The Psychology of Human Misjudgment

Economists assume that people are rational in the sense that they use all available information as they take actions intended to achieve their goals. But behavioral economists don't agree with the view of standard economics. They believe that humans are far less rational. Who is right? Let us test our rationality by answering the questions that are given below.

1. Linda is thirty-one years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice, and also participated in antinuclear demonstrations. Which of the alternatives is more probable about Linda **(a)** She is a bank teller **(b)** She is a bank teller and is active in the feminist movement?

2. A cab was involved in a hit-and-run accident at night. Two cab companies, the Green and the Blue, operate in the city. 85 percent of the cabs in the city are Green and 15 percent are Blue. A witness identified the cab as Blue. The court tested the reliability of the witness under the circumstances that existed on the night of the accident and concluded that the witness correctly identified each one of the two colors 80 percent of the time and failed 20 percent of the time. What is the probability that the cab involved in the accident was Blue than Green?

For the first question did you choose the second option? If yes, then you committed an error which is called as a conjunction fallacy. This fallacy happens when we judge that the probability of two events (bank teller and feminist) occurring is higher than that of a single event (bank teller). Don't feel bad about this as 85 to 90 percent of university students made the same mistake like you.

Let us solve the Linda problem by using middle school mathematics. Let us assume that there are 1000 people and 20 percent of them are bank tellers. Of the 20 percent bank tellers 2 percent of them are active in the feminist movement. This means that there are 200 bank tellers $[1000 * 0.2]$. And 4 feminist bank tellers $[1000 * 0.2 * 0.02]$. You don't need a genius to tell you that 200 bank tellers are more probable than 4 bank teller feminists.

For the second question did you answer 80 percent? If yes, then you failed to evaluate the problem from a Bayesian angle. The correct answer is 41 percent. Once again, let us solve the problem by using middle school mathematics. Let us assume that there are 100 cabs. This means that 85 of them will be green in color and the remaining 15 will be blue in color.

The witness identified the color of the cab to be blue. We know that the witness is correct 80 percent of the time. There are 15 blue cabs in total. This means that the witness will correctly

identify 12 blue cabs $[15 * 0.8]$. But the witness is also incorrect 20 percent of the time. There are 85 green cabs in total. This means that he will incorrectly identify 17 green cabs $[85 * 0.2]$. So the probability of the witness correctly identifying the blue cab is 41 percent.

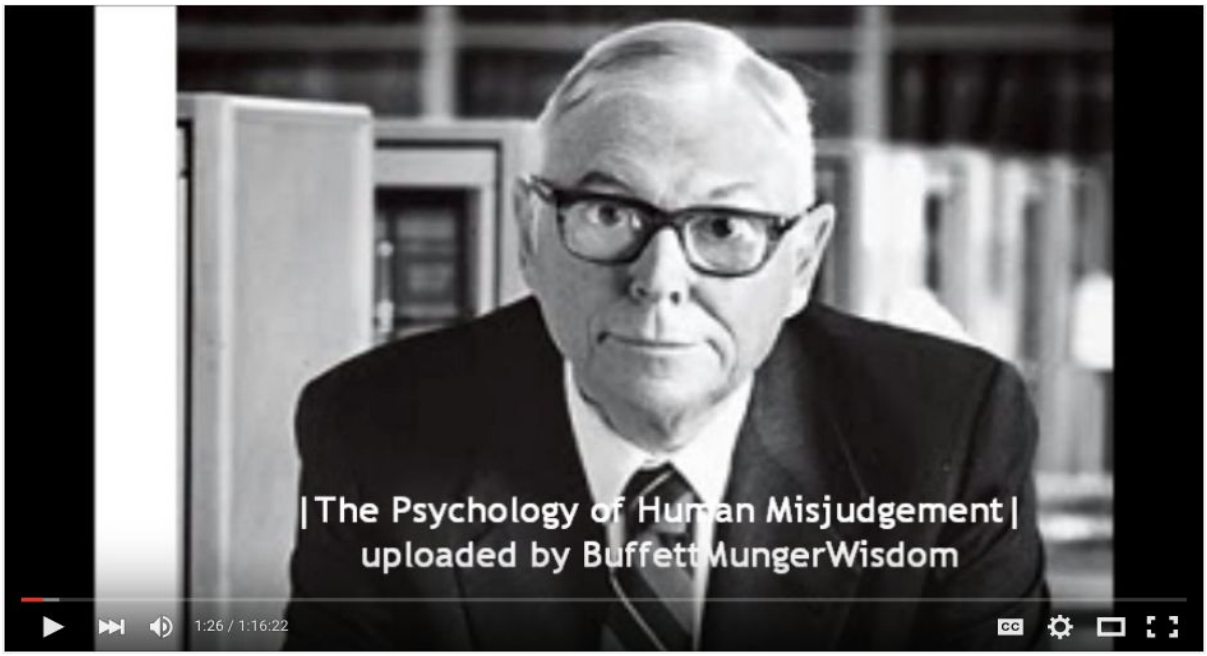
$$P(correct\ blue\ cab) = P(correct\ blue\ cab) / [\ P(correct\ blue\ cab) + P(incorrect\ green\ cab)]$$
$$P(correct\ blue\ cab) = 12 / [\ 12 + 17]$$
$$P(correct\ blue\ cab) = 12 / 29$$
$$P(correct\ blue\ cab) = 41\ percent$$

What can we conclude from all of the above? Humans are not perfectly rational as economists are assuming. The next question one should ask is what prevents us from being rational at all the times? The simple answer to this question is evolution.

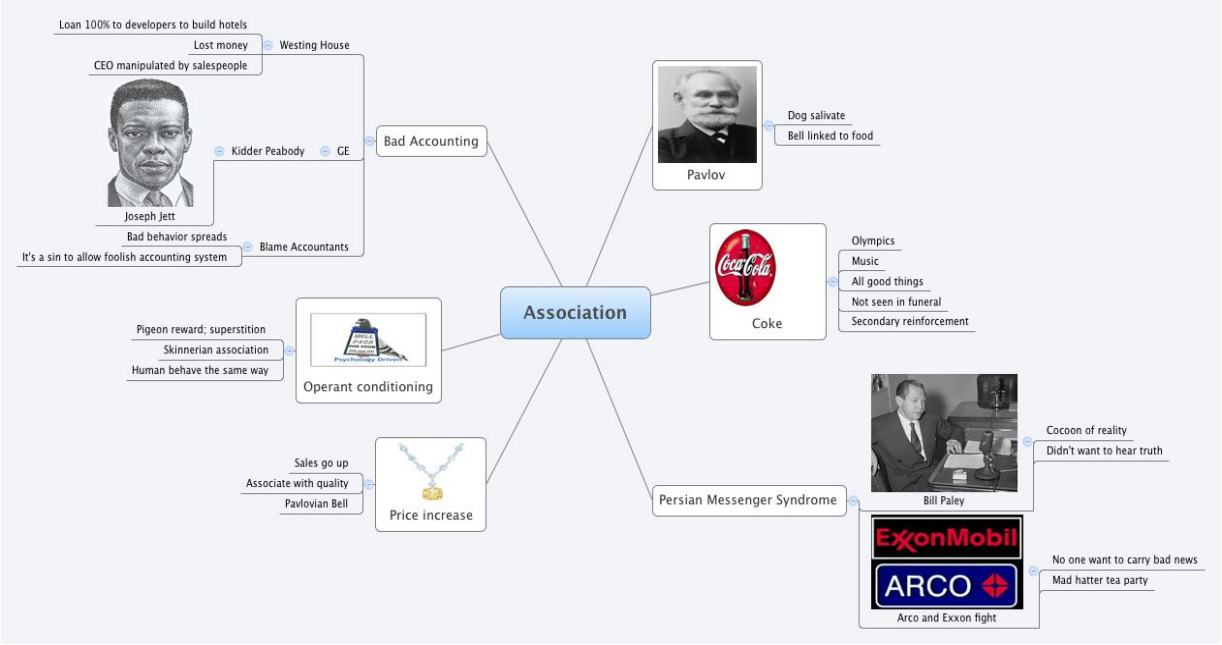
> *To understand who we really are as humans (and investors), it also helps to consider the environment in which we evolved. Roughly speaking, anatomically modern humans with large brains have been around for about 200,000 years. The part of our brain that evolved most recently is the rational neocortex. But for much of our history, we operated in a dramatically different environment.* ***Today there are substantial parts of our mental apparatus that evolved to help us survive in the wilderness that was home to our hunter-gatherer ancestors. These primitive survival routines embedded in our brains are easily capable of bypassing the neocortex.*** *We might like to perceive ourselves as potential Isaac Newtons, but it's perilous to forget that we also have this other aspect of our nature. Indeed, Newton himself would have been better off if he'd recognized this, given that he was an infamously dumb investor who lost his life savings in the South Sea Bubble. As Newton wryly observed: "I can calculate the movement of stars, but not the madness of men." - The Education of a Value Investor*

At this point we need a mechanism to identify the conditions under which our brain acts irrationally. How do we go about finding them? If you want to know about the properties of elements, then you should read the periodic table. If you want to know about the solvency of a company, then you should look at its balance sheet. **For learning about our own irrationality we need to read Charlie Munger's Psychology of Human Misjudgment. This is a rare gem and you need to spend a lot of time reading, rereading, and reflecting on it.**

Charlie Munger gave this speech at Harvard Law School in June 1995. If you want to listen to the speech, then click on the image given below. It's very important to apply Munger's teachings on a daily basis. Knowledge without application is useless [use-it-or-lose-it]. To apply it on a daily basis, we need to make it second nature. There are 24 standard causes of human misjudgment. How do we remember all of them? Several years back, I learnt about a powerful technique called as mind mapping. Using this technique we can organize the information visually so that we can recall them easily when needed.



I mind mapped all 24 causes of human misjudgment. You can find all of them here. A few things to note before looking at the mind maps **(1)** In order to understand the mind maps you should have read Munger's psychology of human misjudgment several times **(2)** Click on the mind map **(3)** Enlarge the mind map to view it clearly **(4)** Read them in the clockwise direction **(5)** Repeat several times. Given below is the mind map for one of the misjudgment — Association.



Let us apply Munger's psychology of misjudgment to study the irrational behaviors of people (including those of the luminaries) from many disciplines.

Thomas Edison and his Liking Bias

Thomas Edison was an American inventor and businessman. He has more than 2300 patents filed under his name. One of his inventions was Direct Current (DC). Nikola Tesla was a Serbian-American inventor who worked for Edison. Under Edison's supervision Tesla developed Alternating Current (AC). DC and AC are different types of current used for the conduction and transmission of electrical energy.

AC has definite advantages over DC. Some of the advantages are **(1)** AC can illuminate light bulbs over greater distances **(2)** AC can power gigantic industrial machines using the same electrical grid. Tesla also claimed that the modern world requires AC and it could only provide the scale and scope needed for extensive use of electricity. Tesla was absolutely correct about his claims. Did Edison accept the superiority of AC and adapt it for commercial use?

> *As a competitive inventor, Edison was not about to let the future of direct current be dictated by chance, so he started a big public relations campaign against alternating current, attempting to generate public fear about the competing technology.* ***He initially demonstrated the dangers of AC by directing his technicians to electrocute stray cats and dogs, and used this to show the potential risks of alternating current. As his next step, he secretly funded the development of an electric chair based on alternating current for the purpose of capital punishment.*** *The first person ever to be executed in the electric chair, William Kemmler, was slowly cooked alive. Not Edison's finest moment, to be sure, but it was a very effective and rather frightening demonstration of the dangers of alternating current. - [The Upside of Irrationality]*

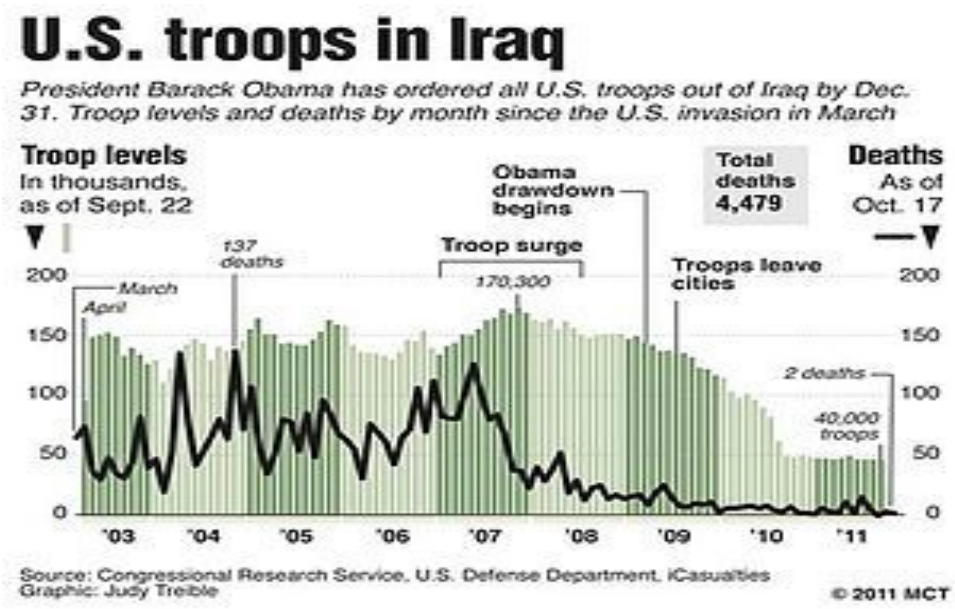
Edison fell in love with his own invention (DC). Even though his invention was inferior compared to AC he tried very hard to campaign against AC. **Edison fell for liking bias and failed to consider the merits of AC**. **If a genius like Edison behaved this way, then how would a normal person like you and me behave?**

George W. Bush and his Commitment-and-Consistency Bias

In 2003 George W. Bush was the president of the United States. That year he invaded Iraq for the following reasons **(1)** disarm Iraq of weapons of mass destruction **(2)** to end Saddam Hussein's support for terrorism **(3)** to free the Iraqi people. Six weeks after the invasion, Bush gave a speech claiming that the mission is accomplished and the major combat in Iraq has ended. Did Bush find any weapons of mass destruction in Iraq?

> *Bush was wrong in his claim that Saddam Hussein had weapons of mass destruction, he was wrong in claiming that Saddam was linked with Al Qaeda, he was wrong in predicting that Iraqis would be dancing joyfully in the streets to receive the American soldiers, he was wrong in predicting that the conflict would be over quickly, he was wrong in his gross underestimate of the financial cost of the war, and he was most famously wrong in his photo-op speech six weeks after the invasion began, when he announced (under a banner reading **MISSION ACCOMPLISHED**) that "major combat operations in Iraq have ended." - Mistakes Were Made (But Not by Me)*

As claimed by Bush did the combat really end in six weeks? Of course not. From the chart given below, we can see that the US troops were withdrawn from Iraq only at the end of 2011.



At this point you would expect that Bush would have accepted his mistake in invading Iraq. But he didn't. Instead, Bush was more convinced that the decisions he made are the right decisions. **He fell for the commitment-and-consistency bias. He made a lot of commitment in the form of time, money, promise, effort, and several deaths. And he would look bad if he accepted his mistake in public. So he stayed consistent with his commitment by justifying it to himself and others.**

> *The conservative columnist George Will and the liberal columnist Paul Krugman both called for Bush to admit he had been wrong, but the president remained intransigent. In 2006, with Iraq sliding into civil war and sixteen American intelligence agencies having issued a report that the occupation of Iraq had increased Islamic radicalism and the risk of terrorism,* ***Bush said to a delegation of conservative columnists, "I've never been more convinced that the decisions I made are the right decisions."*** *Of course, Bush had to justify the war his administration pursued in Iraq; he had too much invested in that course of action to do otherwise— thousands of deaths and, according to a conservative estimate from the American Enterprise Institute in 2006, at least a trillion dollars. Accordingly, when he was proved wrong in his original reasons for the war, he found new ones: getting rid of a "very bad guy," fighting terrorists, promoting peace in the Middle East, bringing democracy to Iraq, increasing the security of the United States, and finishing "the task [our troops] gave their lives for." In other words, we must continue the war because we began the war. -* [Mistakes Were Made (But Not by Me)]

Arthur Conan Doyle and his Confirmation Bias

Sir Arthur Conan Doyle was the author and creator of Sherlock Holmes; the most rational and intelligent detective of all time. In one of his books Conan Doyle wrote, “It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts.”

Elsie Wright, aged 16 and Frances Griffiths, aged 10 were two young English cousins who lived in Cottingley, a village outside Bradford in Yorkshire. In 1917 they claimed that they took photographs with the fairies. During that time photography was still a new thing and everyone believed that the fairies were real. In the picture given below you can see that Elsie is playing with the fairy. Was the fairy in the picture real or faked?

The fairy in the picture was faked. Elsie and Frances stuck doggedly to their story for years. Not until March 1983, when she was 76 years old, did Frances finally confess that the fairies in four of the five pictures had been cutouts traced from Princess Mary's Gift Book and secured by hatpins. I am not surprised by the fact that average Joe’s of the world believed in the fairy. What surprised me was that Conan Doyle believed in the story. Why did Conan Doyle not look for disconfirming evidence to dismiss the story?

> *Word of the Cottingley fairies soon spread. Sir Arthur Conan Doyle, famous as the Edinburgh-born creator of Sherlock Holmes, heard about the pictures from a friend at a time when he was preparing an article about fairy sightings for The Strand magazine. By then he had virtually given up writing fiction to devote himself to promoting the Spiritualist*

cause around the world. On June 30, 1920, Conan Doyle wrote separate registered letters to Elsie and her father. His letter to Arthur Wright was entirely businesslike: ***'Dear Mr Wright, I have seen the very interesting photos which your little girl took. They are certainly amazing. I was writing a little article for The Strand upon the evidence for the existence of fairies, so that I was very much interested.'***

In truth, it could fairly be said that Conan Doyle was almost genetically programmed to believe in fairies. His family originated in Ireland and his Celtic heritage was populated by many stories about the 'little people'. His unhappy father, Charles Altamont Doyle, an alcoholic committed to a lunatic asylum, filled page after page of a sketchbook with fantastical drawings of fairies, elves, goblins and sprites. His uncle, the artist Richard Doyle, made his reputation with fairy paintings. 'Dicky' Doyle designed the famous cover of Punch magazine, which featured swarms of 'little people' in various poses. Conan Doyle's spiritualism was inspired in part by the death of his son, Kingsley, in 1918 from pneumonia while recovering from his injuries in the Battle of the Somme. - DailyMail

Conan Doyle fell for the confirmation bias. Since childhood Conan Doyle believed in the fairies and throughout his life he was searching for evidences to prove the existence of fairies. The moment he heard about the photograph he used it as a confirming evidence. He never bothered to look for disconfirming evidences to dismiss the fairy story.

Multi-storey Building Collapse and First Conclusion Bias

In 2014 a multi-storey building with 11 floors collapsed in Chennai, India. You can read about the news here. Imagine that you read this news, watched it in the news channels several times, and also discussed about this with your friends. What will your conclusion be? Most likely you will conclude that multi-storey buildings are dangerous and if you were planning to buy a new apartment, then you will prefer the ones with fewer floors.

When this incident happened, I was in Chennai and most of my friends were thinking this way. If I tell this to Charlie Munger what would he tell? He would tell that my friends judgment got distorted because of their first conclusion bias — "Human mind is a lot like the human egg, and the human egg has a shutoff device. When one sperm gets in, it shuts down so the next one can't get in. The human mind has a big tendency of the same sort".

Let us analyze this situation rationally like Charlie Munger. How do we do that? The only way to do that is to look at the situation from the lens of multiple disciplines. The first discipline I will use is probability and ask what is the **base rate (prior probabilities)** for these kinds of incidents? I know that it is very low. Then why are people hesitant to buy apartments in multi-storey buildings?

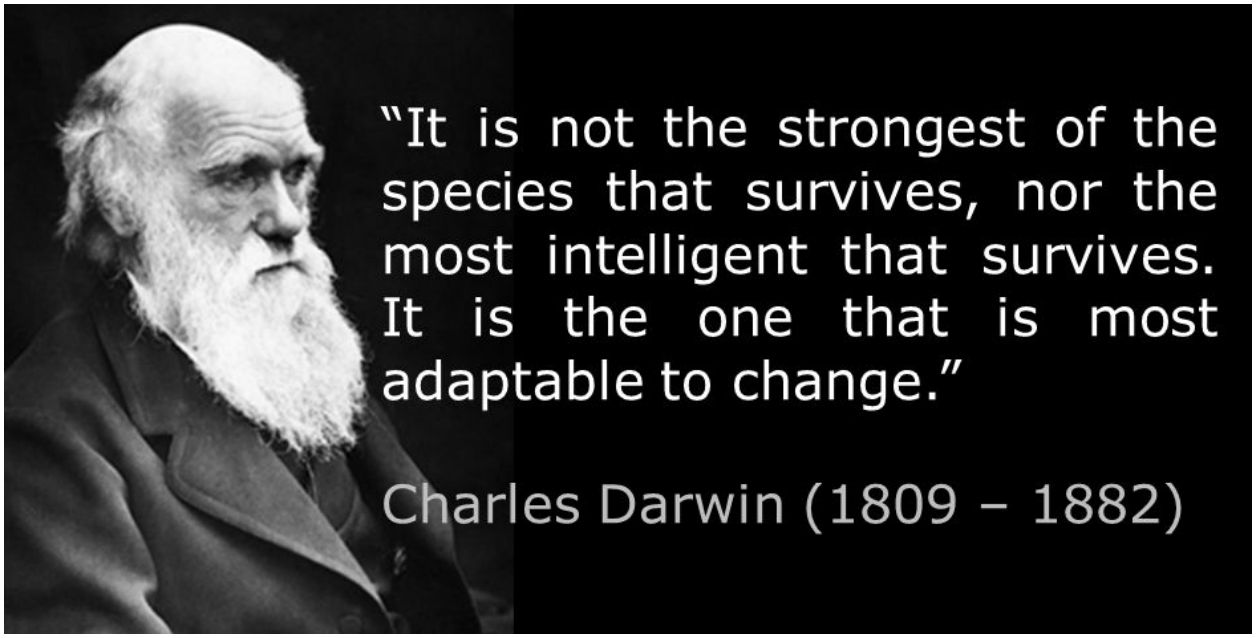
To answer this question I will jump from probability to psychology. Clearly there is a **recency effect**. Things that happened recently was over weighted and base rates are ignored. What else can I come up with? The news channels made this very **vivid** and this prevents people from thinking rationally. Also, everyone is thinking along the same lines and so a strong **social proof** is at play here.

The next question one should ask is why did the building collapse? The builder operated under **incentive caused bias** and compromised on quality. By allowing my mind to wander, in a controlled fashion, from one discipline to another I am able to explain the building collapse in a rational way. Sanjay Bakshi analyzed another news article related to the construction of a nuclear plant in a place called Kudankulam in Tamil Nadu, India. You can find his post here and this is my all time favorite. Read, reread, and reflect on what he wrote.

Learning From Charles Darwin

Using Munger's framework we looked into several cases in which people behaved irrationally. In the next section we will jump into the domain of finance to look at some more irrational behaviors. Before doing that, let me introduce you to Charles Darwin, who is one of the greatest rational thinkers in the world. Every time I read the book Seeking Wisdom I learn something new. This time I came across the paragraph given below which refers to the autobiography of

Charles Darwin. From this paragraph we can learn a lot about Darwin's thinking habits. There are five things that I learned which I marked it as [1]…[5].



> *I think that I am superior to the common run of men in noticing things which easily escape attention, and in observing them carefully[1]. My industry has been nearly as great as it could have been in the observation and collection of facts. What is far more important, my love of natural science has been steady and ardent… From my early youth I have had the strongest desire to understand or explain what I observed, that is, to group all facts under some general laws[2]. These causes combined have given me the patience to reflect or ponder for any number of years over any unexplained problem[3]. As far as I can judge, I am not apt to follow blindly the lead of other men[4]. I have steadily endeavored to keep my mind free so as to give up any hypothesis, however much beloved (and I cannot resist forming one on every subject), as soon as facts are shown to be opposed to it[5]. - Seeking Wisdom*

[1] Human brain jumps to conclusions based on vividness and recency of events. It ignores things that cannot be easily recalled however important that fact may be. Darwin understood this and avoided availability bias.

[2] You can't really know anything if you just remember isolated facts and try and bang 'em back. If the facts don't hang together on a latticework of theory, you don't have them in a usable form. Darwin understood this and organized his body of knowledge so that it was available to him when needed.

[3] Darwin is assiduous and he does not give up on things very easily.

[4] You can't come up with theory of evolution by following the wisdom of crowds. Darwin avoided social proof and instead relied on his own thinking faculties.

[5] He does not fall in love with his own ideas. He pays special attention to evidence that disconfirms his belief. This is one of the greatest qualities to have. I have not seen many people (including myself) with this quality. It is really hard.

The takeaway lesson that we all can learn from Charles Darwin is that even people who aren't geniuses can outthink the rest of mankind if they develop Darwin's thinking habits. If you want to be a successful stock picker then you need to follow the thinking habits of Charles Darwin.

Financial Crisis – United States (2008) – A Lollapalooza Event

Following the dot com crash in 2000 the US economy went into recession. To combat this, Alan Greenspan, chairman of the Federal Reserve at that time, kept the short term interest rates very low at 1 percent. Due to this more money was available in the system and buying homes became very easy. Lots of people with good credit were buying homes. House prices went up. On the other end there were investors with lots of money to invest. Since the interest rates were very low they were not satisfied with the yields that were available to them.

Banks had an idea. They bundled these mortgages and sold it to the investors. These investors received, the mortgage payments made by the homeowners as a yield for their investment. Banks got their commissions for underwriting these loans. The trios [banks, investors, homeowners] were happy. Why is that? Banks made more money on commissions. Investors got a decent yield and house prices were going up which made the homeowners happy.

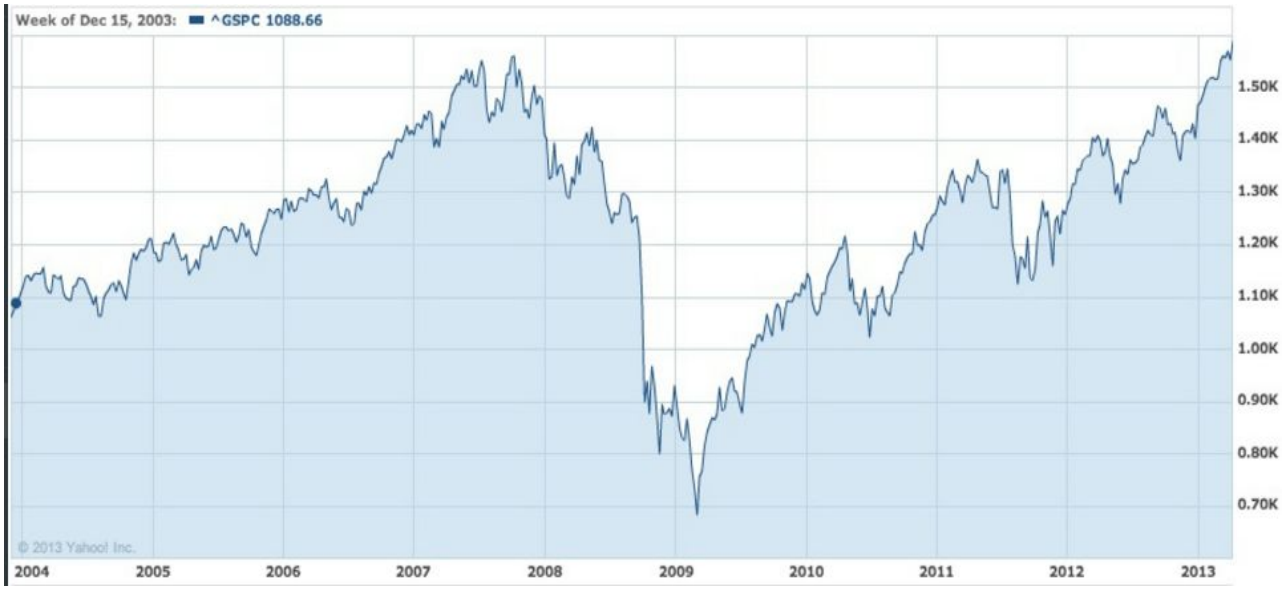
There were not many people with good credit. This is a problem for the banks as they do not have more people to underwrite loans. Banks had another idea. What if you issue loans to people with bad credit. The loans issued to people with FICO score less than 620 is called as subprime loans. Banks started issuing subprime loans.

> *At age 61, after 13 years of uninterrupted unemployment and at least as many years of living on welfare, she got a mortgage. She got it even though at one time she had 23 people living in the house (576 square feet, one bath) and some ramshackle outbuildings. She got it for $103,000, an amount that far exceeded the value of the house. The place has since been condemned… Halterman's house was never exactly a showcase – the city had since cited her for all the junk (clothes, tires, etc.) on her lawn. Nonetheless, a local financial institution with the cover-your-wallet name of Integrity Funding LLC gave her a mortgage, valuing the house at about twice what a nearby and comparable property sold for… Integrity Funding then sold the loan to Wells Fargo & Co., which sold it to HSBC Holdings PLC, which then packaged it with thousands of*

other risky mortgages and offered the indigestible porridge to investors. Standard and Poor's and Moody's Investors Service took a look at it all, as they are supposed to do, and pronounced it "triple-A." - *Foreword from the book The Great Crash 1929*

At some point every speculation had to burst. House prices stopped to go up before the financial crisis showed its ugly face. The borrowers did not have enough inflow to pay their mortgage. This should not be surprising as they never had a job in first place. So they defaulted. The investors who purchased these securities did not receive any more payments.

These losses soon spread to other asset classes, fueling a crisis of confidence in the health of the world's largest banks. Lehman Brothers went bankrupt in September 2008, which resulted in a credit freeze that brought the global financial system to the verge of complete collapse. The central banks had to step in to resolve this crisis. Take a look at the S&P 500 chart given below. The index went down by 56 percent from 2007 to 2009.



In 2009 Wesco's shareholders meeting, Charlie Munger analyzed the financial crisis through the lens of multiple disciplines. I have reproduced his response as it is. **The response he gave clearly shows the breadth and depth of his multidisciplinary mind. Read, reread, and reflect on Munger's response. They are golden nuggets.**

What caused the economic mess?

It was a lollapalooza event – a confluence of causes, that is how complex systems work. All of the following helped:

1) Abusive practices in consumer credit. People who couldn't handle credit were deliberately seduced. People who did it justified it by saying competitors would do it if they didn't. That is not proper. Sometimes you should let others proceed and not copy them. It is

abusive folly. I talked to a plastic surgeon last night who used to let people write checks against a line of credit on their house. Now his clients are finding those credit lines harder to get. A multiple credit card borrower is dangerous. He can look great right up until he goes bankrupt. Banks have abused their prerogatives and have stuck it in too hard. I have a fundamental theory that in some way the world is just, and if you do something immoral or stupid there will likely be a whirlwind someday where you get clobbered.

2) Mortgage brokers – often these are scum of the earth rejoicing in "rooking" the borrowers with flim-flam tricks, which often can happen with minorities in poor neighborhoods. On first and second mortgages – they built a huge balloon bound to create horrible mess, and the mess finally happened.

3) Wall Street went crazy. Any way of earning money short of armed robbery was ok. The last mortgage broker Merrill Lynch bought were a bunch of sleazy crooks even on the face of it. When people behave like that you get a tremendous mess.

4) Regulatory apparatus that allowed all this was also foolish. The regulators and legislators were in two categories. Legislators wanted poor people to have houses, but this is a bad idea since you want credit practices to be sound just like you want your engineering practices to be sound. People making money just rationalized what they did. Accounting systems spit it out as okay, even though in substance it wasn't right. It was ghastly and there was huge envy in the thing. If Joe made $3m, I'm better than Joe and so I deserve $3.5m.

5) Credit system was the repo system, one of best ways to grant unlimited credit ever invented. Then banks offered access to the repo system to hedge funds. It went to enormous excess. Some of it was due to democratic legislators hoping to help the poor, and some also was due to Republicans who overdosed on Ayn Rand. For Republicans, it was like legalizing armed robbery for anyone under 25. It was like letting the financial class prey on the poor. If it was unreasonable for the buyer, you got 9% for selling it. Ethos was of the "buyer beware". The vendors in America should care about selling good stuff to the customer.

6) Then the other issue was in terms of dizzy leverage on stock indices and CDS – where anyone could bet someone would go broke, even if they had no economic interest in the outcome. Then you could help that person along to ruin. We prohibited this in life insurance. I can't buy insurance if I don't have economic interest in the person (spouse, etc). These wise rules were thrown out in CDS markets. Then the people who did the accounting used mark to model. Both sides would allow profits. Anyone with engineering cast of mind will feel like throwing up into the aisle. Well go ahead, it will be a memorable moment if you do.

7) Accounting was phony because all the customers wanted it phony. Commissions were awesomely large, and it influenced people. And Greenspan was saying it was all for the best in the best of all possible worlds. To allow predatory class of people to do whatever they want to others is not like free enterprise at restaurants. The whole thing could go... back in September it was as if every bank deposit became unavailable – it looked like whole system would come crashing down last fall, and it accelerated downwards.

8) Luckily the government was awake, and was sensible enough to try to fix the situation. To fix it, we have to save the banks. That doesn't bother me, if you want perfections you don't live in this world. We had to save people who didn't deserve it, but it was important. It was smart government, taking over Fannie and Freddie and reducing mortgage costs. It was a correct decision.

9) Bank situation is much more complicated issue. The traditional way is you don't hear anything about the regulatory process, then you hear about the results after. There was no bake off – and that is a good system. The announced contest [ed: the stress test] makes me dubious, but it is better than nothing. Some banks should get more financing. Averaged out I would give Treasury Dept good marks, though I don't look forward to what they likely will do to WFC, since we own a lot. Their credit costs them so much less. Treasury are using a one size fits all. I would give WFC a flaming pass. But if it is a little unjust, maybe their duty is to take their medicine. When we have this much trouble, everyone shouldn't be screaming for the last iota. I think everything is working out fairly well. Much of what has been done has been done beautifully.

Unforced Errors Of Superinvestors

Charlie Munger - Are you looking at normalized earnings?

In February 2000, Charlie Munger purchased 100 percent of Cort Business Services for Wesco. Cort is the leader in rentals of furniture that lessees have no intention of buying. In 1999, Cort had total revenues of $354 million and it had a pre-tax earnings of $46 million. Munger did an all cash deal and he acquired Cort by paying $384 million.

The deal appeared to be a steal as **(1)** Cort was riding on a fundamental shift in the American economy with several companies preferring to lease furniture instead of buying them **(2)** Munger purchased the business at 12 percent pre-tax earnings yield and he got all the future growth of Cort for free **(3)** Cort has long been headed by Paul Arnold who is a star executive. The table given below shows the sales and pre-tax earnings of Cort from [1999 - 2003]. What do you see?

	Cort Business Services				
(in millions)	**1999**	**2000**	**2001**	**2002**	**2003**
Sales	$354	$361	$395	$389	$360
Pre-tax earnings	$46	$29	$13.10	$2.40	-$6.30

After Munger acquired the company in early 2000, its pre-tax earnings started to decline. Why did this happen? During the peak of the dot-com bubble a lot of startup companies were leasing furniture from Cort. This resulted in increasing its sales and pre-tax earnings. When the dot-com

bubble burst many of Cort's lessees went bust. Along with that the earning power of Cort went down to zero.

> *CORT has been clobbered by the big dot-com decline.* ***The whole temporary office business in the country had a huge boom. Law firms, accounting firms, venture capital firms, etc. all expanded. When they went bust, rental firms went bust. In that business, we caught a big recession.*** *We're having a similar recession in NetJets in that used jets have gone down in price. CORT and NetJets are losing a lot of money. Do I think CORT is going to fail? No. NetJets? No. There are vicissitudes in life. In fact, we're buying other furniture rental companies. Some people vote with their feet; we vote with our wallets. Was our timing great in buying CORT? No, it was terrible. - Munger*

But how can anyone know that the dot-com bubble is going to burst? An average person like me would not have seen this coming. Munger knew about the dot-com bubble beforehand. But he failed to see how dependent Cort was on the bubble. According to Mohnish Pabrai, Charlie Munger failed to ask the question - "Are you looking at normalized earnings or are you looking at boom earnings?"

Warren Buffett - Is the moat sustainable?

In 1993, Warren Buffett acquired Dexter Shoe of Dexter, Maine, which manufactures men's and women's shoes. He acquired the company by paying $443 million in Berkshire stock. At the time of acquisition Buffett was aware that the domestic shoe industry is finding it hard to compete with imports from low-wage countries. But he thought that the ingenious management of Dexter would be able to fend off foreign competition. Take a look at what Buffett wrote in 1993.

Dexter, I can assure you, needs no fixing: It is one of the best-managed companies Charlie and I have seen in our business lifetimes.

Harold Alfond, who started working in a shoe factory at 25 cents an hour when he was 20, founded Dexter in 1956 with $10,000 of capital. He was joined in 1958 by Peter Lunder, his nephew. The two of them have since built a business that now produces over 7.5 million pairs of shoes annually, most of them made in Maine and the balance in Puerto Rico. As you probably know, the domestic shoe industry is generally thought to be unable to compete with imports from low-wage countries. But someone forgot to tell this to the ingenious managements of Dexter and H. H. Brown and to their skilled labor forces, which together make the U.S. plants of both companies highly competitive against all comers.

Within a few years the durable competitive advantage of Dexter disappeared as it was unable to compete with cheap imports. Had Buffett paid $443 million in cash, then the cost of his mistake would have been limited to $443 million. By giving away 1.6 percent of a wonderful business – one now valued at $328 billion – to buy a worthless business the acquisition cost to Berkshire

shareholders is not $443 million, but rather $5.25 billion. According to Mohnish Pabrai, Warren Buffett failed to ask the question - "Is the moat sustainable?"

> *Finally, I made an even worse mistake when I said "yes" to Dexter, a shoe business I bought in 1993 for $433 million in Berkshire stock (25,203 shares of A).* ***What I had assessed as durable competitive advantage vanished within a few years.*** *But that's just the beginning: By using Berkshire stock, I compounded this error hugely. That move made the cost to Berkshire shareholders not $400 million, but rather $3.5 billion. In essence, I gave away 1.6% of a wonderful business – one now valued at $220 billion – to buy a worthless business. To date, Dexter is the worst deal that I've made. But I'll make more mistakes in the future – you can bet on that. - Buffett [2007]*

Guy Spier - Are the company's revenues leveraged to the credit markets?

CarMax is the Wal-Mart or Costco of second hand cars. It has sold over 4 million cars since opening its first store in Virginia in 1993. It is a highly efficient operation with a narrow spread between what it pays for cars and the price at which it sells them. Customers prefer CarMax because it sells the cars at a very low price. Also, the company has a huge selection of cars on display. The table given below shows the sales and pre-tax earnings of CarMax.

	CarMax			
(in millions)	2003	2005	2007	2009
Sales	$3,969	$5,260	$7,465	$6,974
Pre-tax earnings	$149	$165	$323	$96

Guy Spier is a Zurich based investor and author of the fantastic book The Education of a Value Investor. He invested in CarMax before the 2008 financial crisis. One of the key aspect of the CarMax business model is that it provides customers with access to financing. In the United States, a significant portion of cars are leased. Without financing, many of its customers would not be able to buy its cars. CarMax was providing the financing by borrowing money from the debt markets. Its business model fell apart during the 2008 financial crisis as it was unable to raise funds from the debt markets. Sales plummeted and the stock price crashed.

> *Sales plummeted because CarMax and its customers could no longer obtain credit amid the global financial crisis. As a result, the stock price crashed. Once again, I discovered the importance of understanding a company's entire value chain. I hadn't given sufficient thought to just how dependent CarMax was on the credit markets, and how vulnerable this made the business. I might well have made the purchase anyway. After all, I could never have predicted the severity of the credit crisis. But this situation taught me how critical it is to discern whether a business is overly exposed to parts of the value chain*

that it can't control. If this is the case (as it often is), I need to be compensated for that heightened risk with a lower purchase price. ***In response to this experience, I developed a checklist item that allows me to get a deeper sense of the quality of the business. One way to word this item might be: "Are the company's revenues leveraged to the credit markets?"*** *- The Education of a Value Investor*

In the table given below I have summarized the unforced errors of three superinvestors. What you need to do is to study the mistakes of several other investors (including yourself) and keep adding it to the table. How do I find out the mistakes of other superinvestors? You can start with the book The Billion Dollar Mistake.

Investor	**Company**	**Unforced Error**
Charlie Munger	Cort Business Services	Are you looking at normalized earnings or are you looking at boom earnings?
Warren Buffett	Dexter Shoes	Is the durable competitive advantage (moat) sustainable?
Guy Spier	CarMax	Are the company's revenues leveraged to the credit markets?
...	**...**	**...**

Why did I ask you to study the failures of other investors and create a checklist for it? In order to answer that question you need to know that there are two types of failures — Ignorance and Ineptitude. We don't have much control over ignorance as the knowledge for handling that situation doesn't even exist. In case of ineptitude the knowledge exists, yet we fail to apply it correctly.

> *The first is ignorance — we may err because science has given us only a partial understanding of the world and how it works. There are skyscrapers we do not yet know how to build, snowstorms we cannot predict, heart attacks we still haven't learned how to stop. The second type of failure the philosophers call ineptitude — because in these instances the knowledge exists, yet we fail to apply it correctly. This is the skyscraper that is built wrong and collapses, the snowstorm whose signs the meteorologist just plain missed, the stab wound from a weapon the doctors forgot to ask about.*
>
> *Here, then, is our situation at the start of the twenty-first century: We have accumulated stupendous know-how. We have put it in the hands of some of the most highly trained, highly skilled, and hardworking people in our society. And, with it, they have indeed accomplished extraordinary things. Nonetheless, that know-how is often unmanageable. Avoidable failures are common and persistent, not to mention demoralizing and frustrating, across many fields — from medicine to finance, business to government. And the reason is increasingly evident: the volume and complexity of what we know has exceeded our individual ability to deliver its benefits correctly, safely, or reliably. Knowledge has both saved us and burdened us.*
>
> ***That means we need a different strategy for overcoming failure, one that builds on experience and takes advantage of the knowledge people have but somehow also makes up for our inevitable human inadequacies. And there is such a strategy — though it will seem almost ridiculous in its simplicity, maybe even crazy to those of us who have spent years carefully developing ever more advanced skills and technologies. It is a checklist.*** *- The Checklist Manifesto*

The unforced errors committed by the superinvestors could have been easily avoided if they had applied what they already knew. They failed because of their ineptitude. By creating a checklist and going through them before buying a stock, we can learn vicariously from others mistakes, reduce failures due to ineptitude, and avoid permanent loss of capital. This is what Mohnish Pabrai did when he came up with a checklist that had about 80 items in it. To find out why Pabrai believes in checklists click here, here, and here.

Few Items To Read

1. Terribly smart people make totally bonkers mistakes by not knowing basic human psychology. Without a basic understanding of human psychology, we will fail in our life. Read the books Thinking Fast and Slow, Predictably Irrational, and Influence.
2. What book has the most page-for-page wisdom? Without doubt I would recommend reading Poor Charlie's Almanack and Seeking Wisdom.

3. Learning happens in two ways — Direct and Vicarious. If you want to avoid permanent loss of capital then you need to take the vicarious route and learn from others failures. Read the book The Billion Dollar Mistake.
4. Read the book The Checklist Manifesto and minimize failures due to ineptitude by creating checklists.