Learning from failure: The teachings of Petroski

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You need not have any familiarity with clinical engineering to page through an issue of *BI&T* and conclude that medical device and system failures and patient safety are high on the profession’s list of concerns. However, open public discussion of specific device or system failures that compromise safety or lead to patient injury are rare. Even in light of *To Err is Human*, the highly visible Institute of Medicine’s 1999 recommendations to improve error-reporting systems that inform patient safety activities, information is still not disseminated as much as it perhaps should be.1–3

Efforts to reverse this state of affairs are becoming more visible, though. For example, in 2005 the Joint Commission released...
Success through Failure: The Paradox of Design by Henry Petroski. Originals: How Non-Conformists Move the World by Adam Grant. Our active work toward reconciliation takes place across our campuses through research, learning, teaching, and community building, and is centralized within our Indigenous Initiatives Office. "From [Henry Petroski's] vantage point, failures in design and construction present perfect teaching opportunities. They are object lessons in the history and practice and beauty of engineering."---Cornelia Dean, The New York Times. "Petroski's main message deserves notice. He points out that failure is an inherent part of success when it comes to design and innovation, and failure can come in many forms."---Martin Ince, Times Higher Education Supplement. "An excellent read."--Architectural Science Review. Our way of learning and seeking often looks at Success. What he points out is that "success is not simply the absence of failure; it also masks potential modes of failure." If you are planning, seeking, designing -- especially where the stakes are high -- the best advisor is Failure. On April 26, Petroski presented a lecture, "Success and Failure in Engineering: A Paradoxical Relationship," as part of the Distinguished Lecture Series of McCormick’s Department of Civil and Environmental Engineering. To illustrate his point that failure breeds success, Petroski pointed to a classic century-old engineering disaster: the sinking of the Titanic on April 15, 1912. "A century of lessons learned can be effectively erased by decades or even just years of successful experience." The relationship between engineering failure and success is also evident in the progression of the suspension bridge from 1854 to 1931, Petroski showed.