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# **CLOSING SESSION**

Y. Maeda Summing-Up of the IABSE 1986 Symposium in Tokyo, September 4 to 6, 1986

J. Schneider Closing Remarks

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## Summing-Up of the IABSE 1986 Symposium in Tokyo, September 4 to 6, 1986

### Yukio MAEDA

Chairman of the Scientific Committee Prof. of Civil Engineering Kinki University Osaka, Japan

I regard it a great honour to have been asked to deliver the address of summing-up of the Symposium.

The total number of participants reached 682, of which 180 are from 32 overseas countries and 502 from Japan. The number of accompanying persons is 94.

This Symposium was originally planned to be held in Japan as a joint international conference with the ICOSSAR Group headed by Prof. M. Shinozuka, Columbia University, USA. The ICOSSAR signifies the International Conference on Structural Safety and Reliability, and has been aiming at the development of the application of reliability theory.

There are structural failures which represent nonconformity with the expected functional performance of structures due, in combination or otherwise, to mistakes, oversight, misunderstandings and incompetence on the part of engineers and contractors in the process of design, construction and analysis, and due to errors on the part of operators who control certain functions of structures.

The anticipated deviations of structural behavior resulting from minor incidents involving these causes may be treated in reliability analysis by properly adjusting the load and resistance distributions. However, the gross structural failures arising from the abovementioned causes cannot be avoided by reliability analysis, but can be avoided only by implementing quality assurance and control procedures.

The ICOSSAR Group consists of mainly academic researchers, but IABSE activities are more for engineers than professors. Due to the different approach to structural safety and the different goals of the two organizations, we failed to organize a joint conference with the ICOSSAR. Since then, IABSE has been devoting itself for almost three years to the preparation of the present Symposium.

The Symposium was intended to provide participants with a forum of discussion of the various facets of a systematic engineering approach to the quality assurance of civil engineering structures in terms of safety. It aimed at giving a better insight into what the engineer's task should be, providing suitable tools for analysis, decision-making and implementation in practice.

On the whole, the Symposium has been a success from the point of dissemination of the concept of quality assurance. Discussion in the Symposium has covered crucial points. Particularly, special consideration was given to the important link between planning activities and physical realization for several subjects that used to be dealt with by rather vague and general statements.

In Session A **«Introduction»**, Dr. Kersken-Bradley, who is one of the promoters of this Symposium, introduced recorded discussion on quality assurance from the viewpoint of professional ethics, management and common sense for the orientation of the Symposium, followed by the introduction of the general aim and layout of the Symposium.



Mr. Baker introduced the current status of quality assurance mainly referring to the findings of the 1983 IABSE Workshop in Rigi, Switzerland. Prof. Shinozuka, kindly accepting the invitation, presented the State-of-the-Art Report of the contribution of reliability theory to structural safety. Prof. Meseguer discussed differences between the traditional and the present approach in the building process from European experiences.

Opening discussion moderated by Prof. Turkstra dealt with the state of various problems and it provided a good basis for the development of the rest of the Symposium.

The first part of Session B was devoted to the papers of more general and overall character in the sense that they treated **«Projects and/or Decision Making»** in rather general terms or related to large projects. Certainly, Mr. Yamane's paper served as an introduction of the Honshu-Shikoku Bridge project.

In the second part of Session B, three papers were presented more particularly to **«Tendering and Contracting»**, followed by a Panel Discussion with five panelists moderated by Prof. Willenbrock. The present situation in various countries was stated and then the differences were discussed. Mr. Sriskandan concluded that all design and construction should be independently checked to ensure safety and durability of structures.

In the Plenary Session C **«Planning and Design»,** the presentation of Prof. Rackwitz was quite interesting, because it tried to bring a logical and mathematical framework into quality assurance, defining system quality assurance. This might be a challenge to practicing engineers.

In the Lecture Session C, nine papers were presented. It was previously planned to exclude reliability papers from the presentation in case they did not stress quality assurance in depth. However, we were not too rigorous on this point. We expected in the Session to have some discussion of the relation with quality assurance, but I don't think that such discussions took place. Also, many of the questions raised in the Introductory Report, such as safety differentiation, dynamic and stochastic project scheduling, logic trees, role of detailing, etc. were not touched on at all.

The discussions in the Seminar Session C moderated by Dr. Melchers were quite animated, but the subjects were mostly general.

In the Plenary Session D **«Construction and Inspection»,** quality assurance activities in construction were presented by three engineers of construction companies in the UK, Fed. Rep. of Germany and Japan. Mr. Umeda concluded that quality assurance activities in Japan are not something carried out only by quality control departments, but they are company-wide human activities.

The Lecture Session D «Construction and Inspection» treated technical solutions of the problems except some papers, for example the presentation of Mr. Hadipriono which was an interesting paper although rather difficult to follow.

In the Seminar Session D, six persons, moderated by Mr. Sriskandan, discussed seven subjects, exchanging experiences from various countries and different backgrounds.

Session E treated **«Human and Organizational Aspects».** The subjects are most crucial for quality analysis, because the majority of construction accidents occur due to human errors.

In the Plenary Session E, three high-quality papers by experts in human error problems were presented.

In the Lecture Session E, six papers from the USA, Japan, Austria, Thailand and Tanzania were presented, introducing some quite different backgrounds. The papers «Problems of Safety and Quality Assurance in the Third World» by Mr. Mtenga and «Comments on Quality Assurance drawn from Building Collapses» by Mr. Limsuwan, were of primary interest to me.

In the Seminar Session E, three papers treated the most important problems of the Session theme, followed by lively discussions from the floor.

Finally, the closing discussion was carried out to identify what we have learnt from the Symposium and came to some proposals concerning the necessity for future activities.



**Posters** are becoming the center of interest in IABSE Congresses or Symposia. This time the Scientific Committee selected posters from the submitted abstracts. Since they were not directly related with quality assurance, the Committee classified the selected posters into two groups: **«Assessment of Existing Structures»** and **«Technical Solutions».** 

During the Symposium, some Japanese engineers asked me: «In Japan, we have traditionally built quality-controlled structures without consciously intending to apply the concept of quality assurance, through mutual trust, group or organizational activity which is not individual, and bottom-up policy». «Why in Japan do we need the specific application of the quality assurance concept?» I am asking the same question to the Japanese participants here.

The technical achievements and proposals in this Symposium will be followed-up by dissemination and intensification through the activities of Working Commissions of the Technical Committee of IABSE or by another international conference.

I wish to express my sincere thanks to all of the members of the Scientific Committee, particularly to Prof. Schneider for his devoted activities and Dr. Kersken-Bradley for her technical leadership. Also, I should not forget to thank Prof. Takanashi, Chairman of the Japanese Programme Committee, and all of the Chairmen, Technical Advisers, Coordinators and Mr. Golay, Executive Director of IABSE, for his effective management and reviewing slides, and finally lady interpreters.

Now, I am going to finish my address inviting all of you to the construction site of the Honshu-Shikoku Bridge Project, proposing further discussion of the Japanese way at the site on the Seto Inland Sea.

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# **Closing Remarks**

## Jörg SCHNEIDER

Secretary of the Scientific Committee Prof. Swiss Fed. Inst. of Technology Zurich. Switzerland

Dear Colleagues, Ladies and Gentlemen,

It was a big pleasure for me to be here in this room and hopefully also for you. I cannot make up my mind which was the best event: Was it what was going on during the day? Was it the splendid welcome reception or the marvellous Japanese night? If I had to decide, I would most likely choose the last two.

It has also been a big undertaking which kept a couple of people busy for some three years. And - judging from myself - we all are rather tired.

Well: I have been chosen to deliver the Closing Remarks at this memorable IABSE Symposium. On the other hand, I have been educated by my parents not to always try to have the last word. There are two exceptions to this rule. You may have the last word if:

- 1. the last word is really clever
- 2. the last word is just a pleasant joke that hurts nobody.

As I had little option in standing here and as I am rather poor in telling jokes I shall try the first alternative, though I do not pretend to be clever. I just follow my personal preferences:

Quality Assurance is a matter of people. It is a matter of people who are working together towards a common goal within the so-called Building Process. I think of people such as the client, the owner, the structural engineers, the architect, the contractor, the labourer on site, the users of structures, the community and, obviously, also the lawyers. And, maybe, others.

We, the engineers, have been mainly enjoying ourselves here, some in the position of the designer, some others in the position of clients, owners and contractors. Absent were mainly the architects, the users and the lawyers, not to speak of the site workers.

It is a matter of fact that within this Building Process some of these people working towards a common goal often work against each other in their daily affairs. This is regrettable.



What is to blame more is the fact that often even engineers in their different positions work against each other having an open eye to the interests of those they represent and a rather blind eye to the problem areas of their professional colleagues.

These people - I think you will readily agree with me - are wrong. Not working against each other but working together towards a common goal is, in the end, the only way to an optimal solution. And a solution is optimal only if it is at least acceptable to all the people involved.

Who are those people who often are wrong in placing personal or group interests above the search for the optimum solution, in the search for excellence, as the title of a worthwhile book reads? It's all of us. It is you and me on many occasions. And that's to blame, we all know that. And that's why something has to be changed.

We have to take heed to ourselves more carefully in our daily work and within our professional relations. It is a matter of consciousness, a matter of awareness, of self-awareness, that might help in the search for excellence, for the best solution. It sometimes is also a matter of self-esteem, and of the readiness to respond, to be responsible. It is a matter of looking to the problems and needs of our professional neighbours. It is a matter of taking into account within our decisions also their problems and needs, be it up or down the development line of the process.

What is requested is a new attitude by people involved in the Building Process. From the "Japanese Way" brought into this symposium by many colleagues of our host country this attitude got clearer: What is requested is mutual trust, faith and confidence in the partners we meet as our professional neighbours.

Ideas can be promoted through the use of the right notions: For a long time I had been looking for a good word to describe this new attitude which I think is so badly needed, at least in Europe, but probably all over the world. My search was positive. I found what I had been looking for. I cannot say I found it here in Japan. But it could have been here.

The word I finally found springs from the French Revolution. The slogan that moved the world was: "Liberté, égalité, fraternité". I read it this way:

LIBERTY of thought and speech, in education, art and science EQUALITY before the law, and FRATERNITY in economic relations.

I take the last word from this slogan and put it here: What we really need is "Fraternity", more fraternal attitudes in our economic, in our professional relations everywhere, and also within the Building Process. I would like to leave this word with you and ask you to think about it.



Meanwhile it is my pleasure and privilege to thank

- the Japanese Group of IABSE for all their care. I especially mention here
  - . Mr. Takeda and Professor Kokubu chairing the Japanese Organizing Committee
  - . Mr. Ito, Mr. Ohashi and Mr. Takanashi of the Steering Committee
  - . Mr. Ishikawa and Mr. Mino chairing the Finance Committee.
- I thank my dear friend Professor Maeda for his effective and friendly chairing the Scientific Committee
- I thank all the Japanese ladies for their splendid and warm hospitality
- I thank the speakers for their endeavour
- the interpreters for their hard work in their boxes
- all the very many unnamed ladies and gentlemen behind the scene
- and finally all of you for attending this Symposium.

I wish you a pleasant stay for the remaining time here in Japan and a happy and safe journey home to your country, to your family and to your work. May your activities be influenced by these few days here in Japan.

Sayonara

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