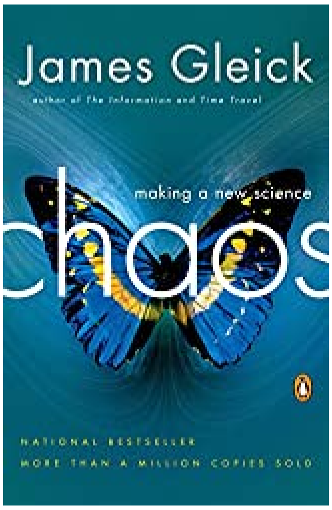
The Butterfly Effect and Chaotic Markets

Securities markets endure any number of threats each day. Sometimes news that appears dire isn't necessarily so. Other times, the market overlooks the little signals that portend a rout. After the 2005 revaluation of the yuan by China, I discussed how such seemingly small developments could create major change via the "butterfly effect." I wrote that September:



> *I've written over the years about Chaos Theory, a subject on which I have read extensively. Of the scads of neat books on Chaos Theory on my shelf, I would send you first to [Chaos—Making a New Science]() by James Gleick (author of the [Life & Science of Richard Feynman]()). In his prologue, Gleick tells us, "When the explorers of chaos began to think back on the genealogy of their new science, they found many intellectual trails from the past. But one stood out clearly. For the young physicists and mathematicians leading the revolution, a starting point was the butterfly effect."*
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> *Richard Feynman (groundbreaking research for the atom bomb, a Nobel prize for this theory of quantum electrodynamics, and his shocking expose regarding the Challenger space shuttle disaster) once said physicists like to think that all you have to do is say, these are the conditions, now what happens next?*
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> ***Errors & Uncertainty***
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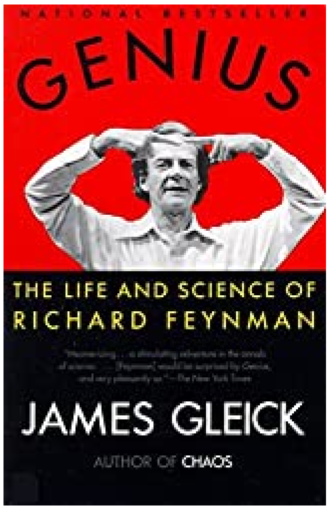
> *Gleick writes, "By the seventies and eighties, economic forecasting by computer bore a real resemblance to global weather forecasting. The models would churn through*

complicated, somewhat arbitrary webs of equations, meant to turn measurements of initial conditions (i.e., a yuan revaluation) atmospheric pressure or money supply—into a simulation of future trends. The programmers hoped the results were not too distorted by the many unavoidable simplifying assumptions. If a model did anything too obviously bizarre— flooded the Sahara or tripled interest rates—the programmer would revise the equations to bring output back in line with expectations. In practice, econometric models proved dismally blind to what the future would bring, but many people who should have known better acted as though they believed in the results…. Computer modeling had indeed succeeded in changing the weather business from art to science…but beyond two or three days the world's best forecasts were speculative and beyond six or seven they were worthless…the butterfly effect was the reason. For small pieces of weather—and to a global forecaster, small can mean thunderstorms and blizzards—any prediction deteriorates rapidly. Errors and uncertainties multiply, cascading upward through a chain of turbulent features, from dust devils and squalls up to continent size eddies that only satellites can see."



Gleick offers perspective that helps clarify a number of issues for us. (1) "A butterfly stirring the air today in Peking (now Beijing) can transform storm systems next month in New York." Think of China's mini yuan revaluation as the butterfly flapping its wings, and contemplate the future with considerable reservation. (2) Ponder the head faking of today's complex hedge funds, and ask yourself how the butterfly effect may be the logic behind the explosion of multitudes of these highly leveraged time bombs.

Markets are stirring today. If you haven’t already counterbalanced your portfolio with a mixture of fixed income, equities, currencies and precious metals, I encourage you to do so. If you aren’t sure how to proceed, and would like to read more about such a strategy, sign up for the monthly client letter produced by my family run investment counsel firm, Richard C. Young & Co., Ltd. You can sign up here, and it’s free, even for non-clients. Don’t wait for chaos, prepare for it.