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## CREATIVE DESIGN RESOURCE: REVELATION ON FOOTBRIDGE OF JÖRG SCHLAICH

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### Summary

Jörg Schlaich is one of best structural designers in 20's century. As the German representative after the World War II, Schlaich gave an suggestion on bridge design, which is bridges should be humanistic and multi-characters. Through the analysis of footbridges designed by Schlaich, the theoretical design source could be summarized in three aspects, such as influence from Bauhaus, Deutscher Werkbund and technological aesthetics, and lightweight construction advanced by Fritz Leonhardt.

**Keywords:** Jörg Schlaich; design ideology; art assessment; design inspiration

### 1. Introduction

From a long period, Design in Germany is a very influential force in the design profession. It not only has affected the development of modern design in the world, but also plays a crucial and significant role in design ideology and theory. In the realm of footbridge design, the rationalism that pursues techniques and structures has always been directing the development of German modern footbridge design, especially after the World War II, when the cities demolished by war were in exigent demand of infrastructure construction. On one hand, the constructions of buildings, particularly large scale structures, stood for the revitalization of the country; on the other hand, the people who had just gone through the shadow of war needed psychological comfort through the restoration of their homes. Under this circumstance, Germany not only witnessed a large number of exceptional footbridges, but also many brilliant bridge designers with a sense of national benefits and social responsibility. One of the most representative persons operating in this context was Jörg Schlaich.

The works of Schlaich is famous for its pursue for reasonable structures and functions, low expense and mechanical sophistication, and is an archetype of rationalism in modern trends of footbridge design. As Schlaich himself points out, "ugly structures not only undermine our environment, more probably, they could make people abhor technology even more... in this era when a growing number of erections are designed by civil engineers, they cannot disregard this issue, or leave it to architects", "the duty of civil engineer is to create beauty in the name of society and culture, and we should, even must, create beauty." From the perspective of Schlaich, it is designer's indispensable social obligation to create aesthetic environment and honest structural forms.

## 2. Sources of Schlaich's Ideology

Schlaich's works of footbridge emphasize on manifesting the features of industrialization and technicality, which could be illustrated in three aspects: first of all, to advocate new material adoption (high strength steel, high strength concrete, aluminum alloy, etc.) to build lightweight and material-saving footbridges, which could be seen from almost every piece of work of his- from Schiller Footbridge in Stuttgart (1961), the three footbridges in Rosenstein arboretum (1977), and Kelheim Footbridge (1987), to the most recent works; secondly, to accomplish the expected aesthetic effects by making space more flexible through reasonable techniques, represented by the movable footbridge of Duisport in Duisburg and the folding footbridge in Kiel; last but not least, to emphasize the necessity of considering technical factors in the structural art of the new age, in order to make industrial technology consistent with people's lifestyles and aesthetic standards, hence to generate easier recognition and pleasure for users. Although Schlaich highlights technology-directing arts and aesthetics, the appropriate technique is the dominant notion reflected by his footbridge art. He has always been underscoring his adoption of the appropriate technique, and trying to strike a balance between technology and art. Through examination of his copious footbridge design, it is not difficult to find three main sources of his art ideology, which are Bauhaus, Deutscher Werkbund and applied aesthetics, and lightweight construction.

## 3. Rereading of Schlaich's footbridges

Objectively speaking, the art value of Schlaich's footbridge starts from engineering: the good form is the inevitable result of solving all the problems, and the pleasing shape will spontaneously come into being when we select design approach according to the specific requirements of functions and materials. Although he inherited the traditional structural attribute of footbridges, he abandoned the affected expressionism and symbolism and became non-expressive self-presentation and self-expression. The form of Schlaich's works rests on a basis of objectified geometric logic. He liberates footbridges from massive spatial structure and draws people's attention more onto the form purport of footbridge itself, to attempt to put structure as another way of thought and art expression through self-analysis and dissection of simple forms.



*Fig. 1. Footbridge at Lake Max Eyth, Stuttgart, 1989*

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