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The Canadian Society of Civil Engineers

INCORPORATED 1887

ADVANCE PROOF—(*Subject to revision*)

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AESTHETICS IN BRIDGE DESIGN.

By C. R. YOUNG, A. M. Can. Soc. C.E.

(To be read before the General Section, 2nd February, 1911.)

INTRODUCTION.

Although the aesthetics of bridge design may appear at first thought a subject less suitable for consideration by this Society than by an organization devoted primarily to architectural interests, a little reflection will show that the solution of any problem in the subject is only possible by approaching it from two points of view: that of art and that of engineering science. It will be admitted as axiomatic that a basic essential of an artistic engineering work is the capacity to perform the service required of it in the simplest and most efficient manner possible with the chosen materials and in the light of present knowledge. No bridge, building, or other work which is manifestly deficient in strength, unnecessarily complicated, or structurally absurd can possibly be pleasing to the trained eye, nor can any amount of applied ornamentation or attempts at "aesthetic treatment" render it so. The artistic merit of a structure, therefore, primarily arising from its general lines and proportions, which are necessarily dictated by engineering considerations, the aesthetic design of bridges must to a large extent always be associated with mathematical analysis and a thorough knowledge of the properties of materials.

Since science and art must thus co-operate to produce an aesthetically correct result, the writer regards the field of bridge aesthetics as one into which the engineer may venture with propriety, but which he, unaided, can only partially explore. The discussion which