What did you learn in math class ?

Badri Varadarajan

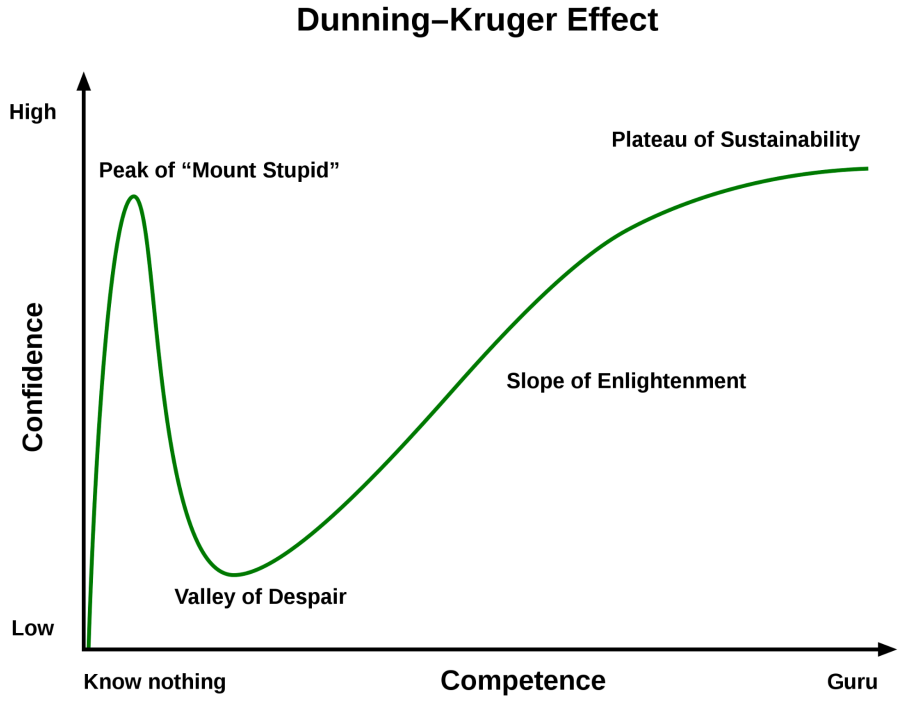
The advantage of being dead, of course, is that one can get away with spouting just about anything. Lord Alfred Tennyson, for example, blithely declared

'Tis better to have loved and lost,
Than never to have loved at all.

Translated to English, that means one is better off striving, even if one comes up short.

Which is rot, of course. Anyone who has ever actually done it will tell you 'tis most definitely *not* better to cramp up 23 miles into a marathon or 200 yards short of Half Dome, than to watch someone else do it on TV.

The problem with loving-and-losing is once one has started striving, the object of desire seems more attractive and one's own failures are more painful. On the Dunning-Kruger curve, loving-and-losing is stuck in the valley of despair. Give me ignorance anyday.



If I sound bitter, it's because I am. I have, alas, visited the Valley of Despair, and it ain't the picnic Mr. Tennyson promised. Heed my tale, I'll tell you my tale partly because I like to whine, but partly as a public service announcement to stay out of the miseries of mediocrity.

A few years back, I had just made it to one of the famous IITs. Like everyone else in my class, I had triumphed at the annual Hunger Games used by college admissions committees to cull the herd. My classmates and I had made the cut. The sorting hat had put us in Gryffindor. We were the chosen. We were much better than you, and unlike you, we knew it.

And then, alas, we were all humbled by higher mathematics. Just two classes and one year sufficed to put us in our place. It turned out serious mathematics is a thing of incredible precision and beauty. To be good at it, one needs to burn down “common sense” and reason from first principles. If one survives the scorching flames, one ends up with beautiful insights on life itself. To give you a few examples,

- *The infinite is larger than we think it is*
    - It is easy enough to understand that a two-dimensional surface such as this monitor is twice as infinite as a straight line on that monitor. Two dimensions are, after all, twice as much as one dimension. But what if I told you there are infinities which effectively contain infinite dimensions, so that you can never draw them on any surface at all?
- *.. and yet, the Infinite may hide in the smallest of places*.
    - Let us say you and I played a game -- you got all the whole numbers in the world (1, 2, 3, .. to infinity) and I got all the fractions between 0 and 1. Common sense will tell you have more numbers than me. Common sense would be wrong. Not only would I have more numbers than you, I’d have infinitely more of them. Your infinity is “countable”, mine is not. Uncountable infinities are bigger.

- *The larger any collection gets, it contains more extreme specimens, but the behavior of the collection as a whole is predictable, almost inevitable.*
    - Nazi Germany may have contained both Mengele and Schindler, but between those extremes, the behavior of the population as a whole was remarkably uniform
    - As individuals, we are wildly different from each other, but as a nation or a species, we band together into entirely predictable Twitter mobs.

.. and so on and so forth.

This all sounds great, and you may wonder why I’m bitter. Alas, we only caught the dummy’s digest version of all this. The reasoning involved is so intricate, and the methods so rigorous, that we no longer trusted anything at all.

By the first semester, we were pretty sure 1 + 1 was secretly three, and the whole “2” thing had been an elaborate hoax kept alive by the Illuminati. By the second semester, we couldn’t care less. The only thing we were sure of was that we wanted no part of this.

We turned tail, and like everyone else, went into software and finance. Much to our surprise and delight, we found this Brave New World of Meritocracy pays a lot more for these *less* demanding professions. That's an interesting tale all by itself, but let's save it for another day. After all, I do need something to write about in Assignment #2.