Rationally Speaking #147: Andrew Gelman on, "Why do Americans vote the way thy do?"

Julia: Welcome to Rationally Speaking, the podcast where we explore the borderlands
                between reason and nonsense. I'm your host, Julia Galef and with me is today's guest,
                Andrew Gelman.

                He is a professor of statistics and political science at Columbia University and he's also
                the director of their Applied Statistics Center. He's published numerous textbooks about
                statistics, as well as the popular book titled Red State, Blue State, Rich State, Poor State:
                Why Americans Vote the Way They Do. Andy also runs an excellent blog, which is one of
                the few blogs that I read on a regular basis and it has the very catchy title Statistic
                Modeling, Causal Inference, and Social Science.

                Oh, and then, most importantly, I want to let our listeners know that Andy was my
                professor in college when I was an undergraduate -- which Andy, why isn't that in your
                bio? I half expected that to be right up there above your list of awards.

Andy: Oh, I'll have to fit it in there.

Julia: Indeed. Welcome to the show and Andy, what I'm particularly excited to talk about
                today is one of the big focus areas of your research, which is analyzing Americans' voting
                patterns. And specifically, how those voting patterns intersect with socioeconomic
                factors.

                There are these two competing narratives that I'm sure our listeners will be familiar with
                if they watch or consume any media about politics. And one of them is that the
                Republican party are the fat cat, elite, rich people, whereas the Democrats are the party
                of the people, they're the populists. Then, on the other hand, we have this narrative
                where the Republicans are the salt of the earth, working every man, the Joe six packs,
                and the Democrats are the latte-sipping, coastal liberal elites.

                It's interesting that these two narratives coexist despite being contradictory, so I guess
                my first question for you is which of these narratives is closer to the truth, if either?

Andy: With over 100 million voters, you could easily have 100 million narratives. And I think
                that's part of the point, that both of these narratives are true. When it comes to who's
                in control of the parties, both Democrats and Republicans are the party of the fat cats
                and if you look at things like how much money members of Congress have or
                congressional candidates or candidates for president, you don't see a lot of low-income
                people there. The Supreme Court is full of graduates of the Harvard Law School and so
                forth.

                When it comes to the voters, both parties are the party of the salt of the earth because
                there just aren't enough fat cats out there to win elections.

                All of the comparisons can only be relative. One reason that different people can come
                up with different narratives so easily is because it's just easy to find examples. Again,

with so many people involved, so many millions of voters, it's not hard to come up with examples of anybody of any sort who can support any candidate.

Julia: Okay, focusing now on the voters as opposed to the leadership of the party, can you describe the seeming paradox that you set out to answer, for example, in your book Red State, Blue State, Rich State, Poor State, the paradox being about this intersection between class and voting?

Andy: Lower-income people are more likely to vote for Democrats and upper-income people are more likely to vote for Republicans and that's been that way ever since the dawn of polling, at least in US elections. In presidential elections, it's been consistent throughout except during the 1950s and in 1960 in the elections with Eisenhower and Kennedy, there the difference between how rich and poor voted was very small. Eisenhower, of course, was a moderate Republican and Kennedy was no conservative, but on economic policy, his most famous move was a tax cut, actually.

In the Eisenhower-Kennedy era, there was more of a convergence between the parties, also at the congressional level, but before then and after then, there's been a big difference. I haven't looked at the latest numbers, but typically, people in the upper 1/3 of income are voting about 15 percentage points more Republican than people in the lower 1/3 of income.

Julia: Is that the paradox?

Andy: That's no paradox at all. Of course it's no surprise that Republicans are a pro-business party and they do better among upper-income people, and the Democrats are a traditionally pro-labor party and do better among lower-income people.

The paradox is that in recent decades, Democrats have done better in rich states, so in New York, California, even suburban states such as Connecticut and New Jersey, the Democrats have been doing very well, whereas Republicans have been winning states in the South and in the upper Midwest that are lower income. That does seem surprising. It seems a little odd, like why are these people in the Northeast voting for Democrats, who are then going to raise their taxes and why are people in the South voting for Republicans if the South is poor? Shouldn't they be voting for Democrats and then they can get that sweet, sweet tax money and all that welfare, so it does seem like a paradox.

Julia: Right, so how did you go about resolving those two seeing the paradox in effect?

Andy: I was hoping you would ask that, actually. The resolution, quite simply, is that states are not voters, so within a given state, the individuals are not voting all at the average of the state.

Let's take the South, take a state like Mississippi. Mississippi is a poor state, so why are people in the poor state voting Republican? Actually, low-income people in Mississippi are more likely to vote for Democrats. High-income people in Mississippi are more likely to vote Republican, so a rich Mississippian is quite likely to vote for the Republican

party, so in that sense, that's perfectly sensible. Lower-income people in Mississippi who, of course, are mostly African-American, are more likely to vote for Democrats.

Julia: So in poor states like Mississippi, you have this relationship between an individual's income and how likely they are to vote Republican. What about in the richer states like Connecticut or New York?

Andy: In richer states, it turns out there's very little correlation between your income and how you vote, so your low-income people in New York or Connecticut vote about maybe 40%, 45% for Republicans and the same with high-income people.

Julia: Interesting.

Andy: The pattern by which there's a strong correlation between income and voting is a pattern that's concentrated in the lower-income, more Republican states.

Actually, that's one reason that we suspected that journalists don't see it. So a lot of the journalists that you hear about tend to live in New York or California or DC or near these places. And in the areas where journalists live and work, the correlation between income and voting is close to zero. In fact, among journalists themselves, richer journalists are actually more likely to be Democrats. There's a survey done of journalists a few years ago and they found a positive correlation between the journalists' income and voting for the Democrat, so journalists don't look like America, no surprise, right?

I think in some ways journalists know that they don't look like America and they're always trying to write about the other America, about normal people not like them. But nonetheless, I do think that they can internalize the correlations by which they live by. What I mean is that suppose you're a journalist and you're a liberal Democrat and you know that you're unusual. You wouldn't go around reporting that everybody in America is a liberal Democrat just because you and your friends are because that would be obviously wrong, okay, and you're not stupid, right?

But if you're a journalist and in your environment, richer people are very likely to be Democrat and there's a positive correlation between income and voting for Democrats, it's, I think, very natural it sort of not realize that that doesn't hold in the population as a whole.

Julia: This is kind of an instance of what psychologists call the availability bias or the availability heuristic, right, where journalists are instinctively generalizing a statistical trend from the anecdotal evidence that's most available to them, which is around them in their home states, right?

Andy: Yes. In our paper on this, we called it a "second order" availability bias. So the idea was that a first order availability bias is very naïve. I'm liberal, my friends are liberal, therefore, everybody's liberal...

Julia: What's that quote from someone during Nixon's election where they said, "I can't believe Nixon won. No one I know voted for him."

Andy: Yeah, nobody actually said that. That was a quote that was attributed to somebody, the movie critic Pauline Kael, but as we discovered, she didn't actually say that.

That's actually interesting. People are somehow willing to believe that this Berkeley, California-based movie critic, who was so intelligent in real life, but people are so willing to believe that she was so stupid that she would think that Nixon couldn't win because her friends didn't. That's an interesting bias, a bias by which you believe that people you disagree with are so stupid.

That's yet another story which I'm sure you're fascinated by because obviously, lots of very rational and intelligent people have had irrational beliefs and that's something that a lot of people have wrestled with. But yeah, so Pauline Kael actually never said that, but my point is that journalists will not make that first order availability bias because the poll statistics are available to them also. They think they will make a second order availability bias, which is that the correlation that they see in their environment they'll attribute to the population as a whole. And so they're not really hanging out in Mississippi so much and places like that and they don't really see the strong correlation between income and voting.

Julia: Right, because that strong correlation is only in the poorer and more Republican states?

Andy: It's concentrated in the poorer, more Republican states, yeah.

Julia: Concentrated, right.

Let's talk a little more about why that pattern exists. One thing that occurred to me while I was reading your initial findings, and which you do end up addressing later in the book or the paper is that… I was thinking about what are the differences between the poor states and the richer states? And one difference that immediately came to mind is that there are higher concentrations of African-Americans in states in the South, for example.

And so maybe what's happening is you see this correlation between income and party alignment in those states because the poor people in the states are more likely to be black and therefore, more likely to vote for Democrats. And the richer people are more likely to be white and therefore to vote for Republicans. So what you're finding could just be another way of looking at the racial breakdown in party alignment.

Andy: About half of the pattern we see is attributable to differences between whites and blacks. If you do the analysis with just whites alone, you still see the pattern that we see, but it's only about half as large.

Julia: Got it. What about the explanation that in poorer states, economic issues are just more salient -- because people are more conscious of the importance of money and jobs, et

cetera and so they're more likely to vote based on the economic positions and track record of the parties? Whereas in richer states, economic issues are relatively less important, so they focus on other things like social or cultural factors?

Andy: Economic issues are important to everybody, but the evidence does show that for richer voters, social issues are also important. I can throw a statistic at you here. Suppose we compare pro and antiabortion voters. I'm going to compare white voters who support abortion rights compared to white voters who oppose abortion and look at how they voted in recent presidential elections. White voters who oppose abortion rights are about 20% to 25% more Republican in how they vote compared to white voters who support abortion rights.

Now let's look at Hispanics. Hispanics are actually more conservative on average on abortion than whites and one of the paradoxes of American politics is that Hispanics are not more Republican voting given their social conservatism. Let's look at the data. Let's compare Hispanics who support abortion rights to Hispanics who oppose abortion rights. They differ by about two percentage points in how they vote, so it's not like these people don't care about abortion. There's no evidence for that, but it's not determining how they vote, at least it never did.

Julia: That's not just because whites are, on average, richer than Hispanics? And so therefore, they're not using economic ...

Andy: Whites are richer on average than Hispanics, and that's sort of my point. In fact, if you look at whites, among low-income whites, you see the same pattern as Hispanics and African-Americans, which is that not in how they vote. Low-income whites are much more conservative than low-income minorities, okay, but if I compare pro and antiabortion people and I look at blacks or I look at Hispanics or I look at low-income whites, there's no difference in how you vote. Essentially, no difference in how you vote comparing people who support and oppose abortion rights.

If I go to upper-middle-income whites and richer whites, then you see a very strong pattern. So the polarization in abortion, the relationship between abortion and how you vote in this country, is almost entirely coming from middle to upper-middle-class, richer whites.

Julia: Is that true across the board? That the increased polarization and the sort of "red state versus blue state" culture wars that has dominated political discourse, that that's really just a phenomenon among upper middle class and rich voters?

Andy: Yeah, exactly. Low-income voters don't vote the same everywhere, but to the extent that cultural issues are driving things, it's much more happening among upper-income voters, the upper middle class and rich. And so indeed, the red state versus blue, if you make a map, like that map that you've seen about where the states are colored based on who wins the election, if you make a map of all the voters, you see these red and blue states. If you make a map of rich voters or let's say voters in the upper 1/3 of income, you see a very similar pattern. But if you make a map of voters in the lower 1/3

of income, the map looks much different. You see much less difference between the states. Not zero, but you see less.

Julia: We briefly touched on increased polarization. Have you noticed any change in this pattern that you've observed over time, where the pattern I'm referring to is a correlation between income and Republicanism in poorer states but not richer states?

Andy: Yeah, this pattern has really started occurring since around 1990, since the Bill Clinton era and it's been increasing, like a lot of forms of polarization. Obviously, a lot of political scientists and commentators have talked about the increasing polarization. First, people blamed Bill Clinton, then they blamed George Bush, then they blamed Obama. Now next they're going to blame somebody else, and maybe we're starting to realize that it's not exactly the fault of any of these presidents, that they're just part of the system.

Interestingly, Clinton, Bush, and Obama, all in their own ways, and certainly Hillary if she comes next, have all been trying very hard to be centrist. Clinton was considered to be more conservative... George Bush, of course, he has a very partisan reputation now, but when you think of when he came into office, he was selling himself as being more above politics and obviously, Obama became famous for a speech in which he talked about there being no red and blue America. These guys were trying to stand above party and to triangulate, but not with much success. It doesn't seem popular or possible in the same way that it was.

One thing that we found and we have this paper where we show the electoral map in 1896 compared to 2000 and it's sort of a reverse, that the Republican states in 1896 are now Democrat in 2000 and the other way around. States like New York were much more conservative and the southern states, of course, were more supporting the Democrats, so there's been some big changes.

Julia: Recent politicians have been relatively centrist, but polarization has increased?

Andy: I wouldn't say that politicians have been centrist. I would say that presidents have tried to be centrist, but it hasn't really been so popular. It's not clear. The fact that they've tried, they've wanted to be centrist doesn't mean that they've governed in a centrist way. They've governed the way that they've governed given the cards that are dealt to them. I'm not saying that Barack Obama or George W. Bush is a centrist by any means, merely that I think ...

Julia: Their rhetoric has been centrist?

Andy: Not just their rhetoric. I think that they wanted to have the support of both parties. I think that of course Bush wanted the support of both parties for conservative ends and Obama wanted the support of both parties for liberal ends, but I think that they felt that they would have the ability to make deals and get the support of both parties. Obviously, they have goals, but both presidents found it very difficult to deal with the other party. That's more the case than it used to be.

Can I tell you something that somebody else did that I really liked?

Julia: Sure, yes, go ahead.

Andy: Some colleagues of mine at Microsoft Research did a study, Charlotte Doyle and Duncan Watts, where they wanted to understand polarization not at a macrolevel, but at a microlevel. In particular, there's this idea that part of political polarization is not just that you vote for extreme candidates or that you listen to Fox News or that sort of thing, but also that you have friends who are like you. So if you, Julia, are conservative then you might hang out with such conservative people. Or if you, Julia, are a regular churchgoer, which I think you probably aren't, that maybe you would meet people at your church and that would affect your attitudes on all sorts of issues.

They did a very clever study using Facebook to understand, first the most obvious thing: are your friends like you? They did a study of a game you could play on Facebook where you could answer a bunch of questions like, How do you feel about capital punishment? Are you a Democrat or Republican? A bunch of other things, and then also some innocuous "boxers or briefs" style questions to get variation, all sorts of questions.

Now how do they get people to play this game beyond paying them a small amount? It was a guessing game. Not only do you get to say what you believe on these things, but you get to guess what your friends think -- and then it will tell you the answer, so they tried to get sort of a network effect. You would play this and then you want your friends to play so you could see their answers. Meanwhile, then your friends would see their answers, so you, as a player, would be motivated to share this game and then they, as the data gatherers, will get some very interesting data, which I'll describe in a moment.

What did they find? First, they found that people mostly agreed with their friends. Now you have to be careful about this because let's suppose that 60% of the people on Facebook oppose the death penalty. If that were the case, then even if your friends have random views for Facebook members, if you're likely to support the death penalty, they're likely to support the death penalty just because they're ... Or opposed, whatever I said it was, they're likely to have the same opinion as you just by randomness, right? They're similar to you only because they happen to be on Facebook and that's maybe not that interesting.

You can compare not only the proportion of people -- so I can look at the hit rate, that is, I can look at the percentage of the time that you agree with your friends. And I can compare it to the percentage of agreement we would expect just by randomness because certain positions are more popular than average. Now I don't remember the numbers exactly. It's a published paper, but I can ... Let me guess. I think what they found was that if you take two people who happen to be friends on Facebook -- this is only a very small subset, just the people who happened to play their game, not all Facebook users by any means. This is a couple hundred people. Then the probability that if we're friends that we agree on an issue is something like 60%. No, it's about 70%.

Now if we were just two random people, then I think it would be 60%, that we actually agree with each other. People who know each other are more likely to agree compared to two random people. Then here's the clever part. Remember I told you you got to play the game and guess what your friends thought? And then you could see whether they guessed right about you and you guessed right about them, so you can see how accurate people are. It turns out that people are 70% likely to agree with their friends in a random issue. It varies by issue, but they're 80% likely to *think* that their friend agrees with them.

I like to say the perception of political polarization is, itself, a form of polarization. Polarization is real, but not only that. To the extent that we think it's real, it's like a monster on Halloween, right -- if you think it's real it's even scarier. So because everybody knows about polarization, people assume it. People don't always talk about all these political issues. And you'll find this if you talk to a friend, that if you start listing issue after issue, you're going to find issues where they actually disagree with you. You just wouldn't have thought it, because you just assume that. So I think that what happens is individually, we each have a political ideology in which everything makes sense and to us, it's all completely logical. Other people, they have their own story of the world.

Julia: Right. Do you think that there's a self-fulfilling prophecy, where the perception of polarization feeds the actual polarization? Or does it affect voting patterns in some other way?

Andy: Sort of. I guess what I'm saying is if I believe there's polarization and I don't check, then I'll just think there's more. It's not that I'll have a more extreme attitude, but let's say I have a certain view on an issue and I talk to one or two friends and they agree and then I just assume all my friends have that view too. Then in a sense, I have artificial support for my view because I think all these other people agree with me too, right? It would be like… imagine some loud guy at a party who is opining, and nobody else feels like talking and so he just assumes they all agree. And he gets out of there thinking hey, everybody agrees with me. It's sort of like what we all are in a way.

Then the flip side is then we think about other people, so if I know that 50% of the people have this other view and that none of my friends, I think, have this view, then I'll tend to alienize all the people who disagree with me. I'm going to think they're not people like me.

I want to do some collaboration with my sister on this, actually. My sister Susan is a psychologist. She's a professor at the University of Michigan and she studies how children think. Her big idea is what she calls essentialism, which is that children think in terms of essences.

Let me just back out for a second. We know kids make silly mistakes that adults don't make. One naïve way of thinking about this is to say that adults think about deep structure and kids think on the surface. For example, we know that you went to Columbia, so you know that a whale is not a fish. We taught you that at Columbia, I

guess in your biology class. Little kids, of course, little kids think whales are fish because they swim, so kids are so silly. They're just surface, right, they only think about some surface property.

Actually, it's not the case. For one thing, kids can be pretty young and if you tell them a whale is not a fish, it's a mammal, they remember that. They actually are very receptive to a statement like that. Susan's done a lot of experiments with her colleagues where they give kids artificial settings and different stories, and play games with stuffed animals and so forth and they find that kids think in terms of essences. That they're very willing and able to accept the idea that what's important is not on the surface. You give them a situation and you say, "These two creatures look similar, but one of them has a two-chambered heart and one of them has a four-chambered heart," something like that and right away, that's what they use to categorize. Sure, they don't know about whales and fishes. The second you tell them that a whale's not a fish, it's a mammal, they're like yeah, I can handle that.

Julia: I read about one study, which -- maybe your sister was involved with this, I don't even remember, but -- the researchers told children that a wizard magically transformed this frog into a horse. And the kids would insist "But it's still really a frog." Deep down inside, on some level, it's really a frog. There's this essence of frog that remains unchanged.

Andy: Right. We are essentialists, so the naïve view that adults understand deep structure and kids just care about the surface is wrong, and that's a subject of a lot of her research. Paradoxically, essentialism, like many evolutionary adaptations, doesn't always serve us well in the modern world. Now one thing has to do with ... People get hung up on this. "Is a platypus a mammal or not," Wow, is this ...

Julia: "Is Pluto a planet?"

Andy: Yeah, is Pluto a planet, exactly. The point is Pluto is Pluto, right? The term planet, it's a fuzzy concept. It's upsetting to those of us with scientific training to hear people obsess about that. Are certain behaviors mental illnesses or not, right? It's arbitrary. Similarly, this idea of a liberal or a conservative or a Democrat or Republican, and it's in our human nature to think of essences and to think of there being an essential Democrat.

Now one thing you talked about earlier about the latte sipping so forth, I think a lot of this language is gendered in a subtle way. For example, blue-collar worker. With a blue-collar worker, you have the image it's of a man, right? If you want to say, "Oh, look, they're the salt of the earth. They're blue-collar workers."

What if someone is cleaning beds? Is she blue collar? She's not a blue-collar worker, so she somehow didn't get mentioned in that category. Politicians know about this. For example, they talk about "waitress mom", right, so waitress mom is out there as an archetype partly because politicians want to connect to people like that. I'd say a lot of journalistic discourse is gendered in a very old-fashioned way, in a very misleading way and so you get these images like blue collar. This came up recently. There was some

news, you might've seen this, that the death rate among middle-aged, non-Hispanic, white Americans had been roughly constant.

Julia: Surprisingly high?

Andy: Yeah, roughly constant in the last 15 years, meanwhile, it's been going down in other countries. It was going down for Hispanics and for African-Americans. A lot of the discussion actually, I think, had a bit of a gendered flavor. There's a way in which people didn't say men, men, men, but by default, they had a lot of what seemed to be male images. Then it turned out that the death rate actually had been going down for men. It was going up for women, so it sort of changes the way we think about it. There's a lot of things like that, so a lot of the discussion is that's implicit.

                Indeed, in recent decades, men have been more likely to vote for Republicans and women have been more likely to vote for Democrats. There is a correlation between income and sex, that men make more money than women, but, of course, that's complicated because a lot of people live in families.

Julia: One question I have relating to this is that there's this common framework within which to view people's voting choices, in which people are basically irrational. And they basically don't vote in their own self-interest or even necessarily in line with what they think would be best for the country. They're influenced instead by rhetoric, like "latte-sipping, liberal elites" and when they hear that rhetoric, they dislike the other tribe and don't want to associate with it.

                And so they want to instead cast their vote in essentially a vote of support for an ideology, or support for a set of emotional associations. They can be influenced by these kinds of emotional dog whistles -- or even by random things like whether their sports team won in the previous week, et cetera. Those things can all sway people's voting decisions. If our listeners have read or heard about the book What's the Matter With Kansas, this is one of the more famous attempts to explain why people aren't voting in their own self-interest, and the answer is they're subject to these kinds of emotional appeals.

Andy: Okay, so I'm going to sort of answer these in reverse order. What's the Matter With Kansas? was a fascinating book. The author wrote a lot about changes in Kansas since the 1960s. However, Kansas has been voting steadily, strongly Republican for nearly 100 years, so I find it implausible that we could explain why Republicans are winning elections in Kansas based on the post-1960s era given that they were voting for Republicans in 1936 and in 1940 and so forth. In Kansas, lower-income people are more likely to vote for Democrats and higher-income people are more likely to vote for Republicans.

Julia: Which is in line with their self-interest, right?

Andy: I don't think it's self-interest has anything to do with it. Aaron Edlin and Noah Kaplan and I wrote a paper a few years ago talking about why it's rational to vote, but not rational to vote in your self-interest.

Julia: Right, I was also going to bring that up, but let's bookmark that for a moment because I think you were going to finish answering my other question.

Andy: We'll get back to that, but let me just say more generally, I think that people vote for which party or which candidate they think will be best for the country. There's various evidence for that. There's actually a lot of people in midterm elections who will vote for the party that's not the president, because a lot of Americans feel themselves to be politically moderate and so they actually do ticket balancing either within or between elections.

            To the extent that people are voting for what's good for them personally, I think it's mostly that what's good for them personally they think would be good for the country as a whole. For example, I think that more funding for education is probably a good thing. I support that. Yet again, more funding for education helps me personally, but it's not that I support a candidate who supports education funding because I think I'm going to get a raise, but it's somehow no coincidence that I work in the education sector and I think the education sector is a good thing and so forth. I think that's true of a lot of people.

            Now I know what you're saying. If you characterize the other side as people you don't like you're not as likely to vote for them, I assume, but I think that ends up being supportive of political ideology. Most lower-income people vote for Democrats, but a lot of lower-income people vote Republican and a lot of them are conservative. A lot of lower-income people, especially white people in this country, have the feeling that when taxes go up, even if they're not paying the taxes, that the taxes are going to be going towards people who don't work very hard. They're going to be going for unproductive purposes. I think a lot of ethnic minorities are more likely to feel that when tax money is spent, it's spent on useful purposes. They have different views about the efficacy of government spending. Now that's definitely influenced by personal experience and it's also influenced by rhetoric. There's no doubt that if people you respect tell you that the government money is being spent usefully or not usefully, you're going to listen to them, but I think it's within the larger context of your view about what's good for the country.

Julia: Interesting, so it seems to me like the whole picture that your body of work has pointed to is like a third alternative to these two standard models. Where one of the standard models is people are irrational and there's this false consciousness where people are being tricked into voting against their interest by rhetoric and appeals to emotion. Then the alternative to that is the standard economic model of the rational voter, but that model assumes self-interest, essentially, and so your proposal is ...

Andy: No, it doesn't assume self-interest. Let me split it into two parts. First, let me bring up the false consciousness. There's no doubt that there are definitely liberals who believe

that there are low-income conservatives who are voting Republican because of the false consciousness -- that really if they knew better, they would vote for Democrats.

There are a lot of conservatives who have that feeling about ethnic minorities. A lot of conservatives seem to think that ethnic minorities are fundamentally conservative people and they would vote Republican except that they've been fooled. I would say both liberals and conservatives, both Democrats and Republicans, would like to believe that the people who vote for the other side do it for bad reasons. It's not hard to find lots of quotes along this line, so that's one thing.

Now the second thing is about the rationality of voting, so let's talk about rationality. Rationality is not the same as self-interest, and I think it's unfortunate, I don't completely understand why, but the concepts of rationality and selfishness seem to be paired in public discourse and they're not. What is rationality? Rationality is purposeful behavior in some way. There's different ways of saying it. I consider a behavior rational if you can give a reason for it. Sometimes I like to use the term paper trail, right. If I do something, it's not just cause. It's because there's a good reason.

Julia: I don't know that I'd agree to that criterion of rationality, just because I think it's very easy to give reasons for things that aren't the true reasons. But I completely agree that the definition of rationality, for it to be at all sensible, it's got to be broader than just selfish.

Andy: Rationality is, of course, about giving reasons and I agree, it should be about giving good reasons. If someone gives a bad reason and they call themselves rational, but it's not really a good reason at all, if someone says, "Two plus two is five and therefore, I'm doing X," then of course that's not rational. Maybe they feel they're acting rationally, but it's not a rational decision, so that's one reason I like to talk about the paper trail.

One thing I like to often focus on when talking about rationality is instead of thinking about individual decisions, think about institutional decisions. Instead of saying, "Am I acting rational? Is Julia acting rational," let me say, "Is Columbia University acting rational when they decided to build a new campus north of Columbia University? Was that a rational decision," or is a certain company, did they make a rational decision by investing in this new plant?

Then you say what are the reasons and you can try to evaluate them, but that's means to the end. The goal of self-interest is one goal and benefiting others is another goal. You can be rational in the goal of helping other people, so there's a new movement now for efficient charity. People say my goal is to help people and I want to do it rationally. It's not self-interested. Conversely, you can be self-interested and irrational. You can do something stupid even if it's for yourself. I think those two concepts should be completely separated.

Julia: Regarding the effective altruist movement that you're alluding to, we've talked about it on the show. One thing that really struck me is that the association of rationality with selfishness appears to be so strong that there's been a lot of pushback against effective

altruism for being selfish. The critics have come up with all these reasons why EA is actually selfish, that these charities are actually just out for profits or people are actually just out for acclaim or prestige or to look down on other people et cetera, et cetera. These criticisms are often no more true of EAs than they are of anyone giving to charity, but they're applied specifically to EAs because of the association with rationality, which is really frustrating.

Andy: No, I could see that. You also see sometimes people reaching for is there a generic argument where they say any behavior is rational. Whatever it is, it's rational because if it wasn't rational, people wouldn't do it, so there's people who've said drug addiction is rational and playing the lottery is rational. As a statistician, I can tell you playing the lottery is not rational. Of course, there may be a situation where buying a lottery ticket once in a while for the joy of it is rational, but as you're probably aware, there are people who play the lottery regularly and actually can hurt their personal financial situation.

And you could, of course, say that any action is rational or any action is selfish because everything you do has some reason or you wouldn't do it. Everything you do must be for your self-interest because if it wasn't for your self-interest, why would you do it, right? So if you stick a pin in your finger and it hurts and you're doing it, you must like being hurt, right. Or, for example, suppose I miss my flight because I forgot to check the bus schedule and then I say, "Well, that was irrational. I should've checked the bus schedule," and someone says, "Well, no. If you should've, you would've, right, so obviously you were ..." that's an empty statement. Under that statement, statements such as rational and self-interest have no meaning at all. It would be like if everything were the color red, then we wouldn't use the word. So I'm assuming that we use rationality and self-interest in meaningful ways.

To the extent that it's used in meaningful ways, in our paper, we talked about why voting can be rational and why if it's rational, it's rational to vote in the interest of others.

Julia: Just for context, this is in response to the common claim among economists, and people who are familiar with economics, that voting is irrational because your vote has such a tiny chance of making a difference. Which, maybe you can just elaborate on that a little bit.

Andy: Good point, yeah, so the probability of your vote determining the outcome of the presidential election depends on what state you're in, but on average, it might be around 1 in 10 million. Maybe it's 1 in 1 million if you're a swing state and 1 in 100 million if you're in a state like New York where ...

Julia: That's the probability that the vote in your state is split equally, such that your vote is the deciding vote?

Andy: Right, so the probability your vote is decisive is the probability that your vote will be enough to determine your state's outcome, so that the state is otherwise split equally

other than you, multiplied by the probability if your state is tied that your state would be necessary for a national coalition. New York is where I'm sunk in two ways, first, it's very unlikely that New York is going to be 50-50, but even if New York is 50-50 and my vote determine the outcome of the election, in that case, it's going to be almost certainly such a Republican landslide that New York won't even matter, so I have two strikes against me.

You can estimate these probabilities. I'll just as an aside, some people say that this probability is meaningless because even if the election were really tied, they would have a recount, but if you're very careful with the math, you can recover the exact probability because it's true that if the election is very close, there's a recount, but actually, there's a small probability that your vote will be the vote that triggers the recount, so if you took a ...

Julia: Right. It's just one step more.

Andy: Yeah, it's one step more, but if you integrate that out, you get back to the same probability, so we can compute the probability based on forecasts and at best, it's about 1 in a million. If you're lucky enough to live in Florida or Ohio, whatever, then maybe it's about 1 in a million.

                Indeed, people say, correctly, that if there's a 1 in a million chance of your vote determining the outcome of the election, it's not logical, it's not rational for you to vote if the purpose of your vote is to get something for yourself. For me to say I'm going to go to the polls because I have a 1 in a million chance of getting a $3000 tax cut, that's ridiculous, considering I might get run over by a bus on the way to the poll or just that maybe I could do something more enjoyable with my time.

                The usual explanation is that people vote out of a sense of civic duty and it may be out of some social pleasure. I think that's accurate. I vote because it I do feel it's a part of my citizenship and also after the election, everyone's talking about the election. I like to talk about the election too. It's sort of fun to go and vote. I take my kids. It's not about giving one more vote to a certain candidate.

                That said, if you live in a swing state, there is a rational reason to vote. The rational reason to vote is that your chance of determining the outcome of the election might be only 1 in a million, but it could have such a huge influence in the world.

Julia: What's an off-the-cuff, back-of-the-envelope estimate of how much it ...

Andy: Back of the envelope, okay, let's suppose that your favorite candidate, so suppose you have a certain preferred candidate and your candidate has a chance of winning. Suppose that you believe that if your candidate were to win, there'd be lots of good things. Let's say there'd be more chances of peace, prosperity, all sorts of good things that maybe just off the cuff we can assess at say a value of $1000 per person in the United States. Not even thinking about all the happy people in Iraq, in Afghanistan, in

Syria and so forth because your candidate's going to make the world a better place in your view, okay, but just the United States.

Then you're talking about a social benefit of $1000, the equivalent. $1000 is not an unreasonable number when you think of economic changes, recessions, and booms. To believe that your preferred candidate can make a difference, even just purely financial of $1000 is not at all unreasonable, whether you're a Democrat or Republican. Best thing is the economy, so 300 million people, right, so times 1000, that's 300 billion. If you could magically, single-handedly determine the outcome of the election, that would be like making a $300 billion contribution to charity. It's helping everybody.

Some people say no, that's not right because if half the people are Democrats and half the people are Republicans, you're only helping the Democrats or the Republicans, but that's not what I'm saying. I'm not saying that having your candidate win will make people happy by $1000 each. What I'm saying is it'll actually benefit them, either economically or maybe in terms of reduced probability of dying of some disease because they'll handle the CDC better, less likely to drown in a hurricane, whatever it is.

Determining the election outcome would be like giving $300 billion to charity, so by voting, it's like buying a lottery ticket, sort of. It's a good lottery because it's a lottery where there's a small chance of cost of playing. There's a 1 in a million chance of winning, but if you win, it's like you've given this incredible charitable donation. Paradoxically, voting, if you're in a close state, voting is actually rational to the extent that you're altruistic and irrational to the extent that you're selfish.

Julia: Excellent. We're actually over time now, so I think that's a great note on which to close this part of the conversation.

Andy: Okay. Good time to stop, yeah.

Julia: We'll move on to the Rationally Speaking Pick.

Welcome back. Every episode, we invite our guest to introduce the Rationally Speaking Pick of the Episode, which is a book or website or even a movie that has influenced their thinking in some way, shaped their worldview. Andy, what's your pick for this episode?

Andy: A few years ago, I was interviewed by the website Five Books. I was actually interviewed by them twice. First, they asked me to give five book recommendations on statistics. Then another time, I gave them five recommendations on political science, so I'd really like to give you all ten recommendations, but you can click through to read those.

I'll give you the first of all my recommendations, which was probably personally most influential to me, which were the Bill James Baseball Abstracts of the 1980s, so during the 1980s, Bill James wrote a series of best-selling books about baseball, about baseball strategy, using statistics. He was a very thoughtful guy as well as being a great writer. Of course, like many statisticians of my generation, I grew up being a baseball fan.

What was very impressive about these books was that he one at a time assessed various hypotheses, various ideas about baseball and addressed them with statistics and came up with surprising conclusions and lots of questions. For example, at what age are baseball players most productive? People had looked at that before. Apparently, there was baseball lore which said that baseball players are most productive between the ages of 28 and 32, so Bill James looked at the statistics. It did look like players between the ages of 28 and 32 were the best players, but then he looked more carefully and it turned out that wasn't really true. There's really a selection effect. The players who were staying past the age of 30, which is actually an advanced age in baseball years, were actually the best players. If you looked at the individual players one at a time, it turned out that they're mostly peaking around the age of 27. There was a composition bias.

The conventional wisdom was wrong and it was wrong because people weren't directly asking the question that they should've been asking. If you want to know when a player is doing the best, you have to look at a player or adjust for that. Looking at averages is going to give you a different answer. So it's a consistent pattern and you still see this in a lot of statistics, poli-sci, econometrics, where people don't ask the direct questions, sometimes it's very hard to do that. People analyze the data and they come up with an estimate, but it doesn't directly relate to what they were doing. I read Bill James' books before I was a statistics student at all and I got a lot out of it.

Julia: Fascinating. I am personally interested in checking that out and we'll see if that's the one thing that might succeed in getting me interested in sports. I'll let you know. We'll link to your pick as well as to your Five Books recommendations and to your book and to your excellent blog that I encourage our listeners to check out. Andy, thank you so much for joining us. It was a pleasure having you on the show.

Andy: Oh, great. Thank you.

Julia: This concludes another episode of Rationally Speaking. Join us next time for more explorations on the borderlands between reason and nonsense.