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**Charles R. Hadlock\*** ([chadlock@bentley.edu](mailto:chadlock@bentley.edu)), Bentley University, Waltham, MA. *A Mathematical tour through a collapsing world.*

If you search the word “collapse” on Google News on any given day, you are sure to get thousands of hits, as well as a healthy reminder that we do live in a world where a very wide variety of things are collapsing every day. When assessing the risk of collapse, one’s initial mindset about its source can lead to insufficient attention being paid to alternative sources. That’s why financial auditors, accident investigators, and similar professionals follow systematic protocols that attempt to assure that a wide field of issues are addressed, even in the presence of strong evidence pointing in a particular direction. This same mentality is important in more general and less structured treatments of risk and possible collapse, whether to companies, currencies, species, governments, facilities, diseases, societies, or almost anything else. Mathematics provides an ideal framework for capturing the essence of a wide range of common collapse dynamics that permeate many areas of application. After all, we customarily discuss subjects like probabilities, extrema, stability, nonlinearity, games, networks, and others, all of which are closely related to possible collapses. But beyond capturing the concepts, which itself should not be understated as an important contribution to workers from diverse disciplines, we also offer powerful tools for going deeper to mine important insights, resolve specific uncertainties, and guide future actions. I will expand upon these ideas with examples from the real world and with some mathematical gems that many of us might not ordinarily encounter in our mathematical training or reading. I will also mention how this work grew out of an exhilarating interdisciplinary undergraduate seminar course. (Received May 12, 2015)