

Citicorp Building: Who Was the Mystery Student?

Commentary On

William LeMessurier - The Fifty-Nine-Story Crisis: A Lesson in Professional Behavior

After several decades of the Citicorp Building story being taught in engineering ethics courses, new studies have recently challenged the conventional interpretation in a belated response to Kremer's question (Kremer 2002). Using computer technology unavailable at the time the Citicorp Building was designed, researchers have shown that the governing wind loads on Citicorp are due to head-on (face) winds and not quartering (corner) winds (Park et al. 2019; Duthinh 2018). This finding agrees with the wind tunnel tests (Isyumov 1975) performed in the 1970s to inform the wind design of Citicorp. What then caused LeMessurier to perform the emergency welding of reinforcing straps on the joints of the multi-story chevron braces that channel structural loads to the mid-side base columns? A recent study (Duthinh 2020) points to a possible misconception in dealing with simultaneous loads on two adjacent building faces under the action of quartering winds.

With this hindsight, the importance of the student in attracting LeMessurier's attention to a possible problem becomes more questionable. That student has long been assumed to be Diane Hartley (Whitbeck), who wrote an architecture bachelor thesis at Princeton University on the Citicorp Building (Hartley 1978). Yet LeMessurier remembered a call from a male engineering student from New Jersey. In fact, I am that student, and here is my story.

In spring 1978, I was a freshman architecture student at the New Jersey Institute of Technology in Newark, New Jersey. In my class in the basics of structural engineering, Professor Zoldos asked students to report on a building of unusual structural design. I had been reading about the CitiCorp Building in various architecture journals at the time, such as *Architectural Record* and *Progressive Architecture*. I thought it was a very interesting building and, since it was in nearby

New York City, I could go see it.

I began writing my paper using the information available from the magazines and a visit to the CitiCorp tower. The building was scary with its massive columns holding it way up in the air. I'd never seen anything like it. Professor Zoldos also seemed very interested and familiar with this new building and its extremely daring structural design. The details are a little hazy as I try to recall, but Professor Zoldos expressed some reservations about the building. He thought it might have been overly ambitious in its attempt to create a cutting-edge design. In particular, Professor Zoldos mentioned the columns being located not at the corners but in the middle of the sides of the building. I remember him saying that the first job of a structural engineer is to design a safe building. I was surprised by his criticism of this great, new, and much-admired building. I was a very naïve student at the time and thought that any architect that designed such an amazing building was beyond criticism.

I decided to call the architect, Hugh Stubbins. His office suggested that I call the structural engineer instead. So I called William LeMessurier in Cambridge, Massachusetts, and found myself very impressed to be talking with the structural engineer of the CitiCorp Building. We talked about the building and its perilous columns. LeMessurier gave me lots of information, but after a few minutes, said he had to go to a meeting and would call back. I did not think he would, but about a half hour later, he did. I was stunned.

We talked for another 15 minutes or so, discussing the columns and their location. Looking back, I must have seemed hopelessly ignorant to LeMessurier, telling him that my professor thought the building columns were in the wrong places. I also asked about the tuned mass damper I'd read about. It was very hard for a freshman architecture student to understand how it worked and realize what a technological innovation it was.

That's the full extent of my involvement with the Citicorp Building. I didn't tell LeMessurier there was anything wrong with his building. I knew nothing about quartering wind loads or the steel frame being bolted instead of welded. The Citicorp

paper and the grade it received have receded in my memory for the following 33 years.

In summer 2011, I found out what happened to the CitiCorp building while working at a construction consulting firm in Morristown, New Jersey, where I still work, now as a Construction Risk Analyst. Our office manager offered me a book called *Einstein's Refrigerator* by Steve Silverman. It's a series of stories about strange technological facts. To my surprise, one chapter was about the CitiCorp Building.

I read about the engineering student from New Jersey and realized it was me. A chill went up my spine. After a few months, I wrote an email to LeMessurier Consultants and asked to speak to William LeMessurier, but was informed he'd died four years earlier. So that's my strange story. I've told it to lots of people in the last few years and even wrote a play about it entitled [*The Serene Secret*](#).

It would seem strange to come forward at this time, when new research points to the possibility that the repairs may have been in fact unnecessary, and that the student may have brought attention to a non-existing problem. Coming out now with a personal recollection is therefore not seeking the glory of having played a role in a significant engineering and ethics lesson, but simply a desire to complete a story full of surprising twists.

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