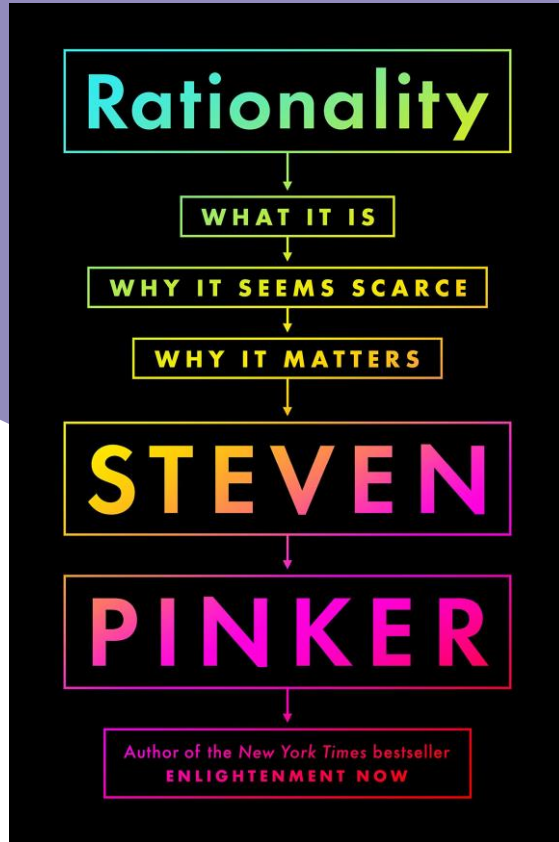


# Rationality: What It Is, Why It Seems Scarce, Why It Matters

By Steven Pinker

(Book Review)



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# Steven Pinker

- Steven Arthur Pinker (born September 18, 1954) is a Canadian-American cognitive psychologist, psycholinguist, popular science author and public intellectual. He is an advocate of evolutionary psychology and the computational theory of mind.
- Johnstone Family Professor of Psychology at Harvard University, and his academic specializations are visual cognition and developmental linguistics.
- Author of eight books for general audiences:
  - The Language Instinct (1994),
  - How the Mind Works (1997),
  - Words and Rules (2000),
  - The Blank Slate (2002),
  - The Stuff of Thought (2007)
  - The Sense of Style (2014)
  - The Better Angels of Our Nature (2011)
  - Enlightenment Now (2018)
- Pinker was named one of Time's 100 most influential people in the world in 2004

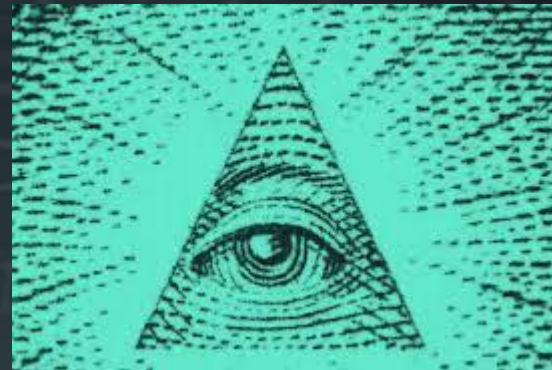


# Why now?

Whether in primitive tribes or the most technologically advanced 21st-century cities, human beings are born with the facility to reason. It requires rational analysis to stalk an animal, just as it does to decide which utility company offers the best deal. So why is it that we are prone to act irrationally, to be persuaded by bad arguments and led by cynical leaders?

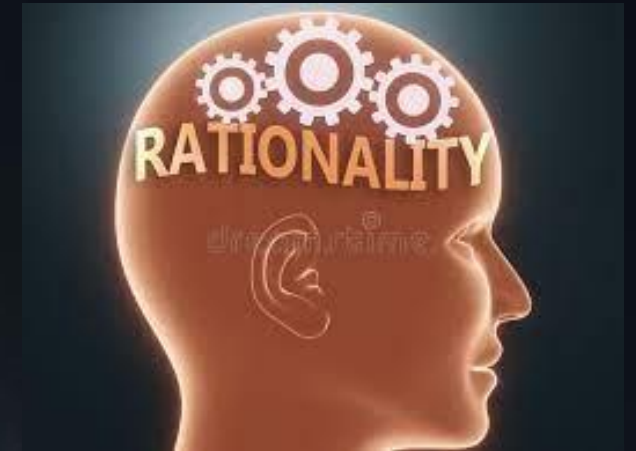
More consequential examples are in abundant supply. On issues such as vaccines, climate change and corporate taxation, a host of individual and institutional actors now seem dogmatically chained to unreason as they pursue real or illusory power.

- Conspiracy theorists,
- Ghost-believers,
- Anti-vaxxers,
- Alternative medicine adherents
- Postmodernists
- Not believer in the results of American election



# What Rationality Means?

- Humans are very rational, just not in every domain.
- The San people of the Kalahari Desert in southern Africa, who, despite their mythological beliefs, are stunningly successful at hunting prey.
- How the San people use reasoning to hunt, applying it to footprints and animal droppings in order to build an accurate picture of their natural world: a dry desert on which they have subsisted for over a hundred thousand years.
- **Rationality is used as “the ability to use knowledge to attain goals”**
- **Irrationality may be understood as the rational pursuit of goals other than objective understanding of the world.**





# Rationality and Irrationality



May I say that I have not thoroughly enjoyed serving with humans? I find their illogic and foolish emotions a constant irritant.

Mr. Spock

Burden of proof is on those who disagree

Bertrand Russell



# Three Simple Math Problems

A smartphone and a case cost \$110 in total. The phone costs \$100 more than the case. How much the case costs?



It takes 8 printers 8 minutes to print 8 brochures. How long would it take 24 printers to print 24 brochures?



On a field there is a patch of weed. Every day the patch doubles in size. It takes 30 days for the patch to cover the whole field. How long it take for the patch to cover half the field?



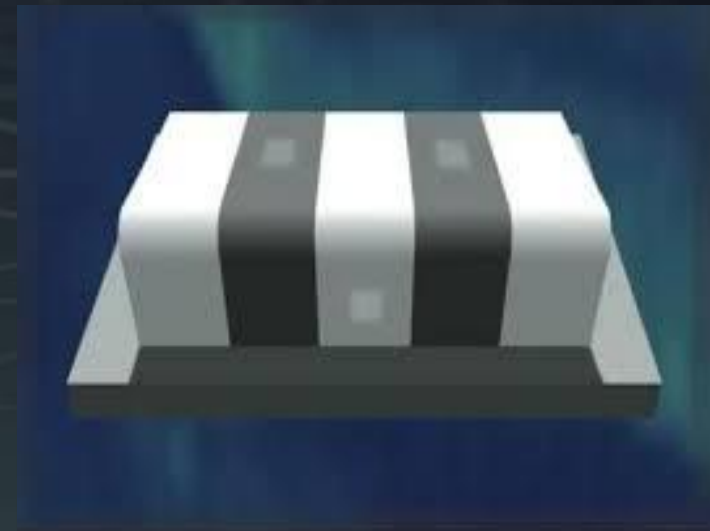
# Cognitive Illusion



The dress is a photograph that became a viral phenomenon on the Internet in 2015. Viewers of the image disagreed on whether the dress depicted was coloured black and blue, or white and gold. The phenomenon revealed differences in human colour perception, which have been the subject of ongoing scientific investigations into neuroscience and vision science.

The phenomenon originated from a washed-out colour photograph of a dress posted on the social networking service Facebook. Within a week, more than ten million tweets had mentioned the dress

Reality is not what it seems: the science behind why optical illusions mess with our minds. This is shading illusion. Believe it or not, the stripes on the top of the box and the white stripes on the front are identical shades of gray.





# Probability

- We confuse probability with propensity. The propensity is the disposition of an object to act in certain ways.
- Bayes's theorem is the law of probability governing the strength of evidence
  - the rule saying the strength of evidence
  - the rule saying how much to revise our probabilities (change our mind) when we learn a new fact or observe new evidence.
- People judge the probability of events by the ease with which instances come up into mind.
- Media coverage drives people's sense of frequency and risk: they think they are likely to be killed by tornado rather than by asthma. Plane crashes, get lavish coverage but they kill only about 250 people in a year worldwide, making planes about thousand times safer per passenger mile than car.
- A financial investor with 10,000 person mailing list will send a message to half the list saying that the market will go up and to the other half that market will go down. At the end of every quarter he discards the names of people to whom he sends the wrong prediction and repeats with the process with reminders. After two years he signs up the 1,562 recipient who are amazed at his track records.

# Irrationality

- Chapter 10 leads off with a review of covid science denial, fake news, and irrational beliefs. Apparently 32% of Americans say they believe in ghosts and 21% say they believe in witches. The witches thing is just silly, but covid denial has killed people, and climate change denial has potentially huge consequences. How to reconcile this with the attitude that people are generally rational?
- Pinker's answer is motivated reasoning—basically, people believe what they want—and that most of these beliefs are in what he calls “the mythology zone,” beliefs such as ghosts and witches that have no impact on most people's lives.

# While people are irrational?

1. Many superstitions originate in overinterpreting coincident.
2. Social media provide the medium to communicate all irrational ideas
3. People embrace false believes because it gives them comfort or helps them make sense of the world.
4. political institutions

The problem with covid denial is not individual irrationality; it's the support of this denialism by prominent political institutions. In the 1960s and again in recent years, there's been widespread concern about lawlessness in American politics. When observers said that the world was out of control in the 1960s, or when they say now that today's mass politics are reminiscent of the 1930s, the issue is not the percentage of people holding irrational beliefs; it's the inability of traditional institutions to contain these attitudes

# Summary of the Book

Chapter 1. It is our nature as humans for our beliefs and attitudes to have a mix of rationality and irrationality. We're all subject to cognitive illusions while at the same time capable of rational reasoning.

Chapter 2. Rationality, to the extent we use it, is a benefit to individuals and society.

Chapters 3-9. Rationality ain't easy. To be fully rational you should study logic, game theory, probability, and statistics.

Chapter 10. We're irrational because of motivated reasoning.

Chapter 11. Things are getting better. Rationality is on the rise.





Thank You!