

# WHY MOST THINGS FAIL

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## **Introduction**

Failure is all around us. Failure is pervasive. Failure is everywhere, across time, across place, and across different aspects of life. Ninety nine point nine nine per cent of all biological species which have ever existed are now extinct. Failure in this context is measured over hundreds of millions of years. On a dramatically shorter time scale, more than 10 per cent of all the companies in America disappear each year. Large and small, from corporate giants to the tiniest one-person business, they fail.

Over the last fifty or sixty years, Western governments have intervened to try to improve the social and economic life of their countries on a scale unimaginable to previous generations. Yet social and economic problems persist. Policies fail.

Two examples will suffice. Despite decades of government activity to promote integration, residential areas in many Western countries remain strongly segregated along racial lines. For many years, governments have tried to increase social mobility, to ensure that the children of the poor have as many opportunities to better themselves as the children of the rich. Yet the evidence shows that social mobility, far from increasing, has actually fallen in recent years.

From biological species, to companies to government policies, there appears to be an Iron Law of Failure, which is extremely difficult to escape.

Yet the existence of failure is one of the great unmentionables. Within economics, we will look in vain for any satisfactory account of why firms fail. Business gurus eulogise contemporary success, conveniently ignoring the fact that many of these firms often fall on harder times soon after they receive their accolade. Enron, for example, was praised to the skies for its dynamism and innovative thinking right up to the point when it became the epitome of corporate greed and mal-administration.

In the more abstract world of economic theory, we can find a great deal of material, much of it irrelevant or even misleading, on what firms should do in order to succeed. But there is little, if anything, about why firms fail.

Charles Darwin's brilliant theory of evolution, expounded in the middle of the nineteenth century, explains not why species fail, but why they succeed. In the Darwinian theory of

the process of evolution, species gradually become better adapted to their immediate environment, become fitter for survival.

In spite of this, nemesis eventually claims them, and species become extinct. The survival of the fittest confronts the Iron Law of Failure. How can it be that the fittest themselves, honed and toned to compete in the struggle for survival, fall by the wayside and disappear for ever? The endemic failure at the level of the individual species confronts us with this paradox. Darwin wrote almost 150 years ago, but it is only very recently indeed that biological theorists have begun to analyse systematically the evidence of failure at the species level.

The Iron Law of Failure appears to extend from the world of biology into human activities, into social and economic organisations. The precise mathematical relationship which describes the link between the frequency and size of the extinction of companies, for example, is virtually identical to that which describes the extinction of biological species in the fossil record. Only the time-scales differ<sup>1</sup>.

The book addresses some intellectually demanding topics. Many of the results which are referred to, particularly in the second half of the book, are based upon mathematical models of aspects of both society and the economy. But I can reassure readers from the outset that this book is written entirely in English, aided to some extent by charts and graphs. Those who crave mathematical detail can readily satisfy their urges in the references listed at the end of the book.

The main theme of this book is to develop a general explanation of the pervasive nature of failure in the world of human societies and economies. There are striking parallels between the social and economic world, and the world of biology.

At first sight, however, there is a fundamental difference between the two. The process of evolution in biological species cannot be planned. Species cannot act with the intent of increasing their fitness to survive. In contrast, in human society, individuals, firms, governments all strive consciously to devise successful strategies for survival. They adapt these strategies over time and alter their plans as circumstances change. Yet, despite this apparent contrast, eventually, in both biological evolution and human social and economic activity, failure strikes.

A second theme running through the book is to understand this seeming paradox. How can it be that not just failure, but the patterns of failure, are so similar in biology and human organisation when there is such a sharp contrast between the abilities to act with the conscious intent of improving one's prospects for survival?

The third theme, developed in particular towards the end of the book, is that failure can be highly beneficial. In the real world in which strategies evolve and which is the outcome of a dynamic process of change, failure at the level of the individual component part can, paradoxically, enhance the fitness of the system as a whole.

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<sup>1</sup> I have published this finding in *Physica A*, the world's leading journal of statistical physics

The content of the book is firmly grounded in reality. Too much work in the social sciences, whether the dense mathematics of much of economics or the tortuous prose of a great deal of sociology, is purely theoretical. Throughout the book, I compare the theory with the evidence of what we actually observe. This is the basis on which the natural sciences have achieved such tremendous success in understanding the physical world over the past few centuries. To be of any value, theories must be confronted with reality.