

7 mathematical principles that shape our lives.

Introduction - Almost everything.

1. Thinking Exponentially - The sobering limit of power

1. No use crying over spoiled milk.
2. A matter of great interest.
3. The Exponential Embryo.
4. The destroyer of worlds.
5. The Nuclear Option.
6. The Science of Dating
7. ICE Bucket Flu
8. Is the Future Exponential?
9. Population Explosion.
10. Time Flies when you're getting old.

2. Sensitivity, Specificity, and Second Options.
- How math makes medicines manageable.

1. What are the odds?
2. A Eureka moment. — BMI (the body mass index)
3. False alarms.
4. The big screen.
5. The illusion of certainty
6. Two roses are better than one.

3. The Laws of Mathematics

- Investigating the Role of Mathematics in the World

1. The Dreyfus Affair
2. Guilty until proven innocent?
3. 73 million is one
4. The Independence mistake.
5. The Ecological Fallacy.

6. The prosecutor's Fallacy.

7. Know and the knife.

8. Blinded by math.

4. Don't Believe the truth

- Debunking media statistics.

1. The Birthday Problem.

2. Authoring Figures.

3. Hard to digest.

4. Do the math.

5. Careless Pork Costs Lives.

6. A different frame of mind.

7. Spotting the spin.

5. Wrong Place, Wrong Time

- when our number systems let us down.

1. The Place.

2. The Time

3. By the Dozenal

4. Imperial Rule.

5. The millennium Bug Bite

6. Binary thinking

6. Relentless optimization.

- From Evolution to E-commerce life is an algorithm.

1. The million-dollar questions

2. P versus NP

3. Greedy Algorithms.

4. Highly Evolved.

5. Optimal stopping.

6. Keep calm and check your algorithm.

7. Flash crash.

8. Bang on trend

9.

7. Susceptible, infective, Removed
— How to stop and Epidemic.

1. The source of smallpox

2. The S-I-R model

3. presentism, predictions and the plague problem.

4. HPV - more than just the cancer virus

5. The next pandemic

6. Patient zero

7. R-naught and the exponential explosion.

8. Taking control.

9. Herd immunity

10. Mr. MMR

8. Epilogue — mathematical Emancipation.