

Rationality

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How many times have you made a bad decision, even though some part of your brain was telling you it was not the right choice? You are not alone. Human beings are driven by psychological forces that most people are only vaguely aware of, and very few really understand.

During the Renaissance, there was much discussion on the subject of *rationalism*. Descartes said that knowledge of scientific truth could only be attained through reason. Over time, this led to elevation of rationalism to an ideal to be pursued. As the idea of the rational person became more and more popular, it gradually transformed from a philosophical ideal into a common knowledge "fact".

Julius Caesar noted, "People will willingly believe what they wish to be true." As rationalism came to be perceived as a paragon, more and more people wished for it, and then believed they achieved it.

For example, the study of economics started out as "political economy". As the study of economics evolved into "economic science", economic theorists came up with the notion of a hypothetical "ideal" person they called "Homo Economicus", a perfectly rational, fully informed, and self-interested person. The interesting thing is that other economists embraced the idea of Homo Economicus and began teaching it to their students as if it were a fact.

The notion that people are fundamentally rational is very appealing, but psychological research by experts like Kahneman, Tversky, Ariely, and others shows that we are far less rational than we like to think. Their research all points to the same conclusion:

Most of the time, our affective mind (emotion) has greater influence over our decision-making process than our rational mind (reason).

That conclusion really **irritates** some people. Ironically, they don't realize that their irritation – their emotional response – demonstrates that it is true. We like to think of ourselves as rational beings. The researchers' conclusion threatens our carefully-constructed illusion of rationality. And while the emotional person's response to that conclusion is anger or irritation, the rational person's response – even if they disagree with it – is, "That's interesting. I wonder if it's true?"

This does not say, or even imply, that humans are not capable of rational thought. On the contrary, people have made incredible accomplishments in logic, math, physics, and other areas of purely rational endeavor. But that's not how we pick out a new car, or decide where we want to live, or who we choose as friends. Choices like those are all influenced (if not driven) by what goes on in the affective mind.

Let's start by looking far back into our history. The first creatures we recognize as "human beings" appeared on the planet 6-8 million years ago. Under the heading of survival, their first order of business was finding food and water. So their brain was adapted to recognizing what was edible and the signs of areas where food might be found. Fortunately, food and water were often found close to each other, so that made the search a little easier.

An equally important order of business was to avoid **becoming** food. In order to keep from being eaten, they learned that large carnivores should be avoided. They also learned to stay away from spiders, snakes, and other small animals with disagreeable attitudes.

Encountering any these creatures triggered the fight-or-flight response (or, more accurately, the fight-or-flight-or-freeze response). This response developed in order to promote survival of our species. When a threat was observed, a decision whether to fight, freeze, or run had to be made, and made almost instantly. People inclined to ponder decisions when danger appeared did not have a high survival rate, so a part of the human mind that developed first was oriented toward making rapid decisions.

This part of the brain, the affective mind, is called the "X-System" by modern psychologists. The X-system is the emotion-driven, decision-making part of the brain. All incoming information goes to the X-system first, and it makes decision based on elements like familiarity, similarity, and recency. Processing in the X-System is highly parallel and limits itself to very simple elements, so the X-System can process large amounts of information at the same time, and rapidly return approximate answers.

When a person sees a lion, the X-System immediately yells "RUN!" That part of the primitive brain is still with us. Even today, when we see a lion in a zoo and logically know that there is an impenetrable barrier protecting us, the X-System prepares to protect us. It starts releasing small amounts of adrenaline into our blood, and raises our heart-rate and respiration...just in case.

It is impossible to know when nascent reasoning appeared, but it was probably around 4-5 million years ago. Evidence of tool making appears around 2.5 million years ago, and adapting natural materials to make tasks easier shows rudimentary logic. Spoken language is less than 100,000 years old. Without language, complex logic is difficult if not impossible. Even using optimistic calculations, the rational part of the brain has been fully functional for less than 3% of human history.

The logical part of our mental make-up is called the "C-System". The C-System is the reasoning part of the brain. The C-system can only be engaged through conscious choice, and it requires effort to keep the C-System going through its slow, serial, step-by-step processes. The C-system demands evidence and logic to support a conclusion. It is the part of the brain used in conscious intellectual activity such as thinking, learning, designing, logical analysis, and creative imagination.

While the rational C-system is an open book, one of the problems with the emotional X-System is that it does not reveal how it arrives at any given conclusion. It just gives you an opinion, even if you didn't ask for it.

A second problem with the X-System is that it is not good at distinguishing between symbolic danger and physical danger. It reacts in essentially the same way whether you meet a bear on a mountain trail or you reach for your wallet and discover it is gone. Your pulse races, you perspire, you may feel faint or even nauseous. As economist John Mauldin noted:

We human beings were not designed for these modern times. As I so often say, we evolved on the African savanna dodging lions and chasing antelopes. We have converted those survival instincts into an unwieldy approach to dealing with financial markets, which is not the optimal way to approach investing.

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One of the interesting quirks of the X-System is that the desire for a thing to be true may be all the X-system needs to accept it as fact. For example, most of us believe we are rational beings because we

perceive Science and Reason as ideals. This is the X-System playing a little joke on us. It lets us believe we are rational so it can go on controlling our decisions without interference.

As David Ropeik said, "You think that the brain is this perfectly rational organ. That's not how the brain works. It takes the facts, it runs them through feelings, and it comes up with judgments." The C-System tells you that buying a lottery ticket is an absolute sucker bet with less than 1 chance in 100,000,000 of winning. Meanwhile the X-System tells you, "It's only a buck" and "Somebody has to win", and has you fishing in your pocket for a dollar bill.

Lurking somewhere in the X-System is another part of our personal survival equipment, the ego. The ego is that part of the psyche that tells you you're just as good as the next person and, in fact, you're better than the next person. It is the driving force in our instinct to compete, to win a mate, and to get a bigger piece of the pie.

The ego can get us in trouble when it makes us believe we are smart enough to predict what's going to happen in the future. It also gets us in trouble when it makes us think we're right about our opinions even though we are aware of evidence to the contrary.

Why do we cling to opinions even when we recognize that they might be wrong? Psychologist Dr. Rande Howell says, "The emotional brain cannot tell the difference between biological threat and psychological discomfort. You are wired for lightning-fast, fear-based reaction when a threat is perceived." And the emotional brain perceives the discomfort of uncertainty as a threat. We would rather argue for a questionable idea than admit to ourselves that we are not sure.

While the ego pumps up your self-esteem, anxiety makes you worry about things that may never happen, and regret makes you beat yourself up for things that did happen in the past, even if there was nothing you could have done differently at the time.

Another part of the emotional X-System tells us to follow the crowd. Banding together made a lot of sense 100,000 years ago when being independent could get you killed. Now it may or may not be a good idea, depending on what you are doing.

"Social media" is a corrosive influence that preys on people's instincts to band together and seek acceptance from others. There's nothing wrong with being social, but when you start thinking that someone else's opinion of you is more important than your own opinion of yourself, then you are headed toward a cliff.

Dr. Rande Howell observed, "We are not logical beings by nature. We are emotional beings who have access to reason if we can control our fight/flight/freeze response."

Emotions are a part of our ancient survival equipment. They tell us to avoid snakes and spiders, and to run like crazy when some other creature decides we look delicious.

The first steps to overcoming some of the counterproductive activities of the emotional brain is to understand that:

- The primitive, emotional brain is far, far older than the rational brain.
- The emotional brain is in charge. It gets the first shot at all information coming in through the senses. It also likes to butt into your rational thinking process, sometimes derailing useful trains of thought or suggesting flawed notions.

- The emotional brain always gives you an answer, whether you think you asked for it or not.
- The emotional brain is the gatekeeper to the rational brain.

Charles Baudelaire once said, "The greatest trick the devil ever pulled was convincing the world he didn't exist." The greatest trick the emotional brain ever pulled was letting human beings believe that the rational brain was in charge.

This is one of the most important lessons we can learn in life. If you don't know how your brain works, it's pretty difficult to know when any given thought that pops into your head is a rational analysis of the situation, or just an emotional response to something that happened three days ago.

By the way, there are very few people you can talk with about these concepts. Most people firmly believe that humans are rational, and they will become upset or angry if you suggest they are not rational. (There's a joke in there somewhere :-)

Once you know enough about personal psychology and market psychology, then you can start exploring the internet on your own and you'll be able to know who is telling the truth and who is making stuff up as they go.

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Further Reading (in alphabetic order)

- *Hacking the Holy Grail*, Doc Severson
- *(The) Little Book of Behavioral Investing*, James Montier
- *Mind Traps*, Roland Barach
- *Misbehaving*, Dr. Richard Thaler
- *Predictably Irrational*, Dr. Dan Ariely
- *Thinking Fast, Thinking Slow*, Dr. Daniel Kahneman
- *Trade Your Way to Financial Freedom*, Dr. Van Tharp
- *Trading in the Zone*, Mark Douglas

There are videos on the internet by many of these authors. There are also videos by a large number of people with more opinions than facts. I have read all the books on the above list. and I trust their authors. My advice is to start with videos by the authors listed.

One more name to add to your list is Dr. Rande Howell. He hasn't published any books that I know of, but his website is <https://www.mytradersstateofmind.com/>. He has extensive knowledge about the physical and psychological structure of the brain and the relationships between the parts. And he produces a free training video every couple of months.