



# *Predictably Irrational:* Beer, Pricing and the Human Mind

A Conversation with DAN ARIELY

INTERVIEW BY JON WARSHAWSKY > PHOTOGRAPHY BY MATT LENNERT

Irrationality can be amusing or perplexing. It can also be unimaginably painful. An eighteen-year-old Dan Ariely's introduction to irrationality began on a Friday, when an accidental explosion of a magnesium flare, of the sort used to illuminate battlefields, left him with third-degree burns over 70 percent of his body. The aftermath was an excruciating three-year recovery, and an up-close and prolonged experience with pain that caused Ariely to question the logic—or potential lack thereof—of several techniques associated with the treatments given to burn victims and others facing protracted treatments involving pain.

His research led to the idea that we “repeatedly and predictably make the wrong decisions in many aspects of our lives.” Based on his experiences, Ariely set out to describe how we can make better decisions, given what we can learn about the often irrational patterns of human behavior.

A behavioral economist, Ariely is the *New York Times*-bestselling author of *Predictably Irrational: The Hidden Forces That Shape Our Decisions* (Harper, 2008). He is the Alfred P. Sloan Professor of Behavioral Economics at the Massachusetts Institute of Technology, where he holds a joint appointment between MIT's Media Laboratory and the Sloan School of Management, and is a researcher at the Federal Reserve Bank of Boston. In January 2008, he addressed the World Economic Forum in Davos, Switzerland.

Through rigorous experimentation, Ariely studies how people act in the marketplace – not according to theory, but in controlled and realistic situations. Whether the topic is beer, procrastination or white-collar crime, his experiments reveal a human mind that confounds economists, but one that is ultimately comprehensible on its own terms.

**JON WARSHAWSKY:** YOU DESCRIBE US ALL AS IRRATIONAL IN THE TITLE OF YOUR BOOK. AREN'T WE ALL TO SOME DEGREE ECONOMISTS AT HEART? WE SEEM TO MAKE RATIONAL DECISIONS MOST OF THE TIME AND HAVE A GOOD IDEA OF WHAT THINGS ARE WORTH.

**Dan Ariely:** Yes and no. I think we assume or believe that we are rational but we're not. The interesting thing about irrationality is that it works on us in ways that we don't recognize. And part of the issue is that we have very few opportunities to see the mistakes we make.

Imagine that you go on a date, and it's a terrible date, and you think you really hate this person. What are the chances you'll go on a second date with them just to figure out if you're a good judge of character on the first meeting? Not very high. You'll cross them off your list. You'll never meet them again, and so you'll never get a chance to test if your first impression was correct or not.

The same thing happens in business. If you interview somebody and you think they're awful, what's the chance that you'll try them anyway just to see if your first impression was wrong?

So we have this belief, for example, in our ability to have accurate first impressions about people, but we never really test those out. So we believe we're good, we assume we are, but often we're not.

**JW:** WHAT'S THE SIGNIFICANCE OF BEING 'PREDICTABLY IRRATIONAL'? ARE WE FLAWED OR JUST A POOR MATCH FOR THE DECISIONS WE FACE?

**DA:** There are two points here. First, what does it mean to be predictably irrational? Economists sometimes acknowledge that people make mistakes, but they assume that one person will make Mistake A, another person will make Mistake B and, overall, in the market, the mistakes will cancel each other out.

The kind of irrationality I talk about is not that type. It is the mistake that we make repeatedly as individuals, and different people make similar mistakes across time and across situations. Therefore, they will not necessarily cancel each other out.

Is this foolish? What's even stranger than the fact that we are irrational is that we assume that we're rational. Where is this assumption coming from? When we look at our physical existence, we don't assume that we can jump tall buildings and lift everything. We're realistic because we have a physical reality and we realize what we can do and can't do. But when it comes to our minds, we assume that we're intellectual supermen. And that's a very strange and dangerous idea.

Evolution has really not prepared us for the particular economy we live in. Think about the roles of emotion. If you were in the jungle 250,000 years ago and you saw a tiger, what would you want to do? Start thinking carefully, should I stay, should I run, what's the cost, what's the benefit? Of course not. You want a system that would take over and would make you run as fast as you can and in fact divert blood to the essential organs to achieve that.

Now it turns out we still have these emotions and they still work the same way. We just don't have the jungle anymore. Now we get frightened by the stock market and annoyed by somebody cutting us off in traffic.

**JW:** SO YOU COULD SAY THE ENVIRONMENT IS ALMOST A BAD FIT FOR OUR EMOTIONS.

**DA:** That’s right. And if you ask me, I think the big promise of behavioral economics is that it gives us a better understanding of how we want to control our environment. Again, this is very clear in the physical environment. We create bicycles, roads, cars, tall buildings, computers and so on, and we take most of our physical limitations into account.

We also create our mental environment. We create the stock market, health insurance plans, and we create retirement savings, and while those things don’t have any physical association, they nevertheless require our thinking.

To the extent that we would recognize the limitations we have in the mental domain in the same way that we understand the limitations in the physical domain, we might actually create products and an environment that would be more useful to us.

**JW:** LET ME PUSH YOU ON THAT. HEALTH INSURANCE, FOR EXAMPLE—THIS IS A CONFUSING TOPIC. A LOT OF PEOPLE MAKE BAD DECISIONS.

**DA:** First, there are a lot of ways to be irrational, right? There’s one way to be rational and many ways to be irrational, so I don’t want to say that there’s going to be a silver bullet that could fix everything.

But we might be able to fix a few things. Imagine that I schedule for you a colonoscopy at the end of June. What’s the chance you’ll wake up that morning and feel it’s a good day for a colonoscopy?

“Evolution has really not prepared us for the particular economy we live in. Think about the roles of emotion. If you were in the jungle 250,000 years ago and you saw a tiger, what would you want to do? Start thinking carefully, should I stay, should I run, what’s the cost, what’s the benefit? Of course not.”

**JW:** VERY SLIM.

**DA:** What about if today, when I schedule it for you, I said, “Look, why don’t you give me a check for \$500 and I’m going to deposit this check only if you don’t show up for the exam on time?” The first question is whether that will make you show up on time, and I think the answer is yes. And when you wake up on the day of the exam, you still won’t feel like doing it, but you really don’t want to lose that \$500.

The second thing is whether you would be willing to sacrifice this money to force yourself to behave this way later. And about 50 percent of the people are willing to do it. Now, so far we haven’t done this experiment for real; we just asked people, in a survey, whether they would prefer this feature to a health care account that didn’t have this feature – and about 50 percent said yes.

That means that people are willing to sacrifice something in terms of the utility – risking money. After all, on the day of the exam, you could

be sick, or late, or in a car accident or something. But people are willing to take that chance to get themselves to behave better. If we understand these issues better, I think we will have a much brighter future.

**JW:** HOW IS WHITE-COLLAR CRIME DIFFERENT FROM 'COMMON' CRIME? OR IS IT ALL ABOUT HOW WE RATIONALIZE IT?

**DA:** I think there are two types of crimes. There are crimes by people who plan to take an illegal action and do it, and then there are the crimes by people who do them and still think of themselves as good people. In reality, I think it's the second type that we don't think about very deeply in society. But it's the second type that is much more prevalent and much

“So remember Ulysses tied himself to the mast, right? That's kind of the ultimate example of self-control – you say I want to make sure that, in the future, when I'm tempted, I'm not going to act a certain way.”

more costly for society. My guess is that the amount of money we lose as a society to inflated expense reports is much higher than what we lose for burglary and arson put together. We know for sure that what we lose for shrinkage is larger than that of regular crime.

**JW:** SHRINKAGE IS JUST THEFT, THOUGH.

**DA:** But it's not theft with money. It's razor blades and cameras and all of those things. It's incredibly commonplace. We just don't understand the extent of it, and we don't understand how good people can carry out these crimes and still feel good about themselves.

**JW:** WHY IS IT COMMONPLACE, AND WHY ARE WE ABLE TO RATIONALIZE IT SO EASILY? OBVIOUSLY, PEOPLE ARE TAKING PENCILS, PEOPLE ARE INFLATING EXPENSE REPORTS, AND NOT WALLOWING IN GUILT OVER IT.

**DA:** Think about taking a pencil from work. How many stories can you tell yourself about this being okay? You can say everybody's doing it and you can say, well, I'll actually get more work done at home as a consequence of this; you can say it's expected of me and you can say, well, I brought my own pencil last time, and so on and so forth. So all of those opportunities to tell stories is really the issue here. We're incredibly good at telling ourselves stories, and these help us feel as if we are honest even when we act dishonestly.

**JW:** TELL ME ABOUT DR. JEKYLL AND MR. HYDE. YOU'VE SAID THAT WE HAVE THIS SPLIT PERSONALITY. WE KNOW RIGHT FROM WRONG, BUT ALL THAT WISDOM GOES OUT THE WINDOW WHEN EMOTION TAKES OVER.

**DA:** I think we can fight emotions to some degree, but we actually have to do it in a smart way. Part of the issue is that once we get into an emotional situation, it's too late. If you get ignited by passion, you start to fight with your wife, you're getting aroused at a party – you've most likely lost the battle.

It's also very hard to educate yourself because you're mostly educating the wrong self. If you think about yourself as having the cold self and the hot self, it's very hard to educate the hot self, so you educate the cold self, but this is not very relevant.

The interesting thing is you can take some action in a cold state to force yourself to behave a certain way.

So remember Ulysses tied himself to the mast, right? That's kind of the ultimate example of self-control – you say I want to make sure that, in the future, when I'm tempted, I'm not going to act a certain way. There are all kinds of interesting market mechanisms for that. You've seen the recent 100-calorie cookie packs? We pay quite a huge premium for that. The idea? You're going to force yourself to eat just a bit. It's actually quite sophisticated of people to use that. And so while you can't turn off passion when it starts, you can limit your opportunities.

**JW:** PROCRASTINATION IS A HUGE ISSUE FOR A LOT OF PEOPLE. YOU MENTIONED SELF-IMPOSED DEADLINES IN YOUR BOOK. IS IT REALISTIC IN BUSINESS TO ASK EVERYONE TO CREATE THEIR OWN DEADLINES?

**DA:** The interesting thing is how self-created deadlines can be helpful. No student has ever come to me and said, "Could you make the deadlines earlier?" But the moment I gave them a mechanism that allowed them to decide to set earlier deadlines, they almost all took it, and they almost all did better. So you need a mechanism to help people think about this problem and use it to take action in order to behave better.

For example, we may want people to announce the deadlines on a common board or to have prearranged penalties if they don't adhere to them. The issue of self-control is to create penalties and conditions under which these penalties would take effect.

**JW:** LET'S TALK PRICING. WHAT ARE SOME OF THE KEY LESSONS ABOUT PRICING FROM A CONSUMER PERSPECTIVE?

**DA:** The general answer is that pricing is incredibly hard. We think of consumers as having a demand function, but in fact, if you think about it for five minutes, you'll realize how difficult it is. For example, think about something as simple as a cup of coffee or a Popsicle, and then I ask you how much this is worth to you in terms of money. This is an incredibly difficult judgment to make. Imagine, right now, here's a cup of coffee. How much pleasure is it giving you in terms of money? This is very, very difficult. So what do people do instead? They resort to responses that

they can more easily compute. We look at how much it cost us last week or last month.

**JW:** HISTORICAL DATA.

**DA:** Yes, we base many of our pricing decisions on historical data. Because solving the computation for real is just too hard. So that's the first lesson. I think nowhere was it more apparent than in the mortgage market. When you ask people, "How much should you be borrowing?" nobody can tell you. My wife and I just changed our house and we got a different mortgage. I can't tell you the *right* amount for us to borrow. That's incredibly difficult.

So what do we do instead? Somebody tells us how much we can borrow, and that is what we borrow. But this is confusing two questions. The question you should ask is how much should I borrow. The question the bank is willing to answer is how much they will lend me. But they're not answering the relevant question. What the bank tells me defines the maximum that I can borrow, but it doesn't mean it's the optimal amount.

But most people, because they can't figure out the right amount, take the wrong answer and they just borrow based on that. It's the right answer to the wrong question.

**JW:** HOW IMPORTANT IS ANCHORING IN TERMS OF PRICING? SHOULD I BE THINKING, WELL, I NEED TO PRICE THIS AS HIGH AS I POSSIBLY CAN NOW BECAUSE I CAN'T GO UP?

**DA:** Well, this line of thinking is centrally important. So one of the lessons, if you think seriously about the usage of historical prices, is that companies, when they introduce a new product to market, can determine historical prices.

That's incredibly powerful and particularly useful for new products. If you introduce another VCR into the market tomorrow, you don't have much leeway. But think about the guys who introduced TiVo. They could have introduced TiVo at \$200 in the beginning, or \$1000.

Now both of those could have made sense, but once they've done it, imagine that in these two universes they decide to go to \$500. The claim would be that in the world in which it went from \$1000 to \$500, the people would think of it as a great deal and start buying it like hotcakes. On the other hand, in the world in which it went up from \$200 to \$500, people would not buy anything.

**JW:** WHEN STEVE JOBS AND APPLE LOWERED THE PRICE ON THE IPHONE, WAS THAT A GOOD MOVE IN TERMS OF ANCHORING? SOME EARLY CUSTOMERS WERE ANGRY, SO THEY OFFERED A \$100 REBATE.

**DA:** It's a very interesting question and I don't know the real answer, of course, but one idea is that the prices you establish in the eyes of consumers

early on could have a long-term effect. So this phone started at \$599 and then it went to \$399. Now if I buy for \$599 and it goes down, I'm clearly upset. But if I didn't buy one and all of sudden I see this phone at \$399 now, doesn't it look to me like a great deal all of a sudden?

By doing this, Jobs might have upset some people, and I think he did, but presumably these were the most loyal Apple customers who are not going to do anything differently anyway. And now he created a situation in which we all think that buying this phone for \$400 is a steal.

**JW:** WE HAVEN'T TALKED ABOUT BEER YET. I WOULD HAVE GUESSED THAT IF FOUR OF US SAT DOWN AT A BAR WE WOULD JUST GET WHAT WE LIKE. THAT'S RATIONAL. BUT IN YOUR STUDY YOU FOUND THAT EVEN IN THIS SITUATION — WHICH SHOULD BE AMONG THE SIMPLEST ONES WE DEAL WITH — WE BEHAVE IRRATIONALLY.

**DA:** What happens is that we have two competing incentives when we order food and drinks at restaurants. We want to get what we like, but we also want to portray something to other people. And in particular we have this thing called a need for uniqueness, where people who are high on this trait want to show how unique and different they are. When people order aloud, they're basically torn between those two; they try to portray uniqueness by ordering items that are different from what people have ordered before them, therefore changing their intended order and getting something they like less.

“Medicine used to be all about placebos until the FDA came and forced us to do experiments. It used to be all about intuitions about what's the right treatment — but where did our intuitions lead us? To leeches and eyes of frogs and all kinds of stuff like that.”

**JW:** SELF-DEPRIVATION?

**DA:** Yes, it is. It means that there's a trade-off between how much less you're willing to enjoy the food or the drinks to show other people that you're unique.

By the way, it's interesting—and this is not my research—but studies have shown that indeed if you order more variety, people think more highly of you. So in some sense it might be a reasonable idea to signal uniqueness to others.

The complete story is a bit more complex. We also ran this experiment in Hong Kong and there we found in some way the same results and in some ways the opposite. The results were the same in the sense that when people ordered out loud, they were influenced by the first person, and they also got things they liked less in order to convey something about themselves. But in Hong Kong they wanted to convey conformity and not uniqueness.

**JW:** YOU'VE TALKED ABOUT SOCIAL NORMS AND MARKET NORMS. MARKET NORMS—MONEY FOR GOODS—ARE STRAIGHTFORWARD. BUT HOW DO SOCIAL NORMS FACTOR INTO BUSINESS?

**DA:** I think an interesting perspective of social norms comes into play very strongly in business, and it is amazing how little we understand about them and their power.

These days, companies want more and more of a social contract. How many companies want people to stop working at five, and not answer their emails at night, and not think about work while they drive and while they're on vacation, and not mix business and pleasure, and not talk to people that they meet socially about work, and so on—very few, right?

Now if you pay people by the hour, it will be very hard to achieve that commitment. So what do businesses do? They obfuscate this relationship. They pay people by the month. But the real way to achieve a social contract is to create a relationship like the one you have with your spouse, which is a deep trusting relationship that relies on a somewhat ill-defined give and take.

Health care benefits are the deepest type of exchange that a company can have for its employees. It's basically saying: trust me, when things go really bad we'll be here to take care of you.

But some companies put it back on your paycheck to show you how much they're paying for it. I think that's a bad idea because all of a sudden they're taking something that they're doing to make you feel good and trusting and caring, and saying, here's what it's worth. Even worse, some companies are offering people money instead of benefits.

So imagine I asked whether you would rather I give you health insurance or a \$15,000 increase in your salary. You can probably buy health insurance for less than \$15,000. So it might seem to be a good financial deal to go for the cash. You might actually go and find insurance for \$14,000 or \$12,000 and have a positive financial outcome. But what would happen to your loyalty to the company? Your motivation? Your caring?

**JW:** IT PULLS IT OUT OF THE SOCIAL AND PUTS IT INTO THE MARKET.

**DA:** That's right. As an analogy, imagine I offered you either a \$1000 vacation that the company will send you on in the Bahamas or you can get \$1000 in cash? The Bahamas might not be the ideal way for you to spend your vacation, so you are likely to ask for the cash and spend it better. After all, you can go to the Jersey shore and get an iPod for this price.

But I guess that your loyalty to the company, your willingness to work an extra weekend or stay late at night, would be higher after the gift than after the money. What businesses don't understand is that they are in this strange place between social relationships and market relationships and the value they can get from the social exchange.

**JW:** ONCE YOU TAKE SOMETHING OUT OF THE SOCIAL NORM AND CAST IT IN TERMS OF THE MARKET NORM, CAN YOU GO BACK?

**DA:** It's very, very hard to go back.

**JW:** WHAT ARE THE BIG IMPLICATIONS OF PREDICTABLE IRRATIONALITY FOR BUSINESS?

**DA:** One thing is to realize that we often have bad intuitions about what drives us. And the only way to really, really know about this is to carry out some experiments. Relying on intuitions is a recipe for a lack of knowledge. Think about medicine as an example here. Medicine used to be all about placebos until the FDA came and forced us to do experiments. It used to be all about intuitions about what's the right treatment – but where did our intuitions lead us? To leeches and eyes of frogs and all kinds of stuff like that.

What we need to do is to be more systematic about experiments. We need to understand what assumptions we're making when we're offering a product or a package. We need to go ahead and test those assumptions in a systematic way.

Until business adopts something like that, I think it is likely to be much like medicine in the Middle Ages. There's no other way to get out of that trap of bad intuition. And focus groups don't help because focus groups just mean that you get the intuition of people who are not experts.

So, I think that the first point of the big message is that, if we accept that we're limited, we also need to accept that we don't know where we're limited and we need to do systematic testing. As a culture within a company, people need to start evaluating their assumptions.

The second thing is to think about what I call "free lunches." How do we think about behavioral economics as a competitive advantage? How do we get a better understanding of the consumer, the user, the employee, the investor? We need to understand more completely our cognitive limitations, and once we do, we need to use them as a competitive advantage. Based on this understanding we can better think about creating products and services that are compatible with our real abilities.

---

*Jon Warshawsky is the editor of Deloitte Review and a senior manager with Deloitte Services LP.*



This publication contains general information only and Deloitte LLP is not, by means of this publication, rendering accounting, business, financial, investment, legal, tax, or other professional advice or services. This publication is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your business.

Before making any decision or taking any action that may affect your business, you should consult a qualified professional advisor.

Deloitte LLP, its affiliates and related entities shall not be responsible for any loss sustained by any person who relies on this publication.

---

#### About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu, a Swiss Verein, and its network of member firms, each of which is a legally separate and independent entity. Please see [www.deloitte.com/about](http://www.deloitte.com/about) for a detailed description of the legal structure of Deloitte Touche Tohmatsu and its member firms. Please see [www.deloitte.com/us/about](http://www.deloitte.com/us/about) for a detailed description of the legal structure of Deloitte LLP and its subsidiaries.

Copyright © 2008 Deloitte Development LLC. All rights reserved.