Evolutionary Limit Theory

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Today, we have come to accept many ideas as divine truth, often without recalling their rich histories. One such idea is the concept of “average” or “normality.” The term “on average” has evolved to become almost immune from scrutiny. We have strayed far from the ways of ancient Greek philosophers, who were known for questioning even the most mundane facts.

John Maynard Keynes once said, “Worldly wisdom teaches that it is better for reputation to fail conventionally than to succeed unconventionally.” Our flaws and faults now travel at unprecedented speeds. For example, it takes nearly three days to reach the Moon today. A few hundred years ago, knowing the multiplication table was a major achievement. In the Roman Empire, the ability to read and write could guarantee social and military advancement. Back then, communities were small, and countries seemed like distant planets. Now, we can reach the Moon faster than it took to sail across oceans.

This change may stem from our desire to belong and appear intelligent. I feel anxious as I come closer to publicly declaring my thoughts. I don’t have a prestigious institution to fall back on, nor do I have notable figures to vouch for my intellect. Nonetheless, I prefer to express my thoughts for my own satisfaction.

Adolphe Quetelet wrote "l’homme moyen" to describe the average man based on measurements gathered from thousands of French soldiers. This was the first instance of the term as we understand it today. He described the average man as 170 cm tall, weighing 67 kg, with a chest circumference of 91 cm. According to the 2012 Anthropometric Survey of U.S. Army Personnel, which identified the average body measurements of over 4,000 men, the average man today is 176 cm tall, weighs 86 kg, and has a chest circumference of 106 cm.

Francis Galton’s concept of regression to the mean suggests that each generation is destined to converge closer to the average as overseen by the magnet of order. All are doomed to return to their normality, regardless of previous generations' disobedience. However, as we see, normality itself does not adhere to obedience. The average man today differs vastly from the “l’homme moyen” of Adolphe Quetelet’s time.

In 1955, the Dow Jones Industrial Average regained its 1929 highs, causing some investors to sell in anticipation of a return to normal. Instead, prices continued to rise over the next 69 years, never again dropping to the lows of the Great Depression. In fact, since 1991, all market crashes have had lows higher than the 1929 highs. As the late Peter L. Bernstein noted, normal had shifted to a new location. The expected correction never materialized. What went up did not come down. The invisible laws of nature seemed violated. Balance did not prevail.

The question then is: What is normal? What does regressing back to the mean actually mean? How do we know the level of normality? I’d like to propose a theory. Initially, I called it “Normality, Evolution, and Ceilings,” but recognizing the scientific community's preference for complexity, I will refer to it as The Evolutionary Limit Theory.

The Evolutionary Limit Theory involves integrating four key assumptions. Initially, I intended to divide the final element into its own publication, as it deserves separate consideration, but for the sake of this draft, I will present it in full. The elements are Normality, Intelligent Self-Aware Agents, Limits (an unseen ceiling that cannot be surpassed according to natural law), and the Intensity of Change.

Humans are intelligent beings. A feature of intelligence dictates serving what's in its best interest. Hence, humans will subject all that is under their control or susceptible to their influence to evolve towards what serves their best interest, which will always, on average, be an improved version of what it was previously.

History proves this in every instance. Nothing susceptible to change by us has remained virtually the same. Plants produce more harvests, people live longer, medicine is more effective, society is more educated, wealth is more abundant, poverty is lower, and the list goes on.

For example, if we compare the average intellectual capability from two hundred years ago to today, it's clear that normality, the average, has shifted. People today are, on average, smarter than those back then. And those people were, on average, smarter than those a thousand years before them. And those were smarter, on average, than the first known humans some two to six million years ago.

If we were to treat time as a film roll, we would inevitably find that looking at every single piece as a snapshot of a time span will show a different normality, "the average," than any other square piece. At every point, normality will shift in a predictable pattern. This predictability is due to the inherent tendency of intelligent beings to act in their best interest, assuming no intelligence will knowingly opt to harm itself. Because humans continuously advance, innovate, and hence evolve all factors under their control, normality will continuously shift in an evolving manner.

Does this mean that everything will evolve to infinity, and normality will continue to shift uninterrupted?

If we assume that the normality of human longevity will continue to evolve as it has so far, it is as if we are assuming that humans will share immortality with the different gods they each ascribe to. A silly thought and an impossible dream to some. In this instance, the ceiling is somewhat clear to us. We can predict that the normality of human lifespan will increase, but we can expect a limit. Any attempts will not lead to further significant increases.

Let's instead look at a less intuitive and more abstract example: knowledge or intellectual ability. Assume somehow immortality is the law, humans could live forever and learn forever. With every new knowledge gained, it must mean that one less unknown is known. This would lead to the exhaustion of all there is to learn. Hence, even less intuitive aspects also have their own limits.

Can we tell where we are in the evolutionary limit?

A cheetah sits still observing its prey, then goes from sitting still to accelerating rapidly as it runs after its prey, reaching a maximum speed before gradually slowing down until it stops, the limit of its motion. A person who jumps into their car will speed up, reach a speed where they hover for a while (the max), and then, on average, decrease speed as they get closer to their destination. As both the cheetah and car near their end destination, they begin to slow down.

Do these illustrations shed light on whether it is possible to know if we have passed the max—the point where the benefit of evolution and innovation is at its highest compared to what it was previously—and are nearing the limit?

It seems so. You might have noticed in both examples that the normal distribution curve can clearly be imagined. But to measure this in the real world, we must remove foresight present in the previous examples.

Imagine you're a passenger in a vehicle, wearing a blindfold. You don't know where the destination is and hence don't know how long it will take. But nonetheless, you are required to guess when you near the destination.

As the vehicle initiates motion, you begin to sense the movement, albeit slowly with small variations, but gradually increasing as you navigate through the streets of a neighborhood. Then, as you approach a highway, you sense a rapid increase in average motion compared to previously. This increase continues until a certain point is reached where no major changes can be sensed compared to any two points of close proximity.

A while later, you start to sense a decline in speed. To the driver who possesses foresight, it's simply because they are approaching their destination, the limit. To you, the blindfolded passenger, you sense a downward change from the recent average where the max belongs. The speed will continue to gradually decline as the vehicle makes its way through narrower streets with twists and turns. As the vehicle nears its destination, the limit, the declines become smoother and slower.

In contrast to the beginning of the journey, the change in motion decreases not equally but in a more extended and smoother manner.

The slower rate of change is undeniable, as on average it has shifted heavily from the motion change of any two points in the past. You predict, rightly so, that the destination, the limit, is in reach.

So then, if you were the person with a blindfold on hypothetically, you would be able to know at which point you are on as long as the average change of two future points is significantly different from the average change of any past two points.

If the average change becomes lower than its previous average change, then perhaps it means we have passed our max and, moving forward, our evolutionary and innovative leaps will yield lower fruits than before as we approach the limit.

In conclusion, normality evolves, but with less intensity as it approaches its limit.

Further thought:

As I write this, a thought arrived that the closer we are to the limit, the lower our rate of change and progress becomes. It gets exponentially lower, meaning that even if we were to span to infinity, we would never reach the limit. This thought does not take away but instead adds to further literature regarding reaching the limit or what happens as we near it. Another thought arrived: if we were to assume normality is bound by a limit and in a hypothetical world that limit is reached, then given the intensity of change, we could draw a normal curve and hence, looking at it, have an absolute true normality. This could be considered the true average if all time were to stop. Like a movie with an end, looking back, we can observe what the average was as a whole. The gist of it all.