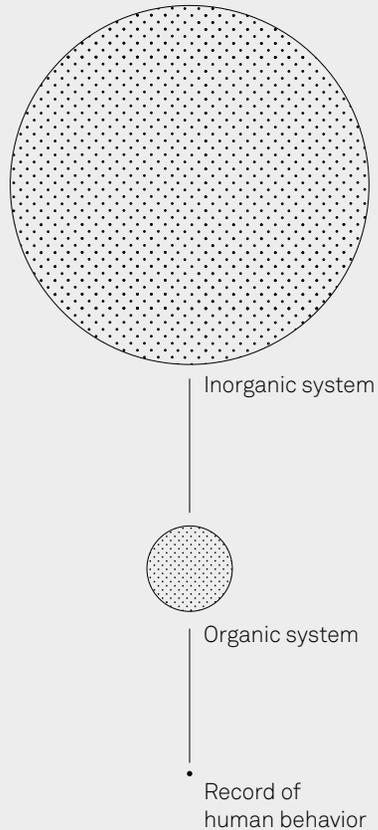


## What Can the Three Buckets of Knowledge Teach Us About History?

“Every statistician knows that a large, relevant sample size is their best friend. What are the three largest, most relevant sample sizes for identifying universal principles? Bucket number one is inorganic systems, which are 13.7 billion years in size. It’s all the laws of math and physics, the entire physical universe. Bucket number two is organic systems, 3.5 billion years of biology on Earth. And bucket number three is human history, you can pick your own number, I picked 20,000 years of recorded human behavior. Those are the three largest sample sizes we can access and the most relevant.” —Peter Kaufman

The larger and more relevant the sample size, the more reliable the model based on it is. But the key to sample sizes is to look for them not just over space, but over time. You need to reach back into the past as far as you can to contribute to your sample. We have a tendency to think that how the world is, is how it always was. And so we get caught up validating our assumptions from what we find in the here and now. But the continents used to be pushed against each other, dinosaurs walked the planet for millions of years, and we are not the only hominid to evolve. Looking to the past can provide essential context for understanding where we are now.



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think in terms of incentives. A business person might think in terms of opportunity cost and risk-reward. Through their disciplines, each of these people sees part of the situation, the part of the world that makes sense to them. None of them, however, see the entire situation unless they are thinking in a multidisciplinary way. In short, they have blind spots. Big blind spots. And they're not aware of their blind spots. There is an old adage that encapsulates this: "To the man with only a hammer, everything starts looking like a nail." Not every problem is a nail. The world is full of complications and interconnections that can only be explained through understanding of multiple models.

Removing blind spots means thinking through the problem using different lenses or models. When we do this the blind spots slowly go away and we gain an understanding of the problem.

We're much like the blind men in the classic parable of the elephant, going through life trying to explain everything through one limited lens. Too often that lens is driven by our particular field, be it economics, engineering, physics, mathematics, biology, chemistry, or something else entirely. Each of these disciplines holds some truth and yet none of them contain the whole truth.

Here's another way to look at it: think of a forest. When a botanist looks at it they may focus on the ecosystem, an environmentalist sees the impact of climate change, a forestry engineer the state of the tree growth, a business person the value of the land. None are wrong, but neither are any of them able to describe the full scope of the forest. Sharing knowledge, or learning the basics of the other disciplines, would lead to a more well-rounded understanding that would allow for better initial decisions about managing the forest.

Relying on only a few models is like having a 400-horsepower brain that's only generating 50 horsepower of output. To increase your mental efficiency and reach your