every fresh difficulty as it arises—most frequently without much regard to original designs, provided that he keeps his span distances correct.

As a rule the original designer of an iron bridge seldom sees the creation of his brain after it is in place—and it is but seldom that he takes note of circumstances that may occur once in the world's history, such as the cyclone in Calcutta in 1864, when the "bore" came up with a tidal wave. The cost of any erection by way of bridge that might stand such a shock would be so great as to render the work impossible.

On the other hand, I will give an instance of a stone bridge designed to withstand extraordinary pressure.

Somewhere about the time that King John had to sign the Charter, an Eastern potentate—Babu, or "one of that crowd," gave an order to his engineer to build him a bridge at Jaunpore to stand well, and I presume as he had no intention of paying himself for the work, he did not go into the question of dollars or their prototype. The bridge was built, and it is to be presumed gave satisfaction, for it carried me safe over, a few years ago. Mark the foresight of the old engineer; he found out that the river, every hundred years or so, overflowed its bank to an enormous extent—and must have calculated that the cost of building a bridge above flood level would be more than his patron cared to squeeze for a mere bridge at least; so he made his piers and arches strong enough to allow the flood to pass through and over the bridge. I now come to the modern engineer. He designed his bridge and out it came, and looked so nice—until one fine day shortly after its completion, the "hundred years or so" run out, and down came the flood over the old Mogul's Bridge, and away went railway, foundations, piers, girders, and all.

When the flood had partially subsided I was asked to attend the survey, and we found the old stone bridge perfectly intact, only the metal and part of the parapet washed in heaps, but the bridge was good to stand another 1,000 years. Of the iron bridge we had some difficulty in finding enough to hold a survey upon.

The Japanese engineers are no fools, and do not need to be taught what kind of superstructure suits their own climate; and instead of picking holes in their work it would be to say the least more charitable on Mr. Waddell's part to correct their faults, if they have committed any, a little more gently, giving credit where credit is due.

I am, Sir, yours truly,

No. 40, Yokohama, October 7th, 1885.

T. R. Green.

P.S.—If you think another letter on bridge experiences would interest your readers, I shall be glad to send one without reference to "Railways in Japan."

T. R. G.

(November 9th, 1885.)

We found ourselves wading chin deep in an iron-bridge controversy the other day, but dry land could never be discerned while the danger of being swamped by correspondence grew momentarily