

Make Me Smart November 2, 2021 transcript

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Kai Ryssdal: Let's do it. Hey everybody, I'm Kai Ryssdal. Welcome back--I hope it's back, hope you're not a first-time listener. But if you are, welcome. Anyway, Make Me Smart, this podcast, none of us, as we say on Tuesday's around here, is as smart as all of us.

Molly Wood: I'm Molly Wood, I hope you are a first-time listener, that means we're growing.

Kai Ryssdal: That's true.

Molly Wood: It is Tuesday. Whether you are a new listener or a seasoned listener, Tuesday means it's time for a deep dive into a single topic. Today, we are talking about something, this is like, the ethos of Make Me Smart right here, which is that someone goes, I wonder what is the deal with this thing? Can we do a show about that? And then we do, which is the best. The thing that in this case I think I was wondering about and many others also, which is what is, what's up with economics as a field of study? Is that, is that a thing? Because sometimes there seems to be this disconnect between what economists say will happen. And all of those predictions end up, you know, on the front page of a newspaper, and then something totally different happens in the real economy. And then when economists get it wrong, there doesn't seem to be that much accountability. And it seems sort of weird, because we're using these findings to set things like, game changing public policy. So we had some questions.

Kai Ryssdal: So, you know, there is a place for economists in this economy and in this society, but maybe how they think about what, how we think about what they're telling us is what we're trying to get at today. Colin Camerer is the Robert Kirby Professor of behavioral economics at the California Institute of Technology up in Pasadena. Professor Camerer, thanks for coming on the pod.

Colin Camerer: My pleasure.

Kai Ryssdal: So not to put you in as a proxy for your entire profession, but um, but, but how come, how come economics--let me, let me ask a value neutral question. How come it's so hard for economists to agree and for there to be an actual solution to the problems they study?

Colin Camerer: Okay, great. Yeah, it's a very, this is a very profound question. Economics as a profession is not too self reflective, but it is after times of crisis or embarrassment, like the Great Recession. So there's two things that are important, which, which your listeners may not appreciate. One is there's a big divide in economics between microeconomics, which is a

particular market, like housing in LA, what if we tax gasoline, and macroeconomics, which is inflation, unemployment, GDP, how do we run the entire economy. And it's a little bit like, say, geology, where we understand a lot about, about rocks and mountains and how old they are. That's micro, and earthquake forecasting, in which we know there will be a big quake, but I don't know in LA, unfortunately, but we don't know if it's gonna be next year, five years, 10 years, you know, we know some vague statistical principles, that's kind of like macro. So, so forecasting and understanding the very complicated aggregate of a system is much harder. And that's kind of understood. Sometimes in public discourse, you know, get, you may get more confidence attached to forecasts about, say, whether there's gonna be inflation in the next couple of years, which people seem quite worried about, than is, than is proper, you know, some of that is different people. Some of it is an economist who may be very circumspect talking to their peers. You know, if they're on a short segment on CNN, they feel like they have to be much more conclusive. Nobody wants to hear we're not really that sure, call me back next year. So that's one thing, macro, micro. The other is that among the social sciences, economics is known for kind of having the most hubris and pride. And some of that is well deserved, because we do understand, for example, unintended consequences. That's something we're really good at understanding. We have more math. But, you know, math is supposed to be used for something which is to generate insight and kind of discipline your thinking. And it's also true that economists in the US and some European countries, though it varies a lot, have a much bigger role to play in the, in advising governments, you know whether it's regulatory agencies, like we have a council of economic advisers in Washington, there's no Council of sociological advisers or others. And I think where the forecasting challenges show up, are things like the following the Great Recession in 2008, I think economists as a professional sort of took a pass. It was like, nobody understood it. Alan Greenspan didn't see it coming. How could we have seen such a thing coming? But so there was a combination of defensiveness. And the Queen of England famously, you know, sort of pointed her finger at the Bank of England and said, isn't this your job to know these things may happen? But at the same time, and there was a combination of defensiveness, but also, a lot of talent in economics quickly pivoted and said, what are the theories we need to understand this, how this happened and whether it would happen again. And so, so it's kind of like when you know, when there's a big earthquake in California or elsewhere, the earthquake engineers learn a lot about how to prevent new earthquakes and building codes change. And usually, that's a pretty healthy process.

Molly Wood: Well, yeah, it sounds like you're describing a world in which it would, it might be better for society if we treated economics as a slightly more backward looking science, as opposed to counting on it. I mean, I will acknowledge here, media problem. Right, but counting on economics to forecast as opposed to analyze and then make forward looking policy as a result might be a little part of where we're going wrong here.

Colin Camerer: Correct. Yeah. In macro forecasting, for example, the track record is pretty clear. It's very hard to forecast out more than two or three years. And it's easy to forecast like, quarter to quarter GDP, it's just extrapolation. So, you know, if you look at the GDP, because pandemic, it looks just like this bumpy, you know, bumpy, like ridge of a mountain, and then there's this plunge and jump back up. And, you know, in looking back, we can kind of say, oh,

here's why that happened. And here's what's going to happen. But um, forecasting changes and long term forecasting is just, nobody's very good at that. And similar to long term weather forecasting, right, short term has gotten better and better, better, really good. But long term, not so much. I think the two current examples that are interesting are pandemic vaccine take up, and the great resignation. So the vaccine take up's a really interesting story. I think, goes back to your question of should we be more humble and what's missing? And so the idea that a vaccine would be created in record time and approved, part of that was helped, was helped by an economic idea from Mike Kramer, now at University of Chicago and Nobel Prize winner, and he and others for years have been saying, if vaccine development is held up by incentives, the fact that the vaccine makers don't want to spend billions trying to make this and refitting factories, we should just have advanced purchase, and said, we're gonna buy this stuff whenever you're ready. And that, that was part of operation warp speed, and it made a big difference. That idea came from economics, or at least, you know, from some mixture of people, but Kramer gets a lot of credit for writing it down and pushing it. So economics had a good role to play early on in getting the medical innovation to occur. But then once you have a vaccine, I think economists for sure, and many public health officials thought well, of course, people will take it. I mean, why wouldn't you take a vaccine, it's approved by the FDA? And I think what that story is about is human nature. So it, you know, when you have a very mathematical field, you often have a very stylized simple view of human nature, like people respond to money incentives, and, you know, social norms and the pastor or barber shop in your, in your neighborhood, you know, how could that play a role in getting people to take a vaccine. So economics is often like, a bit tone deaf about ideas from their neighboring fields like sociology, the importance of social networks, or something economics has come to really embrace, you know, a lot of information influence comes from, you know, not reading a newspaper or doing your research, but, you know, what somebody next door tells you or somebody tells you at a barbecue.

Kai Ryssdal: How much of that though do you think--and I'll point out here that you are a professor of behavioral economics, so your job in your chosen academic field is to try to integrate, you know, the effects of, of literally human behavior on this supposedly quantitative field, which is in a lot of cases of economics but, but let me ask you this on backing you up to the to the hubris and and, and how economists get so much credibility. How much of that do you think is due to the fact that so many economists, the senior ones especially and the most notable ones, are white dudes?

Colin Camerer: That plays a role. You know, I mean, it's hard to put something like a number on that, although we could think about a way to do it, but it is true. This is a, I think, a kind of dirty secret. And many economists would just not agree with me and even be offended. It is true that the American economics, and European I think less so, is kind of dominated by if you look at the people who run the professional associations or their editors of peer reviewed journals, which very prestigious, it tends to be dominated by the Ivy League, MIT, Stanford, Berkeley, you know, almost, almost like a, you know, like a feudal, like, you know, professor editorship of the American Economics, you know, just gets passed down like, like in a small scale society from one person who passes it to their student at MIT, to their student at MIT. And along with that has

been the fact that economics, compared to other social sciences, has been very slow to, to have lots of talented women at the rank of full professor and so on. Now, there's been a big awakening. There was a big survey a couple of years ago, I think it was when Janet Yellen was the head of the professional association in the US AEA. And the old white people were surprised at how upset LGBTQ and women were about minorities, underrepresented minorities, in which there's extremely few. They just don't think they're part of the club in the profession and appreciated lots of discussions about harassment and, and some sexual harassment, but also just feeling like no one pays attention to me. When you go to the annual meetings, everyone has a little badge and it says, you know, Colin Camerer, Caltech, Bridget Bodnar, MIT, you know, Colin Camerer, University of Arkansas. And you could actually, I think you could do a study, no one's done it, in which you look at people's faces, and they look down at the tag, and it says MIT, and it's like, oh, Bridget, you're from MIT. Do you know my friend, Tom? Bob? John? Phil? And they look down at University of Arkansas and it's like, oh, you're invisible. You're invisible? Now to be fair, post Janet Yellen and many others feel like we really have a problem like now what do we do? So there's a lot more recruiting going on to represent minorities, more activities, it's still, I think that at the higher levels of profession, if you were to, you know, kind of go to meetings and it's hard to really change the entire thing, you know, unless you have a really sustained effort from the top that goes on for decades and decades. So we're definitely behind on that.

Molly Wood: But it does seem like this is, this is part of what makes it so valuable to sort of interrogate the amount of weight that we are putting on these reports and these pronouncements because, you know, there is a lack of socioeconomic diversity in these points of view, a lack of, obviously, racial and gender based diversity, and even, even cognitive diversity. And so if everybody's just repeating the same thing, and we're treating it as science and even religion when it comes to policy, that that is something that is fair like to, you know, go back to our central thesis here of the episode, it's fair to ask questions about how right all of this really is, right?

Colin Camerer: Oh, yeah, absolutely. Absolutely. A kind of secondary thing, but I think important, is also the scope of, of things which economists spend their time studying. So one of the most fascinating things that's going on in this economy is, is the rise of like, female, higher education. So if you look at the percentage of boys in college from 1960 to now in the US, for example--the same is true, I think, in Japan and many countries in Europe, the boys kind of goes up at a slow pace. Girls have gone off like a rocket ship. And so lots of competitive schools, you see 55%, 57% females, and it's continuing, the gaps gonna get bigger. And it's not just money. It's not just straight economics, right? It has to do with girls postponing it, childbearing. Maybe boys are playing too many video games. I mean, it's probably a witch's brew of all these complicated things. It has very little to do with pure incentives, the fact that women just like, discovered that they can earn more money with a college degree. And that's been true for ages. Right? So why is it continuing? And if you were, if you thought that was a problem, and something we wanted to think about as a society, and we wanted to encourage boys more, and you put together a blue ribbon, kind of like an intellectual SWAT team, it's not clear you would want an economist in charge, you would want some economists on the team,

and there's some really good ones studying economics of education and social factors. But a lot of the interesting input would come from other fields, you know, people who are interested in marriage rates, and you'd want to interview a bunch of college kids and do a serious survey, which economists tend to be a little bit allergic to, you do a lot of things that are not at the center of the economics profession today.

Kai Ryssdal: So I'm cheating a little bit here and I'm looking at the Caltech catalog online and I'm, I'm at Economics 19, the freshman seminar, thinking like an economist, instructor Camerer. So let me ask you this, as you get these 18- and 19-year-old kids at Caltech in for thinking like an economist seminar, if you were to get a bunch of lay people in a room, how would you tell regular people, which is not to say that college students aren't regular people, but how would you tell consumers of news, right, to think about economic news that they get, if that makes sense.

Colin Camerer: Oh, that's a great question. I think the first thing is, who's generating information why? In fact, we're gonna talk about this in my class today. You know, is there an incentive to kind of exaggerate or outright lie about what you're talking about. And the second thing I would talk about is unintended consequences. So, you know, you, I mean, something that's in the news now is should there be some kind of a capital gains tax, or some kind of a pure wealth tax on the very highest, richest, richest people in our country, like the top 700 billionaires? And part of it is, is if those billionaires quit doing something they're currently doing, what would that be and what would be the trickle down effects? It might benefit some states in America that have low income tax, they would have a boom in places where booms might be needed. So those, those kind of ripple, second order ripple effects are something we're pretty good at studying. And when you, when you hear a typical news report, you're really looking at the first part.

Molly Wood: I want to ask you about this, this concept in behavioral economics in particular, this idea of this problem of reproducibility, this sort of gets to the question of economics as art versus science. Tell us, what is reproducibility exactly and what we should take away from that?

Colin Camerer: Okay, so there's essentially two layers of reproducibility. If I get your data, and I know what software you used to do an analysis, do I get the exact same answer? And amazingly, the sad fact is that the answer is often, I'd say too often on the order of like, a third or a half, it's not 2%, it's often I do not get the same exact answer. Sometimes it's because there was a mistake in the data, what we called data cleaning. You know, like, sometimes if there's missing data, instead of a hyphen in a spreadsheet, you put a zero, and zero is really should be a hyphen, but whoever set up the data. So there's a lot of like, fuzziness about that, that's important. And sometimes even the software changes and, you know, the way they do matrix inversion changes or something like that. Another problem historically has been even getting people's data to, to share--let's call it open science. So reproducibility economics has been okay, but there's a lot of room for improvement and the improvements are not too difficult.

Molly Wood: Sorry, can I back up a little bit, because I want to make it clear that we're not talking about like personal data, like you're saying an economist puts out a report that says, X thing is going to happen, this many jobs are going to be created because this matrix fell down. And that the peer review system is not that reliable?

Colin Camerer: It's even more basic than that. So the peer review is kind of like, do I believe this result? Is this going to help us? Like, is this gonna lead to more things people study? I would, I would, I want, you know, a policymaker to read this and actually start to think about legislation. The basic reproducibility is sometimes called statistical, just means if I have exactly your data and I do exactly the thing you said you did like a recipe, does it taste the same? Do I get the same answer? And so even that, there's been some unfortunate like, failures to reproduce. Replicability refers to if I do, if I get a new dataset, or do an experiment with a new group of people, for example, or something that happened in Kenya, I try to reproduce that, you know, you give people small amounts of money in Kenya, see if it improves employment and education. I try to do that Sierra Leone, am I going to get the same answer or not? And economics I think has been part of the hubris is has not been worried about reproducibility and replicability as much as it should have. I think when, when some of these early results came out that things didn't reproduce exactly, people were shocked, really shocked. And, and we've been moving in a good direction. So most of the economics peer reviewed journals require you to, you know, post your data. And in fact, some of the journals have a data editor, who basically goes through if you have code that makes sure that code runs. You know, it's not enough to just plop it in some website, nobody, and 10 years later, you know, there's cobwebs. So economics has improved in the last two years. But the open science movement really came from psychology, which was in really bad shape. And that started about 10 years ago. So even though economics is very innovative about certain things like statistical techniques, we've been kind of laggy about doing open science better.

Molly Wood: What should we take away from all of this?

Colin Camerer: You should be, it's hard to do. But I mean, you meaning journalist, but also listeners should look for a kind of a healthier scientific diet in terms of a balance of sociologists, anthropologists, in many cases, I mean, we're, you know, we're the subjects in anthropology too. And in anything that isn't just like, jobs, money, savings that other social sciences have a lot to contribute, and often will really fill in the blind spots that seemed to be even with the rise of economics, which has been, was slow, but then kind of took off. The blind spots are still there.

Kai Ryssdal: And good news, consumers gotta dig out those blind spots. Colin Camerer is the Robert Kirby Professor of behavioral economics at the California Institute of Technology. Professor camera. Thanks for your time, sir. We appreciate it.

Colin Camerer: Yes, my pleasure.

Molly Wood: Thank you so much stuff. Appreciate it.

Kai Ryssdal: Man, that's the deal.

Molly Wood: You really do have to be an omnivore. It's really true. And I think you just almost have to ignore like, headlines. I don't know, you have to read the story, read the story, read the story, and ask what, I mean, it seems like with economics, that it's like, you have to ask, what foundational text is this, you know, thesis being based on? And is that foundational text actually still true?

Kai Ryssdal: Yeah. Yeah, totally. Because, you know, just like political scientists who get, you know, less attention, as he was saying, you know, in the policymaking of this country, right, or social science or whatever. Economists come with different points of view, and they use different models, right, and they have different desired policy outcomes. And it's not to say that they skew their research but that has an effect, and so you gotta you got to read the article. Gotta read the article. Anyway, tell us what you think.

Molly Wood: Don't treat it as gospel. I think it's just so, you know, none of it should be and it's super interesting that there's different ways to measure--I keep thinking about how we keep talking about GDP all the time. And it's like, there's, there's different ways to measure a society's success than growth. That's one simple example of the power of economists.

Kai Ryssdal: What did you learn today, what surprised you, what horrified you, if anything, let us know, has it changed the way you think about economics and economic news and how you're going to read it? Let us know, send us an email, makemesmart@marketplace.org, same old email address.

Molly Wood: You can also call us and leave us a voice message, our now same old phone number is 508-827-6278, also known as a 508-82-SMART. We'll be right back with the news.

Molly Wood: The economic news, am I right? I mean, only kinda. It's time for the news.

Kai Ryssdal: Oh, man. All right. So we were sitting around in our, in our morning news meeting this morning, talking about what we're gonna say on Marketplace this afternoon. And it's, you know, 6:15 in the morning LA time, and I'm a little groggy, whatever. But we got to talking about some of the news coming out of Glasgow and COP 26. And Biden talking about trying to counter the Chinese Belt and Road Initiative, which is sort of the Chinese government's global infrastructure, we're gonna almost literally take over the world by building stuff and, and getting countries to come along and join our sphere of influence at whatever cost, right, whether it's bad debt, or what have you. There's a lot of shady things going on in the Belt and Road initiative. But one of the things that's talking about was how the US is already like nine or 10 years behind the Chinese in this sort of global infrastructure attempt that Beijing is doing. And then Sabrie Benashore, who I'm sure many of you have heard, said there was an article in the Financial Times today about the AI fight and how the Chinese are kicking our butts. And if you look at Huawei and sort of the 5G infrastructure and all of this, they're ahead sort of technologically,

they've got--and Molly, you'll know this better than I do, right--they have, they have the edge in battery technology too, right?

Molly Wood: Yeah, absolutely. At least right now. And certainly in production, it's sort of this double whammy, which I think is so interesting, is that China has the edge increasingly in software and machine learning, and hacking, right, like cyber capabilities as it's often referred to, and then also can just go ahead and make the hardware that they need to do all of these things.

Kai Ryssdal: Which gets me to this article in the Financial Times, which was and is mildly horrifying. I will read you the first and last paragraph. The Pentagon's first chief software officer said he resigned in protest earlier this month at the slow pace of technological transformation in the United States military and because he could not stand to watch China overtake America. And let me jump to the last paragraph where he says--so he's a serial technology entrepreneur, this guy whose name is Chaillan, his name is Nicolas Chaillan, if I'm pronouncing that right, and here's what he said to close the article. Here's the kicker. The serial technological entrepreneur who started his first business at 15 in France said he also began to feel stale because he spent his three-year stint at the Pentagon fixing--this is a quote--fixing basic cloud things and laptops.

Molly Wood: Oh, God.

Kai Ryssdal: Chief Technology Officer at the Pentagon. There you go.

Molly Wood: He resigned a week ago?

Kai Ryssdal: Earlier this month. 10th of October's the article date.

Molly Wood: Oh, earlier in the month. Wow. That's, that's, yeah, just doing basic stuff like updating IT.

Kai Ryssdal: Uh huh. Yeah. Okay. We're all set. That was, that was it. That's my news.

Molly Wood: I mean, yep. Wow. That's a cue that dark place sting kind of moment, cause wow. That's great.

Kai Ryssdal: Oh, there it is! Lianna Squillace, never one to miss her cue.

Molly Wood: Boom. Yep. You're gonna want to keep that one ready because, man, this Zillow story is so fascinating. Let me take you back to just a few weeks ago when there was like a viral video about Zillow buying and selling houses and Zillow buying them for, you know, more than they're worth. And it was, it was a viral video that made everybody wonder if Zillow was artificially manipulating the market. And then increasingly as the weeks have gone on, these stories coming out almost in tandem, it seems that if anything, Zillow was just overpaying for houses because it's not that good at buying houses, potentially. And now comes a story in Bloomberg that was published yesterday about how Zillow bought all these houses and is now

looking to sell 7,000 of them for \$2.8 billion because it's been trying to, you know, buy these houses and flip them and then resell them because it's been such a hot market, bought too many, so many that it couldn't get like people to come in and fix them up. And then in some, in many cases it sounds like, these houses were ended up listing for less than Zillow paid for them. So now here's Zillow in the position of trying to unload all of these houses to potentially a multitude of buyers, most likely to landlord investors. And that's a really interesting business story. And then you think about the economics of housing and the unavailability of housing in this country. And you think about the fact that a single company is sitting on 7 to 8,000 homes, that is just going to try to unload onto the market as though they were hog futures to landlords, when owning a home is still considered the best way to build wealth in this economy. And you just have questions about the free market, if any part of it is a free market. I mean, it is just this is like, shocking and depressing on so many levels, like this company is literally taking 1000s of homes out of a market that has no supply and is not intending to sell them to people. It's just like, offering them up like a commodity. Maybe it's the most efficient market and I'm totally wrong. Maybe it's the freest of markets. And everybody's screwed as a result, but wow, is it a hell of a story. Hell of a story. I have a little baby make me smile, even though we don't do that. I just want to say that, you know, like, I'm not sure that a ton of awesome news is going to come out of COP 26 based on, for example, the very tepid statements that you covered so well, coming out of the G 20. But there is some good news. The deal will officially be announced today that there has been a major commitment from 100 world leaders representing more than 85% of the world's forests to end, to agree to end deforestation by 2030. And this includes Canada, Russia, Colombia, Indonesia, the Democratic Republic of Congo, and, crucially, Brazil.

Kai Ryssdal: Now here's the question, do we believe it?

Molly Wood: I mean, I just have to sort of announce it as good news, like there will always be holes in enforcement. Like we're really to the point where we got to hope for the best, we got to hope people mean it, and that there is some oversight and accountability for it because these are, you know, we've talked a little bit about how trees work to, to sequester carbon from the atmosphere to help clean it up. They are nature's decarbonizing technology, and deforestation, it actually creates like an add on effect, you know, like these areas are deforested and then the trees can't capture the carbon and then also they're developed or the trees are burned, which adds more carbon into the atmosphere. Like, we have to cheer this far and wide and hope that, that people stick to it because it's a huge deal.

Kai Ryssdal: Alright, shall we?

Molly Wood: Yep, let's do the mailbag.

Kai Ryssdal: Alright, so in fact closer related to what Molly was just talking about, I disappeared a little bit yesterday on the pod with Marielle about the COP 26 conference and whether it was going to actually do anything. I asked you all to send your thoughts. Some of you did, which is awesome. Here you go.

Ray: Hello, this is Ray from Lusby, Maryland. Y'all were pretty hollowed out about the COP Summit. But at least the US is there and actively participating to at least try to come up with plans to save the planet. Also I noticed that at the G 20 summit, the other world leaders were not openly mocking the President as they had in recent meetings. So I think we are making some progress here. Thanks for making me smart and making me use brain cells I not normally have to exercise.

Kai Ryssdal: Fair comments both, right. Fair comments both. I just don't know. I was grumpy yesterday.

Molly Wood: President Biden apologized, too, for the US pulling out of the Paris Agreement.

Kai Ryssdal: Which was, which was big. Here's another couple. Jean wrote in to say that she agreed with me on the COP 26 summit, and she said, quote, we're doomed. How can you get males to give up their powerful, huge pickups? Also a fair comment. Sam in Texas said the methane reduction is a big win and I see COP 26. That's news from today that plan to reduce methane, or as the Brits say methane, in the atmosphere. It's, it's a big win, Sam says, and I see COP 26 as firing the starting gun on the march for worldwide climate action. So yes, Sam, I totally agree that the methane thing is big. I would also just point out that if this is the starting gun, this is the 26th conference, where we've been for the past 26 years? Sorry.

Molly Wood: I mean, look, the best time to start was 20 years ago. The second best time to start is today. Yep. Fair enough. Yeah. The methane thing is big. Also methane. I'm totally gonna start saying that non stop.

Kai Ryssdal: I heard the BBC this morning, methane.

Molly Wood: Oh, that's amazing. I love it. It's better than aluminium. Aluminium. Aluminium, which I also love. Alright, Chris in Santa Clara, California wrote in about Marketplace expediting banana pants, can that be like a bad name somehow, expediting banana pants. He writes, I'm a marketplace importer and just want to say thanks for the expedited banana pants. But I could have waited by choosing air freight, the carbon footprint of my banana pants, from .029 tonnes of carbon went to 8.37 tonnes of carbon numbers are per tonne of cargo shipped from Shanghai to LA via ship versus plane. Ouch. Fair. Yeah. Turns out the producers write in and say your math checks out. People wrote in asking about the carbon footprints of the banana pants plane, which is actually great. That means that like, the things that we're saying are getting through, even if we're not always doing a great job at them. But these are the interesting trade--this is a perfect microcosm of, of human trade offs when it comes to climate. So far American consumers have not wanted to wait for anything ever.

Kai Ryssdal: I was just gonna say we should get, we should get Stephanie Patterson on the pod and say hey, listen, if you had to pay for the excess carbon, right, which is you know, 8.37 tonnes to .029 tonnes, if you out of your pocket, Marketplace development person, and had to pay for that carbon, would you have done it? And I suspect the answer will be no.

Molly Wood: I know. I, it really would be, but that's a, that like, that is such an outstanding point. And that is exactly the question, and if anything were priced at what it really cost, then exactly, no one would do it. Wow, you guys are so smart. You're so smart. Great observation.

Kai Ryssdal: All right. We will leave you as we do every week with the answer to the make me smart question, what is something you thought you knew but later found out you were wrong about?

Anthony: I used to believe that the tongue had specific regions on it which were designed for specific tastes, you know, the tip of the tongue was meant for tasting sweet things. The sides or the back were for sour or bitter and so on. As it turns out, that's totally wrong. There are no divisions of the tongue, which are designed and built for tasting certain kinds of flavors. So that's something I thought I knew that I was wrong about.

Kai Ryssdal: Wait, what?

Molly Wood: I, we've seen diagrams of the tongue.

Kai Ryssdal: I've seen it like, in encyclopedias and stuff.

Molly Wood: I mean, what? By the way, this answer is from a linguist that Kimberly Adams spoke to on Marketplace Tech about Facebook's name change, interestingly. His name is Anthony Shore, and he is a person who is qualified to talk about everything from Facebook, Facebook's name change, to the giant lie that is the tongue chart.

Kai Ryssdal: That's cray cray.

Molly Wood: God, is anything true?

Kai Ryssdal: That's, that's the theme of the podcast today because we started with economists and now we're ending with linguists.

Molly Wood: Is anything true?

Kai Ryssdal: Nothing's true.

Molly Wood: Alright, don't forget to send us your answer to the make me smart question, please. Consider calling us and leaving a voice message at our number, 508-82-SMART, which officially as of today I'm no longer calling our number number. Yep, that's our number. That's it. That's it. Peace out, peeps. Make Me Smart is produced and directed by Marissa Cabrera. Today's program was engineered by Lianna Squillace with mixing by Jake Cherry. Our intern is Grace Rubin.

Kai Ryssdal: Ben Tolliday and Daniel Ramirez, who have the best contract in the history of music and get their names in this podcast every frickin day, did our theme music. The senior producer is Bridget Bodnar. Donna Tam is the interim director of on demand. Marketplace's Vice President and General Manager is Neil Scarborough. Oh yeah, he's no longer the new guy.

Molly Wood: Nope, that's it. Honeymoon is over.

Kai Ryssdal: Sucks for you, pal.

Molly Wood: You're the guy. Just the guy.