

Zeitschrift: IABSE congress report = Rapport du congrès AIPC = IVBH
Kongressbericht

Band: 11 (1980)

Artikel: Introduction to the theme

Autor: Badoux, J.-C.

DOI: <https://doi.org/10.5169/seals-11207>

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

Download PDF: 15.08.2025

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>



VIII

Introduction to the Theme

Introduction au thème

Einführung zum Thema

J.-C. BADOUX

Dr. Prof.

Ecole Polytechnique Fédérale de Lausanne

Lausanne, Switzerland

The main object of this seminar is to outline the evolution in big bridge engineering over the past ten years and to discuss possible trends for the coming decade.

Changes have of course been brought about in order to keep up with the economic situation, but one of the main causes of the evolution in bridge engineering has been the rapidly increasing demands of road and rail traffic. The intensive motorway infrastructure construction, carried out in numerous countries over the last few decades, has led to a new generation of bridges which are distinguished by their ever increasing size (average span and deck width) and the ever increasing loads they are required to carry. These tendencies have in turn motivated improvements and innovations in design, in the use of materials and in fabrication and erection techniques.

In order to make full use of their respective merits, the traditional bridge building materials, steel and concrete, have been extensively used together. Prestressed concrete, composite construction and cable staying are just some of the methods and techniques that have been developed and put into widespread application. More recent materials such as lightweight concrete, epoxy resins and adhesives are also starting to be used and show interesting possibilities for the future.

As with the bridge itself, erection techniques and equipment have had to cope with heavier loads and larger spans. Ingenious and often spectacular solutions have been found, such as incremental cantilevering, launching and slip-decking, to mention but a few. Prefabrication and standardization, for concrete as well as for steel, have been put to good advantage and have improved the quality and speed of certain operations, while reducing their cost.



The above-cited developments could not have been brought about without the considerable theoretical and experimental research that has accompanied them. Our improved knowledge of the behaviour of materials has, for instance, enabled us to tackle such problems as welding of high strength steels and other fabrication and construction techniques. Let us also mention the important role the computer has played in developing structural analysis and design methods, without which a lot of today's big bridges could not have been built.

The main them "Trends in Big Bridge Engineering" is divided into the three following subthemes:

- Concept and Design
- Fabrication
- Erection and Maintenance

Although there is inevitably a certain amount of overlapping and interaction between these subthemes, papers should keep within their proposed subtheme as far as possible.