

# Musings of a Statistician

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## Introduction

I owned a book called Rea's Problem Solvers: Statistics. It's a huge book; it's over 1,000 pages of problems with their solutions. When I bought it, I flipped to the introduction. The very first sentence says: For as long as statistics has been taught in schools, students have found this subject difficult to understand and learn because of its unusually complex and abstract nature.

I was at a party once and when I told this woman what I do for a living, she said: I'd love to slice open your brain and see how it works!

Statisticians are not normal people. We view the world from a different point of view. This book exposes the thoughts of one of them.

Just a word of warning: a math professor at the University of Calgary (found in western Canada) had a quote by Saint Augustine on his office door. It stated that mathematicians and their ilk are instruments of Satan because they rely on reason rather than faith. I guess statisticians are part of the ilk.

By the way, most people have trouble saying the word statistician. Some truncate it to 3 syllables: sta-ti-shun. It actually has 4 syllables: sta-ti-sti-shun with the accent on the third syllable. We are capable of cramming a million transistors into an area the size of the head of a pin. I'm sure you can learn to say all 4 syllables.

Happy reading!

## Is there a God?

I call this my pen story.

I went through this period where I thought that God was an abstract concept that we anthropomorphize.

This one Sunday, I drove my wife to work and afterward went to mass. After mass, I went home.

There are 3 things I carry in my right front pocket: keys, pen and comb.

Once I got home, I went up the stairs. At the top of the stairs, straight ahead is the bathroom, to the right are the kids' rooms and to the left is the master bedroom. I turned left. Once in the bedroom, I pulled the 3 objects out of my pocket. When I looked down, the pen vanished into thin air.

Of course, I looked down to find it. It was nowhere to be found.

I spent the next few hours racking my brain trying to figure out what this could mean. Being a rational creature, I concluded that God was trying to tell me something.

When I picked my wife up from work, I told her the story.

When we got home, her first stop was the bathroom. Between the vanity and the door jamb, guess what she found? She mentioned that it looked as if it was placed there with the pen alongside the vanity.

Superstring theory states that there are 10 dimensions. We normally experience 4 of them. So, what is in the other 6? I'm sure that Stephen Hawking would have been able to explain it.

So, based on my experience and superstring theory, I'll conclude with a 99.99% probability that God exists. As to the nature of God, I'll leave that to the theologians.

## Is there life after death?

I call this my candle story.

My wife has a cousin whose husband worked in the road repair industry. He once had the misfortune of falling from a highway overpass onto the road below. He was never the same after that. Like millions of others, he succumbed to cancer and eventually died.

About 2 weeks after his death, I was working in my office in the basement when I heard a crash from the other end of the basement. After I finished what I was doing, I went there. First, I checked the furnace room. Nothing there. When I came out, I noticed a battery-operated candle in its box in the middle of the hallway. I picked it up and put it on a box. Then I got my wife. She showed me that the candle was inside the corner of a box with most of it above the box's edge. But, given where I found it, it moved a good 12-18 inches from where it was to where I found it. In other words, some force knocked it onto the floor.

I emailed our church pastor and posed the argument that it could have been the spirit of my wife's cousin's husband. He would not rule it out.

By the way, this happened in the same house as the last story.

So, based on my experience, I'll conclude with a 99.99% probability that life after death exists. As to the nature of life after death, as with the existence of God, I'll leave that to the theologians.

## Do aliens exist?

To answer this question, I'd like to introduce you to the Poisson distribution.

The Poisson distribution is derived from the binomial distribution. The binomial distribution is used when these conditions are satisfied:

- The outcome is a success or a failure
- The number of trials is known
- The long-term probability of success is known
- The trials are independent of each other

Let's take a baseball player with a 0.300 batting average who bats 4 times during a game. A success would be for the player to get a hit. The number of trials is 4. The long-term probability of success is 0.300; that is, for every 10 times at bat, on average, the player gets 3 hits. Finally, what happens at one time at bat does not depend on previous times at bat. I've seen a player strike out 3 times in a row and then hit a home run.

The Poisson distribution is used when the number of trials is really large and the probability of success is really small. I once read an article about a bus route in Calgary that carries 11,000 passengers a day. Out of all those passengers, how many of them would be in wheelchairs? It would certainly be a very small percentage.

Let's take our galaxy, the Milky Way. It is estimated that the number of stars in it ranges from 100 to 400 billion. Let's suppose that the probability of a star having a planet with intelligent life is 1 in 100 billion. This means that there would be anywhere from 1 to 4 planets with intelligent life. That's just one galaxy. It is estimated that there are 100 billion galaxies in our universe. That would put the total number of planets with intelligent life at somewhere between 100 billion and 400 billion.

Based on this, I conclude that aliens do exist.

As for aliens visiting our planet, I suspect that they would need to take advantage of wormholes. Furthermore, I would not expect them to look like us. Maybe they would look like shrubbery. Methinks that the creatures who crashed at Roswell are us from the future. The grey skin and large eyes indicate that they would be living underground due to the toxic atmosphere up above. Not a very pleasant prospect to look forward to. But, just like Ebenezer Scrooge, we have the ability to change our future.

## A simple approach to life

I try to live by this code: Be kind, be patient, be merciful, and help those less fortunate than yourself. The stress is on the word “try”.

You will notice that this code is not attached to any one religion. It doesn't matter if you are Christian, Jewish, Muslim, atheist or whatever.

If enough of us tried to live by this code, we could possibly bring about peace on earth. Given the current state of human nature, I would put the odds of success at 50/50.

But, we have to try.

## Warfare

I once read War and Peace by Leo Tolstoy (a good way to spend a summer). There is a part of the book that comes to mind.

It occurs when Pierre visits Prince Bolkonsky and expresses the opinion that the day will come when there will be no more war. Thus, Bolkonsky's reply: Drain the blood from men's veins and put in water instead, then there will be no more war.

Two hundred year later and Bolkonsky's statement is still true.

What we need to do is wage a different type of warfare as demonstrated by Mahatma Gandhi and Martin Luther King, Jr.

One of the features of conventional warfare is that, given enough time, weapons of any given type come to be used en masse. Eventually, that would include nuclear weapons.

Do we really want to go there? Methinks the answer is no. Even if 1% of humanity were to survive, what type of planet would they inherit? This brings me back to my hypothesis in the section on aliens.

The probability of the continuation of conventional warfare for the foreseeable future is virtually 100%. But, we have to do what we can to prevent another world war that would include the use of nuclear weapons.

## Love of enemies

If we want to bring about peace on earth, we must eventually love our enemies.

The Bible is primarily a book of myth. I'm trying to picture Noah getting a pair of tyrannosaurus rex onto the ark and then making them behave.

Despite this, the book does contain a lot of practical advice. The most important of these is in the gospel according to Matthew in an address given by Jesus of Nazareth commonly known as the Sermon on the Mount. It concerns love of enemies.

Loving your enemies does not mean that you like your enemies. You may very well think that your enemy is the devil incarnate. But Jesus gives the advice to do good to those who hurt you and to pray for those who persecute you.

Given the last section, there may be times when a nation must defeat its enemy first. World War II comes to mind. But, once the enemy is defeated, measures should be taken to help them get back on their feet as demonstrated by the Marshall Plan.

On a personal level, I will come back to my approach to life: Be kind, be patient, be merciful, and help those less fortunate than yourself.

I'm not saying it's easy. It's not. But, we have to try. If enough of this try this, given enough time, we could increase the odds of peace on earth from 50/50 to close to 100%.



## Conclusion

Once upon a time, I attempted to be a math and philosophy major in university. The other philosophy students labelled me as a coffee-shop philosopher. It was true then. It's still true now.

The Chinese philosopher Confucius once made the quote that life really is simple but we insist on complicating it. How true.

Let's keep it simple: Be kind, be patient, be merciful, and help those less fortunate than yourself.

Together, we can bring about peace on earth.