

The Wrong Stuff

Re: Volume 35, Issue 1 "[The Right Stuff](#)"

I am writing in response to Doloff's criticism of optimism for two reasons. First, what does he mean by "success"? Second, and more important, is that the idea that one can predict success is at odds with the engine of evolution. It is akin to adaptationism.

We can take advantage of opportunities as they arise as long as we are open to them and don't limit ourselves to what we can anticipate.

We can narrowly view Doloff's reasoning in terms of probabilities but it's more important to look at success in terms of how systems evolve whether biological or not.

While I share Doloff's concern about magical thinking we must not confuse naiveté with confidence in one's ability to take advantage of opportunities.

Doloff has a student who is both Hispanic and a Marine yet he only considers the odds of success as a Hispanic. Why not consider the greater odds of a marine succeeding? The "door" that the student is looking for is opportunity.

What is the measure of success for the student? How can you fail if you don't have a measure? That's a trick question since we tend to implicitly assume a measure and then select for winners and losers.

The deeper problem is the very tendency to apply statistics and probability when we don't know the context. Should we consider the student as a Hispanic, a Marine, or someone getting educated? Population evolves by changing the context and just the measures of success.

I often use roulette as an example of how to think about evolution. If you place a bet on a number you're very likely to lose. But if you first spin the wheel you then have the opportunity to find use for the number that happens to turn up.

A seven might be interesting because it's a prime factor. We may not be looking for prime factors but if we have one we can find uses for it. On the other hand if we get a twelve we have a number that is divisible by 1,2,3,4 and 6 and very useful for different purposes.

Perhaps it's easier to understand this with an example from biology. Some jaw bones in fish turned out to amplify sound. Jaw bones didn't evolve to hear sound; that use was discovered.

How do we compute the odds when we can't know what's possible?

What happened is that the context changed and the bones had a new interpretation in that context. This has nothing to do with biology per se – it's a fundamental mechanism of any system.

I describe the ability to capture and regenerate the configuration as a digital process because sharp distinctions are maintained. Though he wasn't aware of it, Darwin anticipated genes as such a mechanism.

We see the value of persistence in business. One characteristic of American entrepreneurship is that failure, even bankruptcy, is not treated as a property of the person. Indeed in different circumstances the same behavior would result in success.

In fact if you read *The Innovator's Dilemma* you should get the sense that the odds are strongly against success for new ideas and you would be right. Fortunately the value of the relatively few successes is enough to drive the process forward.

If we step far enough back and only look at the success stories we develop a distorted view of the process and attribute success purely to individual initiative and, often, divine choice. In biology natural selection may be a local mechanism for determining fitness but it's diversity that prepares us for the unexpected opportunities.

There is a paradox in that individual naïve enthusiasm creates the diversity of pursuits that provide us with the disproportionate gains that drive our economies and biotas.

This doesn't mean that we should encourage foolish behavior such as crossing highways blindfolded but it does mean we should be wary of prejudice and intolerance.

It does mean that individuals are not playing the odds but instead are preparing themselves to take advantage of opportunities.

The First Amendment of the US Constitution assures freedom of speech. It characterizes an attitude that has made our society what it is because we don't have to prove the value of what we have to say. This is important because some of the best ideas seem foolish according to what we know at the time. Most ideas stay foolish but it takes just a few to change the world.

As I read all the dire forecasts of the future I recall an MIT study from the 1970's that forecasted doom in the 1990's. The study was rigorous but couldn't anticipate developments like the Web.

While some optimism is foolish and even reckless (especially when we seek nostrums rather than medical treatment) it can be pessimism that is most foolish in failing to anticipate that which cannot be anticipated.

It would be most foolish to accept despair and lock ourselves into permanent recession.