Creating a Culture of Good Bridges

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The bridges we currently build appear far removed from the works of Robert Maillart and Christian Menn, the great bridge engineers of the twentieth century, whose works embody efficiency, economy, and elegance. Those recent bridges that are visually interesting are usually expensive and often grossly inefficient. Although the remainder are functional, they generally have mediocre visual qualities. If we accept that the way bridges look is related to the way they carry load, then the challenge of creating aesthetically significant bridges cannot be solved without considering efficiency. In this seminar, it is proposed that efficiency is not an attribute that is frozen in time, but rather is subject to the fundamental axiom of engineering which holds that things can always be done better. Only those bridges that embody significant technological improvements relative to their predecessors, referred to in this seminar as “good bridges”, can provide the raw material necessary to enable significant aesthetic expression. The seminar examines the work of Maillart and Menn from this perspective and proposes ways of fostering a culture of good bridges in design practice.

Paul Gauvreau is Professor of Civil Engineering at the University of Toronto. He joined the University of Toronto in 2002 after a twenty year career in bridge design practice. His design experience focuses primarily on post-tensioned concrete bridges, including segmental bridges, as well as the rehabilitation and retrofit of existing bridges. At the University of Toronto, Professor Gauvreau maintains an active consulting practice in bridge engineering and leads a research program directed towards the development of efficient systems for bridges through the use of new materials and new combinations of materials. His teaching is dedicated to the goal of educating a new generation of competent and creative designers of bridges.