

Poor Charlie's Almanack

Physics like problem solving was to become a passion for Charlie and is a skill he considers helpful in framing the problems of life. He has often stated that anyone who wants to be successful should study physics because its concepts and formulas so beautifully demonstrate the powers of sound theory.

I think you learn economics better if you make Adam Smith your friend. That sounds funny, making friends among "the eminent dead" but if you go through life making friends with the eminent dead who had the right ideas, I think it will work better for you in life and work better in education. It's way better than just giving the basic concepts.

Cicero is never in favor of complaining about personal misfortune, and he has reasons. For instance, he does not believe the old should complain about diminutions in sexual vigor. Instead, he thinks they should rejoice that they are now less likely to disgrace themselves or contract venereal diseases.

The best armour of old age is a well spent life preceding it.

A friend let Charlie' father and himself borrow a car and it had a half of tank of gas. His father filled it up and told Charlie that the reason he filled it up is because you never return a borrowed car without a full tank of gas.

Dick Esbenshade, friend and business associate since 1956 on Munger, "When it comes to being curious and focused, when Charlie gets interested in something, he REALLY gets interested in it. I remember three talks he prepared and presented to our law firm on some of what he referred to as 'the eminent dead' he had encountered through his extensive reading: Isaac Newton, Albert Einstein, and Simon Marks. In particular, I remember the central message of the talk on Simon Marks (of retailer Marks and Spencer): 'Find out what you're best at and keep pounding away at it.' This, of course, has always been Charlie's basic approach to life."

"Our experience tends to confirm a long held notion that being prepared, on a few occasions in a lifetime, to act promptly in scale, in doing some simple and logical thing, will often dramatically improve the financial results of that lifetime."

"A few major opportunities, clearly recognizable as such, will usually come to one who continuously searches and waits, with a curious mind that loves diagnosis involving multiple variables.. And then all that is required is a willingness to bet heavily when the odds are extremely favorable, using resources available as a result of prudence and patience in the past."

"You have to realize the truth of biologist Julian Huxley's idea that, 'Life is just one damn relatedness after another.' So you must have the models, and you must see the relatedness and the effects from the relatedness."

"Simplicity is the end result of long, hard work, not the starting point." – Frederick Maitland

Charlie has developed an unusual additional attribute – a willingness, even an eagerness, to identify and acknowledge his own mistakes and learn from them. As he once said, “If Berkshire has made a modest progress, a good deal of it is because Warren and I are very good at destroying our own best-loved ideas. Any year that you don’t destroy one of your best-loved ideas is probably a wasted year.” Charlie likes the analogy of looking at one’s ideas and approaches as “tools.” “When a better tool (idea or approach) comes along, what could be better than to swap it for your old, less useful tool? Warren and I routinely do this, but most people, as Galbraith says, forever cling to their old, less useful tools.”

The most important thing to keep in mind is the idea that especially big forces often come out of these one hundred models. When several models combine, you get lollapalooza effects; this is when two, three, or four forces are all operating in the same direction. And, frequently, you don’t get simple addition. It’s often like a critical mass in physics where you get a nuclear explosion if you get to a certain point of mass – and you don’t get anything much worth seeing if you don’t reach the mass. Sometimes the forces just add like ordinary quantities and sometimes they combine on a breakpoint or critical-mass basis.

“Look at those hedge funds – you think they can wait? They don’t know how to wait! In my personal portfolio, I have sat for years at a time with \$10-\$12 million in treasuries or municipals, just waiting, waiting...”

“As Jesse Livermore said, The big money is not in the buying and selling...but in the waiting.”

Often, as in this case, Charlie generally focuses first on what to avoid – that is, on what NOT to do – before he considers the affirmative steps he will take in a given situation. “All I want to know is where I’m going to die, so I’ll never go there” is one of his favorite quips. In business, as in life, Charlie gains enormous advantage by summarily eliminating the unpromising portions of “the chess board”, freeing his time and attention for the more productive regions. Charlie strives to reduce complex situations to their most basic, unemotional fundamentals. Yet, within this pursuit of rationality and simplicity, he is careful to avoid what he calls “physics envy,” the common human craving to reduce enormously complex systems (such as those in economics) to one-size-fits-all Newtonian formulas. Instead, he faithfully honors Albert Einstein’s admonition, “A scientific theory should be as simple as possible, but no simpler.” Or in his own words, “What I’m against is being very confident and feeling that you know, for sure, that your particular action will do more good than harm. You’re dealing with highly complex systems wherein everything is interacting with everything else.”

“It’s not the bad ideas that do you in, it’s the good ideas. And you may say, ‘That can’t be so. That’s paradoxical.’ What he [Graham] meant was that if a thing is a bad idea, it’s hard to overdo. But where there is a good idea with a core of essential and important truth, you can’t ignore it. And then it’s so easy to overdo it. So the good ideas are a wonderful way to suffer terribly if you overdo them.”

“To us, investing is the equivalent of going out and betting against the pari-mutuel system. We look for a horse with one chance in two of winning and which pays you three to one. You’re looking for a mispriced gamble. That’s what investing is. And you have to know enough to know whether the gamble is mispriced. That’s value investing.”

Munger and Buffett on the issue of competitive advantages (moats): Over their long business careers they have learned, sometimes painfully, that few businesses survive over multiple generations. Accordingly, they strive to identify and buy only those businesses with a good chance of beating these tough odds.

“Never fool yourself, and remember that you are the easiest person to fool.” Richard P. Feynman

Munger’s Three Great Lessons of Investing: 1. A great business at a fair price is superior to a fair business at a great price. 2. A great business at a fair price is superior to a fair business at a great price.

While poor outcomes are excusable in the Munger/Buffett world – given the fact that some outcomes are outside of their control – sloppy preparation and decision making are never excusable because they ARE controllable.

What makes a great business model for Charlie? His recommended reading materials provide some guidance. Guns, Germs, and Steel, the Selfish Gene, Ice Age, and Darwin’s Blind Spot all have a certain theme: a focus on the aforementioned issue of “competitive destruction” and an examination of why some entities are nevertheless able to adapt, survive, and even dominate over time. When this theme is extrapolated into investment selection, the preferred Munger business emerges: Some thrive by outcompeting (a la Selfish Gene) and others by out cooperating (Darwin’s Blind Spot). Once again, we see Charlie’s rich fluency across a broad range of disciplines at work: How many investors ever consider, as Charlie routinely does, such a broad and sophisticated spectrum of factors? To name but a few, he routinely considers factors such as conversion, ie, how the laws of thermodynamics intersect with laws of economics (for instance how paper and petroleum become a newspaper delivered to a front door), psychological tendencies and incentives (notably the extreme behavioral pressures they create, both good and bad), and fundamental sustainability over time (the constant and often deadly interplay between positive factors such as “moats” and the ravages of competitive destruction). Charlie is possibly without peer when it comes to the checklist of atypical investment factors he considers and his deep fluency in the diverse disciplines from which they are drawn.

I have a clipping from the 1911 Buffalo Evening News that lists the fifty most important stocks then actively traded on the New York Stock Exchange. Today only one, General Electric, remains in business as a large independent company. That’s how powerful the forces of competitive destruction are. Over the very long term, history shows that the chances of any business surviving in a manner agreeable to a company’s owners are slim at best.

“People always want a formula – but it doesn’t work that way. You have to estimate total cash generated from now to eternity, and discount it back to today. Yardsticks such as P/Es are not enough by themselves. – Buffett

On several occasions, incurring the skepticism that must often be borne by “value style” investors, the United States has made astute territorial acquisitions. In 1803, Thomas Jefferson’s administration completed the Louisiana Purchase from Napoleon’s France for the sum of \$15 million, which worked out to roughly 2.9 cents an acre. In 1867, in what at the time was known as “Seward’ Folly,” the US acquired

the Territory of Alaska from Russia for the sum of \$7.2 million in gold, or roughly 2.5 cents an acre. By way of comparison, the Alaska purchase price, in 2006 dollars, is the equivalent of \$1.67 billion, certainly no folly in terms of the value of oil, minerals, and strategic advantages obtained.

If you took our top fifteen decisions out, we'd have a pretty average record. It wasn't hyperactivity, but a hell of a lot of patience. You stuck to your principles and when opportunities came along, you pounced on them with vigor." - Munger

There are worse situations than downing in cash, and sitting, sitting, sitting. I remember when I wasn't awash in cash – and I don't want to go back. – Munger

"Louis Vincenti, who used to sit in the chair I occupy today, used to say, 'If you tell the truth, you don't have to remember your lies.' So we try and keep it simple by telling it like it is at all times. Having so many longtime loyal shareholders means that we have never given a damn whether any quarter's earnings were up or down – at least we don't care in terms of their effect on shareholders. We prefer profits to losses, obviously. But we're not willing to manipulate in any way just to make some quarter look a little better. And that's a very different ethos from the standard."

If See's Candy [when we were buying it] had asked for \$100,000 more [Buffett chimed in, "\$10,000], Warren and I would have walked – that's how dumb we were. Ira Marshall said you guys are crazy – there are some things you should pay up for, like quality businesses and people. You are underestimating quality. We listened to the criticism and changed our mind. This is a good lesson for anyone: the ability to take criticism constructively and learn from it. If you take the indirect lessons we learned from See's, you could say Berkshire was built on constructive criticism.

I've never seen a cost of capital calculation that made sense to me. Have you, Charlie? "Never. If you take the best text in economics by Mankiw, he says intelligent people make decisions based on opportunity costs – in other words, it's your alternatives that matter. That's how we make all of our decisions. The rest of the world has gone off on some kick – there's even a cost of equity capital. A perfectly amazing mental malfunction.

Charlie on the value of forecasts, "People have always had this craving to have someone tell them the future. Long ago, kings would hire people to read sheep guts. There's always been a market for people who pretend to know the future. Listening to today's forecasters is just as crazy as when the king hired the guy to look at the sheep guts. It happens over and over and over.

Indexing can't work well forever if almost everybody turns to it. But it will work all right for a long time.

The fundamental thing that accountants must learn to realize, is that reports are not for the benefit of the report maker. The sole reason for a report is to serve the user. Remember that accounting reports are a measuring stick of performance. They will not serve the user well unless they have the qualities of a good measuring stick. They must be easy to read and to understand. They must be invariably consistent. – C.F. Braun

Munger, “I think every time you see the word EBITDA, you should substitute the words “bullshit earnings”.

“Abraham Lincoln once asked, ‘How many legs does a dog have if you call the tail a leg? Four. Calling a tail a leg doesn’t make it a leg.’ Likewise, just because an actuary says you can earn 9% on pension plan assets, it doesn’t magically alter the reality of your future liability.” – Buffett

Black-Scholes is a know nothing system. If you know nothing about value – only price – then Black-Scholes is a pretty good guess at what a ninety-day option might be worth. But the minute you get into longer periods of time, it’s crazy to get into Black-Scholes. For example, at Costco we issued stock options with strike prices of \$30 and \$60, and Black-Scholes valued the \$60 ones higher. This is insane.

We tried to sell Gen Re’s derivatives operation and couldn’t so we started liquidating it. We had to take big markdowns. I would confidently predict that most of the derivative books of [this country’s] major banks cannot be liquidated for anything like what they’re carried on the books at. When the denouement will happen and how severe it will be, I don’t know. But I fear the consequences could be fearsome. I think there are major problems, worse than in the energy field, and look at the destruction there. I’ll be amazed if we don’t have some kind of significant [derivatives-related] blowup in the next five to ten years. If I remember correctly, the last line was said in the early to mid-2000’s and we had a blowup in 2007-2008 so Munger was right.

A lot of success in life and business comes from knowing what you want to avoid: early death, a bad marriage, etc.

Beware of Envy – The idea of caring that someone is making money faster [than you are] is one of the deadly sins. Envy is a really stupid sin because it’s the only one you could never possibly have any fun at. There’s a lot of pain and no fun. Why would you want to get on that trolley?

Japan’s Recession – anyone has to be flabbergasted by Japan’s recession, which has endured for ten years, despite interest rates below one percent. The government is playing all the monetary games, but it’s not working. If you have described this situation to Harvard economists, they would have said it’s impossible. Yet at the same time, there’s an asset bubble in Hong Kong. Why? Because Japan and China are two vastly different cultures. The Chinese are gamblers.

What [Johnny] Carson said [in his Harvard Commencement speech to Munger’s graduating class] was that he couldn’t tell the graduating class how to be happy, but he could tell them from personal experience how to guarantee misery. Carson’s prescription for sure misery included: 1. Ingesting chemicals in an effort to alter mood or perception; 2. Envy; and 3. Resentment. I can still recall Carson’s absolute conviction as he told how he had tried these things on occasion after occasion and had become miserable every time. It is easy to understand Carson’s first prescription for misery – ingesting chemicals. I add my voice. The four closest friends of my youth were highly intelligent, ethical, humorous types, favored in person and background. Two are long dead, with alcohol a contributing factor, and a third is a living alcoholic – if you call that living.

Disraeli, as he rose to become one of the greatest prime ministers, learned to give up vengeance as a motivation for action, but he did retain some outlet for resentment by putting the names of people who wronged him on pieces of paper in a drawer. Then, from time to time, he reviewed these names and took pleasure in noting the way the world had taken his enemies down without his assistance.

Four more prescriptions to be miserable from Munger: 1. Be unreliable, 2. Learn everything you possibly can from your own experience, minimizing what you learn vicariously from the good and bad experience of others, living and dead, 3. Go down and stay down when you get your first, second, or third severe reverse in the battle of life, 4. [Never invert a problem].

My third prescription to you for misery is to go down and stay down when you get your first, second, or third severe reverse in the battle of life. Because there is so much adversity out there, even for the lucky and wise, this will guarantee that, in due course, you will be permanently mired in misery. Ignore at all cost the lesson contained in the accurate epitaph written for himself by Epictetus: "Here lies Epictetus, a slave, maimed in body, the ultimate in poverty, and favored by the gods."

What Carson did [in his Harvard commencement speech to Munger] was to approach the study of how to create X by turning the question backward, that is, by studying how to create non-X. The great algebraist, Jacobi, had exactly the same approach as Carson and was known for his constant repetition of one phrase: "Invert, always invert." It is in the nature of things as Jacobi knew, that many hard problems are best solved only when they are addressed backward. For instance, when almost everyone else was trying to revise the electromagnetic laws of Maxwell to be consistent with the motion laws of Newton, Einstein discovered special relativity as he made a 180 degree turn and revised Newton's laws to fit Maxwell's.

Carl Braun's rule for all the Braun Company's communications was called the five Ws – you had to tell who was going to do what, where, when, and why. And if you wrote a letter or directive in the Braun Company telling somebody to do something, and you didn't tell him why, you could get fired. In fact, you would get fired if you did it twice. You might ask why is that so important? Well, again, that's a rule of psychology. Just as you think better if you array knowledge on a bunch of models that are basically answers to the question, why, why, why, if you always tell people why, they'll understand it better, they'll consider it more important, and they'll be more likely to comply. Even if they don't understand your reason, they'll be more likely to comply.

Pascal said, "The mind of man at one and the same time is both the glory and the shame of the universe." And that's exactly right. It has this enormous power. However, it also has these standard malfunctions that often cause it to reach wrong conclusions. It also makes man extraordinarily subject to manipulation by others. For example, roughly half of the army of Adolf Hitler was composed of believing Catholics. Given enough clever psychological manipulation, what human beings will do is quite interesting.

Now we come to another somewhat less reliable form of human wisdom – microeconomics. And here, I find it quite useful to think of a free market economy – partly free market economy – as sort of the equivalent of an ecosystem..... Just as in an ecosystem, people who narrowly specialize can get terribly

good at occupying some little niche. Just as animals flourish in niches, similarly, people who specialize in the business world – and get very good because they specialize – frequently find good economics that they couldn't get any other way.

“Before you are a leader, success is all about growing yourself. When you become a leader, success is all about growing others.” “Give a project visibility. Put great people on it and give them plenty of money. This continues to be the best formula for success.” Finding great people happens in all kinds of ways, and I've always believed, ‘Everyone you meet is another interview.’ “A cardinal rule of business: never allow anyone to get between you and your customers or suppliers. Those relationships take too long to develop and are too valuable to lose.” - Jack Welch

Another advantage of scale come from psychology. The psychologists use the term “social proof.” We are all influenced – subconsciously and, to some extent, consciously – by what we see others do and approve. Therefore, if everybody's buying something, we think it's better. We don't like to be the one guy who's out of step.

“It was a real blessing for me to be so green and ignorant, because it was from that experience that I learned a lesson which has stuck with me through all the years: you can learn from everybody. I didn't just learn from reading every retail publication I could get my hands on, I probably learned the most from studying what [my competitor] was doing across the street.

It's quite interesting to think about Wal-Mart starting from a single store in Arkansas – against Sears, Roebuck with its name, reputation and all of its billions. How does a guy in Bentonville, Arkansas, with no money, blow right by Sears, Roebuck? And he does it in his own lifetime – in fact, during his own late lifetime because he was already pretty old by the time he started out with one little store... He played the chain store game harder and better than anybody else. Walton invented practically nothing. But he copied everything anybody else ever did that was smart – and he did it with more fanaticism and better employee manipulation. So he just blew right by them all.

The cash register was one of the great contributions to civilization. It's a wonderful story. Patterson was a small retail merchant who didn't make any money. One day somebody sold him a crude cash register, which he put into his retail operation. And it instantly changed from losing money to earning a profit because it made it so much harder for the employees to steal. But Patterson, having the kind of mind that he did, didn't think, “Oh, good for my retail business.” He thought, “I'm going into the cash register business.” And of course, he created National Cash Register. And he “surfing”. He got the best distribution system, the biggest collection of patents, and the best of everything. He was a fanatic about everything important as the technology developed. I have in my files an early National Cash Register company report in which Patterson described his methods and objectives. And a well-educated orangutan could see that buying into partnership with Patterson in those early days, given his notions about the cash register business, was a total one hundred percent cinch. And of course, that's exactly what an investor should be looking for. In a long life, you can expect to profit heavily from at least a few of those opportunities if you develop the wisdom and will to seize them. At any rate, “surfing” is a very powerful model.

The one thing all those winning bettors in the whole history of people who've beaten the pari-mutuel system have is quite simple: they bet very seldom.

If you invested Berkshire Hathaway – style, it would be hard to get paid as an investment manager as well as they're currently paid – because you'd be holding a block of Wal Mart and a block of Coca Cola and a block of something else. You'd be sitting on your ass. And the client would be getting rich. And, after a while, the client would think, "Why am I paying this guy half a percent a year on my wonderful passive holdings?" So what makes sense for the investor is different from what makes sense for the manager. And, as usual in human affairs, what determine the behavior are incentives for the decision maker.

In the stock market, some railroad that's beset by better competitors and tough unions may be available at one-third of its book value. In contrast, IBM in its heyday might be selling at six times book value. So it's just like the pari-mutuel system. Any damn fool could plainly see that IBM had better business prospects than the railroad. But once you put the price into the formula, it wasn't so clear anymore what was going to work best for a buyer choosing between the stocks. So it's a lot like a pari-mutuel system. And, therefore, it gets very hard to beat.

It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change. – Charles Darwin

Over the long term, it's hard for a stock to earn a much better return than the business which underlies it earns. If the business earns six percent on capital over forty years and you hold it for that forty years, you're not going to make much different than a six percent return – even if you originally buy it at a huge discount. Conversely, if a business earns eighteen percent on capital over twenty or thirty years, even if you pay an expensive looking price, you'll end up with one hell of a result. So the trick is getting into better businesses. And that involves all of these advantages of scale that you could consider momentum effects.

Averaged out, betting on the quality of a business is better than betting on the quality of management. In other words, if you have to choose one, bet on the business momentum, not the brilliance of the manager.

In contrast, if you bought the same investment but had to pay taxes every year of thirty five percent out of the fifteen percent that you earned, then your return would be fifteen percent minus thirty five percent of fifteen percent – or only 9.75 percent per year compounded. So the difference there is over a 3.5 percent. And what 3.5 percent does to the numbers over long holding periods like thirty years is truly eye-opening. If you sit on your ass for long, long stretches in great companies, you can get a huge edge from nothing but the way income taxes work.

Question to Munger: "All kinds of people ask me for some foolproof system for achieving financial security or saving for their retirement. I try to dodge those questions." [Editor: "But this time, Charlie, we're not going to let you dodge it."] Munger's answer: "Spend less than you make; always be saving something. Put it into a tax deferred account. Over time, it will begin to amount to something.

How do you and Warren evaluate an acquisition candidate? “We’re light on financial yardsticks; we apply lots of subjective criteria: Can we trust management? Can it harm our reputation? What can go wrong? Do we understand the business? Does it require capital infusions to keep it going? What is the expected cash flow? We don’t expect linear growth, cyclicity is fine with us as long as the price is appropriate.”

What should a young person look for in a career? “I have three basic rules. Meeting all three is nearly impossible, but you should try anyway: 1. don’t sell anything you wouldn’t buy yourself. 2. Don’t work for anyone you don’t respect and admire. 3. Work only with people you enjoy. I have been incredibly fortunate in my life: with Warren I had all three.

What overall life advice do you have for young people? “Spend each day trying to be a little wiser than you were when you woke up. Discharge your duties faithfully and well. Step-by-step you get ahead, but not necessarily in fast spurts. But you build discipline by preparing for fast spurts. Slug it out one inch at a time, day-by-day, and at the end of the day – if you live long enough – like most people, you will get out of life what you deserve. Life and its various passages can be hard, brutally hard. The three things I have found helpful in coping with its challenges are: have low expectations. Have a sense of humor. Surround yourself with the love of friends and family. Above all, live with change and adapt to it. If the world didn’t change, I’d still have a twelve handicap.”

Pinker says that human language ability is not just learned – it’s deeply buried, to a considerable extent, in the genome. It’s not in the genome of the other animals, including the chimpanzee, to any really useful extent. It’s a gift that came to humans. And Pinker proves his point pretty well. [My note: A genome is an organism’s complete set of DNA, including all of its genes. Each genome contains all of the information needed to build and maintain that organism. In humans, a copy of the entire genome – more than 3 billion DNA base pairs – is contained in all cells that have a nucleus.

<http://ghr.nlm.nih.gov/handbook/hgp/genome>] Of course, Chomsky’s already proven it. You have to be pretty ignorant not to realize that a good deal of language ability is right there in the human genome. And even though you have to work like hell to improve it through education, you start with a big leg up in your genes. Pinker can’t understand why Chomsky – who, again is such a genius – takes the position that the jury’s still out about why this ability is in the human genome. Pinker, in effect, says: “Like hell, the jury is still out (there’s no debate)! The language instinct got into humans in exactly the same way that everything else got there – through Darwinian natural selection.” Well, the junior professor is clearly right – and Chomsky’s hesitation is a little daft. But if the junior professor and I are right, how has a genius like Chomsky made an obvious misjudgment? The answer’s quite clear to me – Chomsky is passionately ideological. He is an extreme egalitarian leftist who happens to be a genius. And he’s so smart that he realized that if he concedes this particular Darwinian point, the implications threaten his leftist ideology. So he naturally has his conclusion affected by his ideological bias. And that gets [us] into another lesson in worldly wisdom: If ideology can screw up the head of Chomsky (see my previous bullet point), imagine what it does to people like you and me. Heavy ideology is one of the most extreme distorters of human cognition. Look at these Islamic fundamentalists who just gunned down a bunch of Greek tourists, shouting, “God’s work!” Ideology does some strange things and distorts cognition

terribly. If you get a lot of heavy ideology young – and then you start expressing it – you are really locking your brain into a very unfortunate pattern. And you are going to distort general cognition.

You can have a heavy ideology in favor of accuracy, diligence, and objectivity. But heavy ideology that makes you absolutely sure that the minimum wage should be raised or that it shouldn't – and it's kind of a holy construct where you know you're right – makes you a bit nuts. This is a very complicated system. And life is one damn relatedness after another. It's all right to think that, on balance, you suspect that civilization is better if it lowers the minimum wage or raises it. Either position is OK. But being totally sure on issues like that with a strong, violent ideology, in my opinion, turns you into a lousy thinker. So beware of ideology-based mental misfunctions.

Demosthenes said, "What a man wishes, that also will he believe." Well Demosthenes was right.

I had a family acquaintance whose much loved son – who was brilliant and a star football player – flew off over the ocean and never came back. Well, his mother thought he was still alive. The mind will sometimes flip so that the wish becomes the belief. It will do so at various levels. Individuals vary in how much psychological denial they get. But miscognition from denial overwhelmingly pervades the reality that you're going to have to deal with. And yet, you won't find an adequate treatment of simple psychological denial in psychology texts.

How can smart people be so wrong? Well, the answer is that they don't do what I'm telling you to do – which is to take all the main models from psychology and use them as a checklist in reviewing outcomes in complex systems. No pilot takes off without going through his checklist: A,B,C,D.... And no bridge player who needs two extra tricks plays a hand without going down his checklist and figuring out how to do it. But they psychology professors think they're so smart that they don't need a checklist. But they ain't that smart. Almost nobody is. Or maybe, nobody is.

One reason psychology professors so screw up denial is that it's hard to do demonstrative experiments without conduct forbidden by ethics. To demonstrate how misery creates mental dysfunction in people, think of what you'd have to do to your fellow human beings. And you'd have to do it without telling them about the injury to come. So, clearly, there are ethical reasons why it's practically impossible to do the experiments necessary to best lay out the ways human misery creates human mental misfunction. Most professors solve this problem, in effect, by assuming, "If I can't demonstrate it with my experiments, then it doesn't exist." However, obviously, that's asinine. If something is very important but can't be perfectly and precisely demonstrated because of ethical constraints, you can't just treat it like it doesn't exist. You have to do the best you can with it – with such evidence as is available.

It can't be emphasized too much that issues of morality are deeply entwined with worldly wisdom considerations involving psychology. For example, take the issue of stealing. A very significant fraction of the people in the world will steal if (A) it's very easy to do and (B) there's practically no chance of being caught. And once they start stealing, the consistency principle – which is a big part of human psychology – will soon combine with operant conditioning to make stealing habitual. So if you run a business where it's easy to steal because of your methods, you're working a great moral injury on the people who work for you. Again, that's obvious. It's very, very important to create human systems that

are hard to cheat. Otherwise, you're ruining your civilization because these big incentives will create incentive-caused bias and people will rationalize that bad behavior is OK. Then, if somebody else does it, now you've got at least two psychological principles: incentive-caused bias plus social proof. Not only that, but you get Serpico effects: If enough people are profiting in a general social climate of doing wrong, then they'll turn on you and become dangerous enemies if you try and blow the whistle.

So it's much better to let things go uncompensated – to let life be hard – than to create systems that are easy to cheat. Let me give you an example. I have a friend who made an industrial product at a plant in Texas not far from the border. He was in a low-margin, tough business. He got massive fraud in the worker's compensation system – to the point that his premiums reached double digit percentages of payroll. And it was not that dangerous to produce his product. It's not like he was a demolition contractor or something. So he pleaded with the union, "You've got to stop this. There's not enough money in making this product to cover all of this fraud." But, by then, everyone's used to it. "It's extra income. It's extra money. Everybody does it. It can't be that wrong. Eminent lawyers, eminent doctors, eminent chiropractors – if they are any such things – are cheating." And no one could tell them, "You can't do it anymore." Incidentally, that's Pavlovian mere association, too. When people get bad news, they hate the messenger. Therefore, it was very hard for the union representative to tell all of these people that the easy money was about to stop. That is not the way to advance as a union representative. So my friend closed his plant and moved the work to Utah among a community of believing Mormons. Well, the Mormons aren't into worker's compensation fraud – at least they aren't in my friend's plant. And guess what his worker's compensation expense is today? It's 2 percent of payroll [down from double digits]. This sort of tragedy is caused by letting the slop run. You must stop slop early. It's very hard to stop slop and moral failure if you let it run for a while.

What makes investment hard, as I said at U.S.C., is that it's easy to see that some companies have better businesses than others. But the price of the stock goes up so high that, all of a sudden, the question of which stock is the best to buy gets quite difficult. We've never eliminated the difficulty of that problem. And 98 percent of the time, our attitude toward the market is...[that] we're agnostic. We don't know. Is GM valued properly vis-à-vis Ford? We don't know. We're always looking for something where we think we have an insight which gives us a big statistical advantage. And sometimes it comes from psychology, but often it comes from something else. And we only find a few – maybe one or two a year. We have no system for having automatic good judgment on all investment decisions that can be made.

But there's no way that you can live an adequate life without [making] many mistakes. In fact, one trick in life is to get so you can handle mistakes. Failure to handle psychological denial is a common way for people to go broke. You've made an enormous commitment to something. You've poured effort and money in. And the more you put in, the more that the whole consistency principle makes you think, "Now it has to work. If I put in just a little more, then it'll work." Part of what you must learn is how to handle mistakes and new facts that change the odds. Life, in part, is like a poker game, wherein you have to learn to quit sometimes when holding a much-loved hand. And deprivation super-reaction syndrome also comes in: You're going to lose the whole thing if you don't put in a little more. People go broke that way – because they can't stop, rethink, and say, "I can afford to write this one off and live to fight again. I don't have to pursue this thing as an obsession – in a way that will break me."

Disney is an amazing example of autocatalysis...They had all these movies in the can. They owned the copyright. And just as coke could prosper when refrigeration came, when the videocassette was invented, Disney didn't have to invent anything or do anything except take the thing out of the can and stick it on the cassette. And every parent and grandparent wanted his descendent to sit around and watch that stuff at home on videocassette. So Disney got this enormous tail wind from life. And it was billions of dollars' worth of tail wind.

Question to Charlie: Do you ever gamble Las Vegas style? Charlie's answer: I won't bet \$100 against house odds between now and the grave. I don't do that. Why should I? I will gamble recreationally with my pals. And I'll occasionally play a much better bridge player, like Bob Hamman, who might be the best card player in the world. But I know I'm paying for the fun of playing with him. That's recreational. As for gambling with simple mechanical house odds against me, why in the world would I ever want to do that – particularly given how I detest the manipulative culture of legalized gambling. So I don't like legalized gambling. And I'm not comfortable in Las Vegas, even though it does now include a higher percentage of wholesome family recreation. I don't like to be with many of the types who hang around card parlors and so forth. On the other hand, I do like the manly art of wagering, so to speak. And I like light social gambling among friends. But I do not like the professional gambling milieu.

Question to Charlie: YOU TALKED ABOUT HOW IMPORTANT IT WAS NOT TO HAVE AN EXTREME IDEOLOGY. WHAT RESPONSIBILITY, IF ANY, DO YOU THINK THE BUSINESS AND LEGAL COMMUNITIES HAVE FOR HELPING INNER CITY AREAS, SPREADING THE WEALTH AND SO ON? Charlie's answer: I'M ALL FOR FIXING SOCIAL PROBLEMS. I'M ALL FOR BEING GENEROUS TO THE LESS FORTUNATE. AND I'M ALL FOR DOING THINGS WHERE, BASED ON A SLIGHT PREPONDERANCE OF THE EVIDENCE, YOU GUESS THAT IT'S LIKELY TO DO MORE GOOD THAN HARM. WHAT I'M AGAINST IS BEING VERY CONFIDENT AND FEELING THAT YOU KNOW, FOR SURE, THAT YOUR PARTICULAR INTERVENTION WILL DO MORE GOOD THAN HARM, GIVEN THAT YOU'RE DEALING WITH HIGHLY COMPLEX SYSTEMS WHEREIN EVERYTHING IS INTERACTING WITH EVERYTHING ELSE. Q: SO [WHAT YOU'RE SAYING IS TO] JUST MAKE SURE THAT WHAT YOU'RE DOING [IS DOING MORE GOOD].... YOU CANT MAKE SURE. THAT'S MY POINT... On the other hand, I did recently reverse [the conclusion of] two sets of engineers. How did I have enough confidence in such a complicated field to do that? Well, you might think, "Oh this guy is just an egomaniac who's made some money and thinks he knows everything." Well, I may be an egomaniac, but I don't think I know everything. But I saw huge reasons in the circumstances for bias in each set of engineers as each recommended a course of action very advantageous to itself. And what each was saying was so consonant with a natural bias that it made me distrust it. Also, perhaps I knew enough engineering to know that [what they were saying] didn't make sense. Finally, I found a third engineer who recommended a solution I approved. And, thereafter, the second engineer came to me and said, "Charlie, why didn't I think of that?" Which is to his credit. It was a much better solution, both safer and cheaper. You must have the confidence to override people with more credentials than you whose cognition is impaired by incentive-caused bias or some similar psychological force that is obviously present. But there are also cases where you have to recognize that you have no wisdom to add – and that you're best course is to trust some expert. In effect, you've got to know what you know and what you don't know. What could possibly be more useful in life than that?

When a bee finds nectar, it comes back and does a little dance that tells the rest of the hive, as a matter of genetic programming, which direction to go and how far. So about forty or fifty years ago, some clever scientist stuck the nectar straight up. Well, the nextar's never straight up in the ordinary life of a bee. The nextar's out. So the bee finds the nectar and returns to the hive. But it doesn't have the genetic programming to do a dance that says straight up. So what does it do? Well, if it were like Jack Welch, it would just sit there. But what it actually does is to dance this incoherent dance that gums things up. And a lot of people are like that bee. They attempt to answer a question like that. And that is a huge mistake. Nobody expects you to know everything about everything. I try to get rid of people who always confidently answer questions about which they don't have any real knowledge. To me, they're like the bee dancing its incoherent dance. They're just screwing up the hive.

If I were running the civilization, compensation for stress in workers' comp would be zero – not because there's no work-caused stress, but because I think the net social damage of allowing stress to be compensated at all is worse than what would happen if a few people that had real work-caused stress injuries went uncompensated. I like the Navy system. If you're a captain in the Navy and you've been up for twenty-four hours straight and have to go to sleep and you turn the ship over to a competent first mate in tough conditions and he takes the ship aground – clearly through no fault of yours – they don't court-martial you, but your naval career is over. You can say, "That's too tough. That's not law school. That's not due process." Well, the Navy model is better in its context than would be the law school model. The Navy model really forces people to pay attention when conditions are tough – because they know that there's no excuse. It doesn't matter why your ship goes aground, your career is over. Nobody's interested in your fault. It's just a rule that we happen to have 0 for the good of all, all effects considered.

"Science cannot solve the ultimate mystery of nature. And that is because, in the last analysis, we ourselves are a part of the mystery that we are trying to solve"

"Scientific discovery and scientific knowledge have been achieved only by those who have gone in pursuit of it without any practical purpose whatsoever in view."

"A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it."

"It is not the possession of truth, but the success which attends the seeking after it, that enriches the seeker and brings happiness to him." - All these quotes are from Max Planck.

In Pavlovian conditioning, powerful effects come from mere association. The neural system of Pavlov's dog causes it to salivate at the bell it can't eat. And the brain of man yearns for the type of beverage held by the pretty woman he can't have.

Autocatalytic Reaction An autocatalytic reaction (also called autocatalysis) occurs when a single chemical reaction product is itself the catalyst for that reaction. For example, tin pest is an autocatalytic reaction of the element tin; at low temperatures, it causes deterioration of tin objects. Atmospheric ozone depletion is another example of an autocatalytic reaction

We train a pilot in a strict six-element system: 1) His formal education is wide enough to cover practically everything useful in piloting. 2) His knowledge of practically everything needed by pilots is not taught just well enough to enable him to pass one test or two; instead, all his knowledge is raised to practice-based fluency, even in handling two or three intertwined hazards at once. 3) Like any good algebraist, he is made to think sometimes in a forward fashion and sometimes in reverse; and so he learns when to concentrate mostly on what he wants to happen and also when to concentrate mostly on avoiding what he does not want to happen. 4) His training time is allocated among subjects so as to minimize damage from his later malfunctions; and so what is most important in his performance gets the most training coverage and is raised to the highest fluency levels. 5) Checklist routines are always mandatory for him. 6) Even after original training, he is forced into a special knowledge-maintenance routine: regular use of aircraft simulator to prevent atrophy through long disuse of skills needed to cope with rare and important problems.

Buffett, "I read everything: annual reports, 10ks, 10Qs, biographies, histories, five newspapers a day. On airplanes I read the instructions on the backs of the seats. Reading is key. Reading has made me rich over time.

"Charlie draws his confidence from the unusually rigorous process he follows to research, analyze, evaluate, and decide. He knows he may not always be right, but that the odds are in his favor because his process is so disciplined and realistic. For this reason, he is never reluctant to make a decision and to act decisively upon it." – Dick Esbenshade, friend and business associate since 1956.

Charlie, "How can smart people so often be wrong? They don't do what I'm telling you to do: use a checklist to be sure you get all the main models and use them together in a multimodular way."

A careful survey in Sweden showed that ninety percent of automobile drivers considered themselves above average. And people who are successfully selling something, as investment counselors do, make Swedish drivers sound like depressives. Pg 329 Richard Feynman, "The first principle is that you must not fool yourself, and you're the easiest person to fool."

Robert W. Woodruff, CEO of Coke, "There is no limit to what a man can do or where he can go if he doesn't mind who gets the credit."

I have more than skepticism regarding the orthodox view that huge diversification is a must for those wise enough so that indexation is not the logical mode for equity investment. I think the orthodox view is grossly mistaken. In the United States, a person or institution with almost all wealth invested long-term, in just three fine domestic corporations, is securely rich. And why should such an owner care if, at any time, most other investors are faring somewhat better or worse? And particularly so when he rationally believes, like Berkshire, that his long-term results will be superior by reason of his lower costs, required emphasis on long term effects, and concentration in his most preferred choices. I go even further. I think it can be a rational choice, in some situations, for a family or a foundation to remain ninety percent concentrated in one equity. Indeed, I hope the Mungers follow roughly this course. And I note that the Woodruff foundations have, so far, proven extremely wise to retain an approximately ninety percent concentration in the founder's Coca-Cola stock. It would be interesting to calculate just

how all American foundations would have fared if they had never sold a share of founder's stock. Very many, I think, would now be much better off. But, you may say, the diversifiers simply took out insurance against a catastrophe that didn't occur. And I reply: There are worse things than some foundation's losing relative clout in the world, and rich institutions, like rich individuals, should do a lot of self-insurance if they want to maximize long term results.

Regarding this divergent history of Berkshire's lack of direct foreign investment, I wish to say that I agree with Peter Drucker that the culture and legal systems of the US are especially favorable to shareholder interests compared to other interests and compared to most other countries. Indeed, there are many other countries where any good going to public shareholders has a very low priority and almost every other constituency stands higher in line. This factor, I think, is underweighted at many investment institutions, probably because it does not easily lead to quantitative thinking using modern financial technique. But some important factor doesn't lose share of force just because some "expert" can better measure other types of force. Generally, I tend to prefer over direct foreign investment Berkshire's practice of participating in foreign economics through the likes of Coke and Gillette.

Charlie Munger will try and push Galbraith's "bezzle" concept on to the next logical level. As Keynes showed, in a native economy relying on earned income, when the seamstress sells a coat to the shoemaker for twenty dollars, the shoemaker has twenty dollars less to spend, and the seamstress has twenty dollars more to spend. There is no lollapalooza effect on aggregate spending. But when the government prints another twenty dollar bill and uses it to buy a pair of shoes, the shoemaker has another twenty dollars, and no one feels poorer. And when the shoemaker next buys a coat, the process goes on and on, not to an infinite increase, but with what is now called the Keynesian multiplier effect, a sort of lollapalooza effect on spending. Similarly, an undisclosed embezzlement has stronger simulative effects per dollar on spending than a same-sized honest exchange of goods.

And here we have two more old rules to guide us. One rule is ethical, and the other is prudential. The ethical rule is from Samuel Johnson, who believed that maintenance of easily removable ignorance by a responsible officeholder was treacherous malfeasance in meeting moral obligation. The prudential rule is that underlying the old Warner & Swasey advertisement for machine tools: "The man who needs a new machine tool and hasn't bought it is already paying for it." The Warner & Swasey rule also applies, I believe, to thinking tools. If you don't have the right thinking tools, you, and the people you seek to help, are already suffering from your easily removable ignorance.

"Regard your good name as the richest jewel you can possibly be possessed of – for credit is like fire; when once you have kindled it you may easily preserve it, but if you once extinguish it, you will find it an arduous task to rekindle it again. The way to gain a good reputation is to endeavor to be what you desire to appear.

There was now an accounting convention in the United States that, provided employees were first given options, required that when easily marketable stock was issued to employees at a below-market price, the bargain element for the employees, although roughly equivalent to cash, could not count as compensation expense in determining a company's reported profits.

It is difficult to get a man to understand something when his salary depends on his not understanding it.

In 1991, the Financial Accounting Standards Board proposed that part of the real cost of employee stock options be recognized as an expense. Because of stiff opposition from both the business community and Congress, the proposal was greatly diluted, requiring only some disclosure in footnotes. Today, however, Generally Accepted Accounting Principles in the US require some part of the real cost of employee stock options to be recorded as an expense in the income statement. Charlie remains skeptical: "By the time stock options are exercised, the total cost charged is usually far less than total cost incurred. Moreover, the part of cost that is charged to earnings is often manipulated downward by dubious techniques. This kind of thing has always been hard to stamp out. The right way to behave is to never let improper accounting start.

Trust But Verify – A useful technique in assessing the veracity of reported earnings is to compare the purported good news in the annual report with the stark reality of income taxes actually being paid. Since managers are seldom as eager to juice reported results to the IRS as they are to the shareholders, the "cash income taxes paid" footnote in a corporation's 10k is often a more accurate and truthful indicator of the company's real earnings.

Pleasure is the greatest incentive to evil.

Berkshire's whole record has been achieved without paying one ounce of attention to the efficient market theory in its hard form. And not one ounce of attention to the descendants of that idea, which came out of academic economics and went into corporate finance and morphed into such obscenities as the capital asset pricing model, which we also paid no attention to. I think you'd have to believe in the tooth fairy to believe that you could easily outperform the market by seven percentage points per annum just by investing in high volatility stocks. Yet, believe it or not, like the Jules Stein doctor, people once believed this stuff. And the belief was rewarded. And it spread. And many people still believe it. But Berkshire never paid any attention to it. And now, I think the world is coming our way, and the idea of perfection in all market outcomes is going the way of the dodo. It was always clear to me that the stock market couldn't be perfectly efficient, because, as a teenager, I'd been to the racetrack in Omaha where they had the pari-mutuel system.

There is a constant, one of the fundamental constants in physics, known as Boltzmann's constant. You probably all know it very well. And the interesting thing about Boltzmann's constant is that Boltzmann didn't discover it. So why is Boltzmann's constant now named for Boltzmann? Well, the answer is that Boltzmann derived that constant from basic physics in a more fundamental way than the poor forgotten fellow who found the constant in the first place in some less fundamental way. The ethos [My note: Ethos means character, it describes the guiding beliefs or ideals that characterize a community, nation or ideology] of hard science is so strong in favor of reductionism to the more fundamental body of knowledge that you can wash the discoverer right out of history when somebody lese handles his discovery in a more fundamental way. I think that is correct. I think Boltzmann's constant should be named for Boltzmann.

Boltzmann's constant derives its name from Austrian physicist Ludwig Boltzmann (1844-1906); it defines the relation between absolute temperature and the kinetic energy contained in each molecule of an ideal gas. In general, the energy in a gas molecule is directly proportional to the absolute temperature. As the temperature increases, the kinetic energy per molecule increases. As a gas is heated, its molecules move more rapidly. This movement produces increased pressure if the gas is confined in a space of constant volume, or increased volume if the pressure remains constant.

The situation of people like Laffer reminds me of a rustic legislator – and this really happened in America. I don't invent these stories. Reality is always more ridiculous than what I'm going to tell you. At any rate, this rustic legislator proposed a new law in his state. He wanted to pass a law rounding pi to an even 3.2 so it would be easier for the school children to make the computations. Well, you can say that this is too ridiculous, and it can't be fair to liken economics professors like Laffer to a rustic legislator like this. I say I'm under criticizing the professors. At least when this rustic legislator rounded pi to an even number, the error was relatively small. But once you try to put a lot of false precision into a complex system like economics, the errors can compound to the point where they're worse than those of the McKinsey partner when he was incompetently advising the Washington Post. So, economics should emulate physics' basic ethos, but its search for precision in physics-like formulas is almost always wrong in economics.

Well, how did I solve those problems? Obviously, I was using a simple search engine in my mind to go through checklist-style, and I was using some rough algorithms that work pretty well in a great many complex systems, and those algorithms run something like this: Extreme success is likely to be caused by some combination of the following factors: A) Extreme maximization or minimization of one or two variables. Example, Costco or our furniture and appliance store. B) Adding success factors so that a bigger combination drives success, often in nonlinear fashion, as one is reminded by the concept of breakpoint and the concept of critical mass in physics. Often results are not linear. You get a little bit more mass, and you get a lollapalooza result. And, of course, I've been searching for lollapalooza results all my life, so I'm very interested in models that explain their occurrence. C) An extreme of good performance over many factors. Example, Toyota or Les Schwab. D) Catching and riding some sort of big wave. Example, Oracle.

If you cannot legitimately respond to the next question, you are most likely outside your "circle of competence."

Usually, I don't use formal projections. I don't let people do them for me because I don't like throwing up on the desk, but I see them made in a very foolish way all the time, and many people believe in them, no matter how foolish they are. It's an effective sales technique in America to put a foolish projection on a desk.

By way of analogy, the game of chess, is a perfect illustration of second-order and higher levels of effect. The movement of any individual piece on the board affects, sometimes dramatically, the overall composition of the game.

Anyway, as the Medicare example showed, all human systems are gamed, for reasons rooted deeply in psychology, and great skill is displayed in the gameing because game theory has so much potential. That's what's wrong with the workers' comp system in California. Gaming has been raised to an art form. In the course of gaming the system, people learned to be crooked. Is this good for civilization? Is it good for economic performance? Hell no. The people who design easily gameable systems belong in the lowest circle of hell

Victor Niederhoffer getting all A's without going to class at Harvard because he signed up for all graduate courses where graduate students do most of the boring work shows that all human systems [can] be gamed. Another example of not thinking through the consequences of the consequences is the standard reaction in economics to Ricardo's law of comparative advantage giving benefit on both sides of trade. Ricardo came up with a wonderful, non-obvious explanation that was so powerful that people were charmed with it, and they still are because it's a very useful idea. Everybody in economics understands that comparative advantage is a big deal when one considers first-order advantages in trade form the Ricardo effect. But suppose you've got a very talented ethnic group, like the Chinese, and they're very poor and backward, and you're an advanced nation, and you create free trade with China, and it goes on for a long time. Now let's follow second-and third-order consequences. You are more prosperous than you would have been if you haven't traded with China in terms of average well-being in the US right? Ricardo proved it. But which nation is going to be growing faster in economic terms? It's obviously China. They're absorbing all the modern technology of the world through this great facilitator in free trade, and, like the Asian Tigers have proved, they will get ahead fast. Look at Hong Kong. Look at Taiwan. Look at early Japan. So, you start in a place where you've got a weak nation of backward peasants, a billion and a quarter of them, and, in the end, they're going to be a much bigger, stronger nation than you are, maybe even having more and better atomic bombs. Well, Ricardo did not prove that that's a wonderful outcome for the former leading nation. He didn't try to determine second-order and higher-order effects. If you try and talk like this to economics professors, and I've done this three times, they shrink in horror and offense because they don't like this kind of talk. It really gums up this nice discipline of theirs, which is so much simpler when you ignore second-and third-order consequences. The best answer I ever got on that subject – in three tries – was from George Shultz. He said, "Charlie, the way I figure it is if we stop trading with China, the other advanced nations will do it anyway, and we wouldn't stop the ascent of China compared to us, and we'd lose the Ricardo-diagnosed advantages of trade." Which is obviously correct. And I said, "Well, George, you've just invested a new form of the tragedy of the commons. You're locked in this system, and you can't fix it. You're going to go to a tragic hell in a hand basket, if going to hell involves being once the great leader of the world and finally going to the shallows in terms of leadership." And he said, "Charlie, I do not want to think about this." I think he's wise. He's even older than I am, and maybe I should learn from him.

It is not always recognized that, to function best, morality should sometimes appear unfair, like most wordly outcomes. The craving for perfect fairness causes a lot of terrible problems in system function. Some systems should be made deliberately unfair to individuals because they'll be fairer on average for all of us. Thus, there can be virtue in apparent non-fairness. I frequently cite the example of having your career over, in the Navy, if your ship goes aground, even if it wasn't your fault. I say the lack of

justice for the one guy that wasn't at fault is way more than made up by a greater justice for everybody when every captain of a ship always sweats blood to make sure the ship doesn't go aground.

Tolgerating a little unfairness to some to get a greater fairness for all is a model I recommend to all of you.

There are, of course, enormous vice effects in economics. You have these bubbles with so much fraud and folly. The aftermath is frequently very unpleasant, and we've had some of that lately. One of the first big bubbles, of course, was the huge and horrible South Sea bubble in England, and that aftermath was interesting. Many of you probably don't remember what happened after the South Sea Bubble, which caused an enormous financial contraction and a lot of pain. Except in certain rare cases, they banned publicly traded stock in England for decades. Parliament passed a law that said you can have a partnership with a few partners, but you can't have publicly-traded stock. And, by the way, England continued to grow without publicly-traded stock. The people who are in the business of prospering because there's a lot of stock being traded in casino-like frenzy wouldn't like this example if they studied it enough. It didn't ruin England to have a long period when they didn't have publicly-traded shares. Just as in reals estate. We had all these shopping centers and auto dealership, and so on, we needed for years when we didn't have publicly-traded real estate shares. It's a myth that once you've got some capital market, economic considerations demand that it has to be as fast and efficient as a casino. It doesn't.

Clinging to failed ideas is ridiculous. Keynes said, "It's not bringing in the new ideas that's so hard. It's getting rid of the old ones." And Einstein said it better, attributing his mental success to "curiosity, concentration, perseverance, and self-criticism." By self-criticism, he meant becoming good at destroying your own best-loved and hardest-won ideas. If you can get really good at destroying your own wrong ideas, that is a great gift.

Arguably the most important theme in this book is the need for trust: deserved reliance upon the character, values and integrity of those you live and work with. Charlie Munger and Warren Buffett are renowned for their steadfast commitment to unblemished integrity – believing, like Elbert Gary (Chairman of US Steel from 1901 to 1927) that, "Ethical practices aren't good because they pay; they pay because they are good." No matter how smart you are, there are smart people out there who can fool you if they really want to. So, be sure you can trust the smart people you work with."

What are the core ideas that helped me? Well, luckily I had the idea at a very early age that the safest way to try to get what you want is to try to deserve what you want. It's such a simple idea. It's the golden rule. You want to deliver to the world what you would buy if you were on the other end. There is no ethos in my opinion that is better for any lawyer or any other person to have. By and large, the people who've had this ethos win in life, and they don't win just money and honors. They win the respect, the deserved trust of the people they deal with. And there is huge pleasure in life to be obtained from getting deserved trust.

That reminds me of the story of the time when one of these people died, and the Minister said, "It's now time to say something nice about the deceased." And nobody came forward, and nobody came

forward, and nobody came forward. And finally one man came up and said, "Well his brother was worse." (Audience laughs.) That is not where you want to go. A life ending in such a funeral is not the life you want to have.

The second idea that I developed very early is that there's no love that's so right as admiration-based love, and such love should include the instructive dead. Somehow I picked up that idea, and I've lived with it all my life.

Another idea, and this may remind you of Confucius, too, is that the acquisition of wisdom is a moral duty. It's not something you do just to advance in life. And there's a corollary to that idea that is very important. It requires that you're hooked on lifetime learning. Without lifetime learning, you people are not going to do very well. You are not going to get very far in life based on what you already know. You're going to advance in life by what you learn after you leave here.

Consider Berkshire Hathaway, one of the best regarded corporations in the world. It may have been the best long-term, big assets-involving investment record in the history of civilization. The skill that got Berkshire through one decade would not have sufficed to get it through the next decade, with comparable levels of achievement. Warren Buffett had to be a continuous-learning machine. The same requirements exist in lower walks of life. I constantly see people rise in life who are not the smartest, sometimes not even the most diligent. But they are learning machines. They go to bed every night a little wiser than they were that morning. And boy does that habit help, particularly when you have a long run ahead of you.

Just as civilization can progress only when it invents the method of invention, you can progress only when you learn the method of learning.

The way complex adaptive systems work, and the way mental constructs work, problems frequently become easier to solve through "inversion". If you turn problems around into reverse, you often think better. For instance, if you want to help India, the question you should consider asking is not: "How can I help India." Instead, you should ask, "How can I hurt India?" You find what will do the worst damage, and then try to avoid it.

Another thing to avoid is extremely intense ideology because it cabbages up one's mind. You see a lot of it in the worst of the TVB preachers. They have different, intense, inconsistent ideas about technical theology, and a lot of them have minds reduced to cabbage. And that can happen with political ideology. And if you're young, it's particularly easy to drift into intense and foolish political ideology and never get out. When you announce that you're a loyal member of some cult-like group and you start shouting out the orthodox ideology, what you're doing is pounding it in, pounding it in, pounding it in. So you want to be very careful with intense ideology. It presents a big danger for the only mind you're ever going to have.

Another thing that often causes folly and ruin is the "self-serving bias", often subconscious, to which we're all subject. You think that "the true little me" is entitled to do what it wants to do. For instance, why shouldn't the true little me get what it wants by overspending its income? Well, there once was a

man who became the most famous composer in the world. But he was utterly miserable most of the time. And one of the reasons was that he always overspent his income. That was Mozart. If Mozart couldn't get by with this kind of asinine conduct, I don't think you should try it.

Generally speaking, envy, resentment, revenge and self-pity are disastrous modes of thought.

Perverse associations are also to be avoided. You particularly want to avoid working directly under somebody you don't admire and don't want to be like. It's dangerous. We're all subject to control to some extent by authority figures, particularly authority figures who are rewarding us. Dealing properly with this danger requires both some talent and will. I coped in my time by identifying people I admired and by maneuvering, mostly without criticizing anybody, so that I was usually working under the right sort of people. A lot of law firms will permit that if you're shrewd enough to work it out with some tact. Generally, your outcome in life will be more satisfactory if you work under people you correctly admire.

Engaging in routines that allow you to maintain objectivity are, of course, very helpful to cognition. We all remember that Darwin paid special attention to disconfirming evidence, particularly when it disconfirmed something he believed and loved. Routines like that are required if a life is to maximize correct thinking. And one also needs checklist routines. They prevent a lot of errors, and not just for pilots. You should not only possess wide-ranging elementary wisdom but also go through mental checklist routines in using it. There is no other procedure that will work as well.

Another idea that I found important is that maximizing non equality will often work wonders. What do I mean? Well, John Wooden of UCLA presented an instructive example when he was the number one basketball coach in the world. He said to the bottom 5 players, "You don't get to play – you are practice partners." The top seven did almost all the playing. Well, the top seven learned more – remember the importance of the learning machine – because they were doing all the playing. And when he adopted that non egalitarian system, Wooden won more games than he had won before. I think the game of competitive life often requires maximizing the experience of the people who have the most aptitude and the most determination as learning machines. And if you want the very highest reaches of human achievement, that's where you have to go. You do not want to choose a brain surgeon for your child by drawing straws to select one of fifty applicants, all of whom take turns doing procedures. You don't want your airplanes designed in too egalitarian a fashion. You don't want your Berkshire Hathaway run that way either. You want to provide a lot of playing time for your best players.

In this world I think we have two kinds of knowledge: One is Planck knowledge, that of the people who really know. They've paid the dues, they have the aptitude. Then we've got chauffeur knowledge. They have learned to prattle the talk. They may have a big head of hair. They often have fine timbre in their voices. They make a big impression. But in the end what they've got is chauffeur knowledge masquerading as real knowledge. I think I've just described practically every politician in the United States. You're going to have the problem in your life of getting as much responsibility as you can into the people with the Planck knowledge and away from the people who have the chauffer knowledge. And there are huge forces working against you.

Another thing you have to do is have a lot of assiduity. I like that word because to me it means: "Sit down on your ass until you do it." I've had marvelous partners, full of assiduity, all my life. I think I got them partly because I tried to deserve them and partly because I was shrewd enough to select them, and partly there was some luck. Two partners that I chose for one phase in my life made the following simple agreement when they created a little design/build construction team in the middle of the great depression: "Two man partnership," they said, "and divide everything equally. And, whenever we're behind in our commitments to other people, we will both work fourteen hours a day, seven days a week, until we're caught up. "Well, needless to say, that firm didn't fail. And my partners were widely admired. Simple, old fashioned ideas like theirs are almost sure to provide a good outcome.

Another thing to cope with is that life is very likely to provide terrible blows, unfair blows. Some people recover, and others don't. And there I think the attitude of Epictetus helps guide one to the right reaction. He thought that every mischance in life, however bad, created an opportunity to behave well. He believed every mischance provided an opportunity to learn something useful. And one's duty was not to become immersed in self-pity, but to utilize each terrible blow in a constructive fashion. His ideas were very sound, influencing the best of the Roman emperors, Marcus Aurelius, and many others over many centuries. And you may remember the epitaph that Epictetus made for himself: Here lies Epictetus, a slave, maimed in body, the ultimate in poverty, and favored by the Gods." Well that is how he is remembered. He was favored because he became wise, became manly, and instructed others, both in his own time and over following centuries.

Despite these four very considerable objections, I decided to publish the much-expanded version. Thus, after many decades in which I have succeeded mostly by restricting action to jobs and methods in which I was unlikely to fail, I have not chosen a course of action in which (1) I have no significant personal benefit to gain, (2) I will surely give some pain to family members and friends, and (3) I may make myself ridiculous. Why am I doing this? One reason may be that my nature makes me incline toward diagnosing and talking about errors in conventional wisdom. And despite years of being smoothed out by the hard knocks that were inevitable for one with my attitude, I don't believe life ever knocked all the boy's brashness out of the man. A second reason for my decision is my approval of the attitude of Diogenes when he asked: "Of what use is a philosopher who never offends anybody?" My third and final reason is the strongest. I have fallen in love with my way of laying out psychology because it has been so useful for me. And so, before I die, I want to imitate to some extent the bequest practices of three characters: the protagonist in John Bunyan's *Pilgrim's Progress*, Ben Franklin, and my first employer, Ernest Buffett.

When I started law practice, I had respect for the power of genetic evolution and appreciation of man's many evolution-based resemblances to less cognitively-gifted animals and insects. I was aware that man was a "social animal," greatly and automatically influenced by behavior he observed in men around him. I also knew that man lived, like barnyard animals and monkeys, in limited-size dominance hierarchies, wherein he tended to respect authority and to like and cooperate with his own hierarchy members while displaying considerable distrust and dislike for competing men not in his own hierarchy.

Another type of ant demonstrates that the limited brain of ants can be misled by circumstances as well as by clever manipulation from other creatures. The brain of this ant contains a simple behavioral program that directs the ants, when walking, to follow the ant ahead. And when these ants stumble into walking in a big circle, they sometimes walk round and round until they perish. It seems obvious, to me at least, that the human brain must often operate counterproductively just like the ant's, from unavoidable over simplicity in its mental process, albeit usually in trying to solve problems more difficult than those faced by ants that don't have to design airplanes.

The perception system of man clearly demonstrates just such an unfortunate outcome. Man is easily fooled, either by the cleverly thought out manipulation of man, by circumstances occurring by accident, or by very effective manipulation practices that man has stumbled into during "practice evolution" and kept in place because they work so well. One such outcome is caused by a quantum effect in human perception. If stimulus is kept below a certain level, it does not get through. And for this reason, a magician was able to make the Statue of Liberty disappear after a certain amount of magician lingo expressed in the dark. The audience was not aware that it was sitting on a platform that was rotating so slowly, below man's sensory threshold, that no one could feel the acceleration implicit in the considerable rotation. When a surrounding curtain was then opened in the place on the platform where the Statue had earlier appeared, it seemed to have disappeared.

We should also remember how a foolish and willful ignorance of the superpower of rewards caused Soviet communists to get their final result as described by one employee: "They pretend to pay us and we pretend to work." Perhaps the most important rule in management is "Get the incentives right."

Consider the presentations of brokers selling commercial real estate and businesses. I've never seen one that I thought was even within hailing distance of objective truth. In my long life, I have never seen a management consultant's report that didn't end with the same advice: "This problem needs more management consulting services." Widespread incentive-caused bias requires that one should often distrust, or take with a grain of salt, the advice of one's professional advisor, even if he is an engineer. The general antidotes here are: (1) especially fear professional advice when it is especially good for the advisor; (2) learn and use the basic elements of your advisor's trade as you deal with your advisor; and (3) double check, disbelieve, or replace much of what you're told, to the degree that seems appropriate after objective thought.

The inevitable ubiquity of incentive-caused bias has vast, generalized consequences. For instance, a sales force living only on commissions will be much harder to keep moral than one under less pressure from the compensation arrangement. On the other hand, a purely commissioned sales force may well be more efficient per dollar spent. Therefore, difficult decisions involving trade-offs are common in creating compensation arrangements in the sales function.

Also tending to be maintained in place by the anti-change tendency of the brain are one's previous conclusions, human loyalties, reputational identity, commitments, accepted role in a civilization, etc. It is not entirely clear why evolution would program into man's brain an anti-change mode alongside his tendency to quickly remove doubt. My guess is the anti-change mode was significantly caused by a

combination of the following factors: (1) It facilitated faster decisions when speed of decision was an important contribution to the survival of nonhuman ancestors that were prey. (2) It facilitated the survival advantage that our ancestors gained by cooperating in groups, which would have been more difficult to do if everyone was always changing responses. (3) It was the best form of solution that evolution could get to in the limited number of generations between the start of literacy and today's complex modern life.

And so, people tend to accumulate large mental holdings of fixed conclusions and attitudes that are not often reexamined or changed, even though there is plenty of good evidence that they are wrong. Moreover, this doesn't just happen in social science departments, like the one that once thought Freud should serve as the only choice as a psychology teacher for Caltech. Holding to old errors even happens, although with less frequency and severity, in hard science departments. We have no less an authority for this than Max Planck, Nobel laureate, finder of "Planck's constant." Planck is famous not only for his science but also for saying that even in physics the radically new ideas are seldom really accepted by the old guard. Instead, said Planck, the progress is made by a new generation that comes along, less brain-blocked by its previous conclusions. Indeed, precisely this sort of brain blocking happened to a degree in Einstein. At his peak, Einstein was a great destroyer of his own ideas, but an older Einstein never accepted the full implications of quantum mechanics.

The importance and power of reciprocate-favor tendency was also demonstrated in Cialdini's explanation of the foolish decision of the attorney general of the United States to authorize the Watergate burglary. There, an aggressive subordinate made some extreme proposal for advancing Republican interests through use of some combination of whores and a gigantic yacht. When this ridiculous request was rejected, the subordinate backed off, in gracious concession, to merely asking for consent to a burglary, and the attorney general went along. Cialdini believes that subconscious Reciprocation Tendency thus became one important cause of the resignation of a US president in the Watergate debacle, and so do I. Reciprocation Tendency subtly causes many extreme and dangerous consequences, not just on rare occasions but pretty much all the time.

To avoid being misled by the mere association of some fact with past success, use this memory clue. Think of Napoleon and Hitler when they invaded Russia after using their armies with much success elsewhere. And there are plenty of mundane examples of results like those of Napoleon and Hitler. For instance, a man foolishly gambles in a casino and yet wins. This unlikely correlation causes him to try the casino again, or again and again, to his horrid detriment. Or a man gets lucky in an odds-against ventured headed by an untalented friend. So influenced, he tries again what worked before – with terrible results.

We now often see even stronger misinfluence from love as tearful mothers, with heartfelt conviction, declare before TV cameras the innocence of their obviously guilty sons. People disagree about how much blindness should accompany the association called love. In Poor Richard's Almanack Franklin counseled: "Keep your eyes wide open before marriage and half shut thereafter." Perhaps this "eyes half shut" solution is about right, but I favor a tougher prescription: "See it like it is and love anyway."

The proper antidote to creating Persian Messenger Syndrome and its bad effects, like those at CBS, is to develop, through exercise of will, a habit of welcoming bad news. At Berkshire, there is a common injunction: "Always tell us the bad news promptly. It is only the good news that can wait." It also helps to be so wise and informed that people fear not telling you bad news because you are so likely to get it elsewhere.

Simple, Pain-avoiding Psychological Denial – This phenomenon first hit me hard in World War II when the super athlete, super student son of a family friend flew off over the Atlantic Ocean and never came back. His mother, who was a very sane woman, then refused to believe he was dead. That's Simple, Pain-Avoiding Psychological Denial. The reality is too painful to bear, so one distorts the facts until they become bearable. We all do that to some extent, often causing terrible problems. The tendency's most extreme outcomes are usually mixed up with love, death, and chemical dependency.

Excessive Self-Regard Tendency – We all commonly observe the excessive self-regard of man. He mostly misappraisals himself on the high side, like the ninety percent of Swedish drivers that judge themselves to be above average. Such misappraisals also apply to a person's major "possessions". One spouse usually over appraises the other spouse. And a man's children are likewise appraised higher by him than they are likely to be in a more objective view. Even man's minor possessions tend to be over appraised. Once owned, they suddenly become worth more to him than he would pay if they were offered for sale to him and he didn't already own them. There is a name in psychology for this over appraise-your-own-possessions phenomenon: the endowment effect." And all man's decisions are suddenly regarded by him as better than would have been the case just before he made them.

Let us consider some foolish gambling decision. In lotteries, the play is much lower when numbers are distributed randomly than it is when the player picks his own number. This is quite irrational. The odds are almost exactly the same and much against the player. Because state lotteries take advantage of man's irrational love of self-picked numbers, modern man buys more lottery tickets than he otherwise would have, with each purchase foolish.

The quantity of man's pleasure from a ten-dollar gain does not exactly match the quantity of his displeasure from a ten dollar loss. That is, the loss seems to hurt much more than the gain seems to help. Moreover, if a man almost gets something he greatly wants and has it jerked away from him at the last moment, he will react much as if he had long owned the reward and had it jerked away. I include the natural human reactions to both kinds of loss experience – the loss of the possessed reward and the loss of the almost-possessed reward – under one description, Deprivation-Super reaction Tendency.

I [Charlie Munger] myself many decades ago made a big mistake caused in part by subconscious operation of my deprivation superreaction tendency. A friendly broker called and offered me 300 shares of ridiculously underpriced, very thinly traded Belridge oil at \$115 per share, which I purchased using cash I had on hand. The next day, he offered me 1500 more shares at the same price, which I declined to buy partly because I could only have made the purchase had I sold something or borrowed the required \$173,000. This was a very irrational decision. I was a well-to-do man with no debt; there was no risk of loss; and similar no risk opportunities were not likely to come along. Within two years, Belridge Oil sold

out to Shell at a price of about \$3,700 per share, which made me about \$5.4 million poorer than I would have been had I then been psychologically acute. As this tale demonstrates, psychological ignorance can be very expensive.

Few psychological tendencies do more damage to correct thinking. Small-scale damages involve instances such as man's buying an overpriced \$1,000 leather dashboard merely because the price is so low compared to his concurrent purchase of a \$65,000 car. Large-scale damages often ruin lives, as when a wonderful woman having terrible parents marries a man who would be judged satisfactory only in comparison to her parents. Or as when a man takes wife number two who would be appraised as all right only in comparison to wife number one.

Most people know very little about depressive mental breakdowns influenced by heavy stress. But there is at least one exception, involving the work of Pavlov when he was in his seventies and eighties. Pavlov had won a Nobel Prize early in life by using dogs to work out the physiology of digestion. Then he became world-famous by working out mere-association responses in dogs, initially salivating dogs – so much so that changes in behavior triggered by mere-association, like those caused by much modern advertisement, are today often said to come from Pavlovian conditioning. What happened to cause Pavlov's last work was especially interesting. During the great Leningrad Flood of the 1920s, Pavlov had many dogs in cages. Their habits had been transformed, by a combination of his "Pavlovian conditioning" plus standard reward responses, into distinct and different patterns. As the waters of the flood came up and receded, many dogs reached a point where they had almost no airspace between their noses and the tops of their cages. This subjected them to maximum stress. Immediately thereafter, Pavlov noticed that many of the dogs were no longer behaving as they had. The dog that formerly had liked his trainer now disliked him, for example. This result reminds one of modern cognition reversals in which a person's love of his parents suddenly becomes hate, as new love has been shifted suddenly to a cult. The unanticipated, extreme changes in Pavlov's dogs would have driven any good experimental scientist into a near frenzy of curiosity. That was indeed Pavlov's reaction. But not many scientists would have done what Pavlov next did. And that was to spend the rest of his long life giving stress-induced nervous breakdowns to dogs, after which he would try to reverse the breakdowns, all the while keeping careful experimental records. He found (1) that he could classify dogs so as to predict how easily a particular dog would breakdown; (2) that the dogs hardest to break down were also the hardest to return to their pre-breakdown state; (3) that any dog could be broken down; and (4) that he couldn't reverse a breakdown except by reimposing stress.

Availability-misweighing tendency - This mental tendency echoes the words of the song: "When I am not near the girl I love, I love the girl I'm near." Man's imperfect, limited-capacity brain easily drifts into working with what's easily available to it. And the brain can't use what it can't remember or what it is blocked from recognizing because it is heavily influenced by one or more psychological tendencies bearing strongly on it, as the fellow is influenced by the nearby girl in the song. And so the mind overweighs what is easily available and thus displays availability-misweighing tendency. The main antidote to miscues from Availability-Misweighing Tendency often involve procedures, including use of checklists, which are almost always helpful.

“Personally, I think that if security trading in America were to go down by 80%, the civilization would work better. And if I were God, I’d change the tax rules so it would go down by 80% - in fact, by more than 80%. Munger once proposed a 100% tax on gains taken in less than a year from securities trading.

“I join John Maynard Keynes in characterizing investment management as a low calling,” he responds, “Because most of it is just shifting around perpetual universe of common stocks. The people doing it just cancel each other out. You will note that none of my children is in investment management. Warren and I are a little different in that we actual run businesses and allocate capital to them.