'est par et dans le débat que se forgera l'unité d'action. C'est aussi en débattant avec ses partenaires, avec ses membres potentiels que la RILEM pourra promouvoir ses idées. Le MAC, dans sa mission nouvelle, va ouvrir et nourrir le débat. Avec lui, choisissons résolument d'être les acteurs de l'avenir de la RILEM.

**Jacques Bresson,
Vice-Président**

Join to enhance your career.

RILEM is the sum of the women and men who make up its membership, who lead TCs, who participate in scientific events organised by the association, who publish in *Materials and Structures*... To join RILEM is to be in the forefront of materials and structural science, as José M. Gállico tells us. ³¹

³¹ **Prof. José M. Gállico Estevez, Director of the Road Research Center of Cedex, member of RILEM Bureau, Spain**

GOOD PROSPECTS FOR YOUR FUTURE

My dear colleague: could I ask you just a few questions? Thank you.

Are you a member of RILEM? Yes? Then, congratulations. You benefit from participating in a select club of high-level specialised scientists and engineers working hard in research and testing of building materials and structures. You appreciate the quality of the results of RILEM technical work—the most up-to-date findings in the specific research area where you are working, the most balanced state-of-the-art reports about fields you intend to enter or have entered, the most useful and ready-to-use test methods you are anxious to apply. All this achieved by reputed individuals from countries all over the world.

Going further, are you a member of a Technical Committee of RILEM? Yes? That is excellent. You receive new knowledge about research and testing in your area of interest—whether this area is composite microstructure, polymer concrete, timber testing, concrete durability, repair techniques for old masonry, etc.—exactly when that knowledge is produced. Also, you contribute to producing that knowledge. You work with the best

people in your field, exchange your ideas and results, resolve your doubts. You get knowledge that is valuable for your own career. You contribute to the joint research work; you participate actively in the progress of building.

Even more, do you participate in RILEM's prospective look into the future? Yes?

Wonderful! So, you have probably attended some of the very exciting RILEM Workshops arranged to discuss and foresee the technical demands of the future. Now, you have advance knowledge about what the hottest scientific problems of the future are going to be, the most promising research lines, the most active scientific fields. Perhaps, you have been also active in the drafting or discussion of the RILEM Strategic Plan? If so, you are effectively influencing the long-term scientific development of construction; you are contributing to creating the future. All this in a friendly, cooperative atmosphere: when you are at the top of the technical mountain, the air is so fresh, and the view so wide and magnificent!

Aren't you a member of RILEM? Not yet? Frankly, based on my own personal experience and long involvement in RILEM work, I think perhaps you should!

The women and men of RILEM

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Michel Brusin, 18 juin 1997

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