Opinion Science Podcast
Hosted by Andy Luttrell

Person = "Man"? with April Bailey
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Andy Luttrell:
When I was in high school, I was into these books called The Straight Dope. I have no idea how I heard of them, but I'd get them at the library. They were collections of articles that used to appear in The Chicago Reader where this guy Cecil Adams—which I only just learned is a pseudonym for probably like a small writing staff—I had no idea. But the conceit was that this guy Cecil knew everything about everything, so ask him any question. And he'd answer it.

And all these years later, there's still one of those articles that's stuck with me. I just found it again. On February 18, 1988, a reader writes in: "The most needed new word in the English language must surely be a substitute for the "his/her" attribution…I am perplexed that our language is so flexible and yet no one seems to have solved this semantic problem. Is there a genius who has done it?"

Cecil starts by writing: "The trick isn't inventing a new word…it's getting people to use it. Some 80 new terms have been proposed…but none of them has made the slightest headway in popular usage."

One of these proposed pronouns, though, that could refer to a person regardless of their gender was the word "thon." It's a contraction of the words "that" and "one"—"that one"—"thon." Like "everyone should read it for thonself." I mean, Cecil talks about thon for a sentence or two before moving onto a longer discussion of the issue in general, but that word "thon" has always stuck with me. What a useful, simple solution to the gendered pronoun conundrum.

So I dug in a little further the other day. Thon was proposed by Charles Converse, an attorney and a hymn writer in the 19th century. Apparently he's the guy who wrote the tune to the song "What a friend we have in Jesus," which you may have heard if you've ever been in a church. Anyhow, he wrote a letter to the editors of the magazine The Critic in 1884, where he notes the need for a genderless pronoun and writes: "Because of this condition of things philological, do I venture upon my present suggestion of a certain lingual abbreviation and compound, to be known as this pronoun, believing that such a word would be more likely to come into general use…" He gets there eventually. "Thon." The usage of which he says will be "easy and natural."

And it did get a little traction. It was picked up in the first Funk and Wagnall's Standard Dictionary of the English Language in 1897, it got added to Merriam-Webster's Second New International Dictionary in 1934, and the written record shows it popping up here and there until the 1970s. It's a word that had its advocates, but ultimately, it failed to enter the everyday lexicon.

And what a shame, I thought as a high school student. Because I had learned either directly or indirectly that we use "he," "him," and "his" as default pronouns when we refer to people in general. "Everyone should read it for himself." It seemed weird and wrong, but that was the convention. And sure you could turn everything into "his or her," but that's cumbersome and why not "her or his"? "Thon"—or some widely acceptable version of it—would make plenty of sense. And even though we're making some headway, with the singular "they" becoming Merriam-Webster's "Word of the Year" in 2019, this whole dilemma really shines a light on why "he" and "him" have become the default anyway. Is it really just a silly writing convention? Or does it go deeper than that?

You're listening to Opinion Science, the show about our opinions, where they come from, and how they change. I'm Andy Luttrell. And this week I'm excited to share my conversation with April Bailey. She's an Assistant Professor of Psychology at the University of New Hampshire, and she studies the psychology of androcentrism—people's tendency to think of men as a stand-in for all people and treating women's experiences as the outlier. We'll talk more about exactly what androcentrism is, the kinds of evidence we have for it, and what it means for the future of how we think about gender.

Andy Luttrell:
I know the stuff that you'd done with David on the moral traits stuff, and I'd always sort of known in the back of my mind that you have this androcentrism work, and I'm glad I got to read the PSPR because you cite this finding that is a hypothesis I've had for a couple years, and so now I know I don't have to do the study. It's been documented.

April Bailey:
What is it?

Andy Luttrell:
So, I'm a reasonably new dad, and in the early days of playing with toys with my kid I felt myself wanting to give boy names to everything, and trying to keep that in check, and I kept being like, "It seems like such a clear domain where people do this." And you know, my parents do it, my wife does it, I just see it happen so much that I go, "Oh, this is where it starts, isn't it?" That like this elephant, for no good reason, has to be Jim.

April Bailey:
That's right. That's right. Yeah, and I think it's very common, like I got interested in this topic early on in grad school because I was noticing myself doing similar kinds of things despite I'm a woman, I was a women's studies double major in undergrad, so I'm very both for personal reasons because of my own identity, and because of the types of classes that I had taken, and people that I was having conversations with, it was very notable to me that even someone like myself was kind of finding myself constantly just thinking of... Yeah, stuffed animals, or I don't have a child, so I

wasn't… But similar kinds of things where you're just thinking about this unmarked thing that ostensibly could be any gender, but it's kind of always the one. Yeah.

Andy Luttrell:
Yeah. I was curious whether, like where this all came from for you, whether this was something where… Oh, there's this paper that came out, and oh, I'm interested in expanding on it, versus you show up at grad school and you're like, "I've noticed I do this. Can we figure it out?"

April Bailey:
Yeah. It was more, "Yeah, I've noticed that I do this. Can we figure this out?" And also, I'd taken a class in undergrad that was about… I think it was called language and gender, and it was all about a lot of what we learned about was masculine generic terms, which are somewhat common in English but also in other languages, which is like when you use he kind of just to refer to someone whose gender you don't know, or you're talking about someone in the abstract, like anyone, a student, and you're using he. And I was curious about trying to understand that domain better, and also that that class was not really a scientific class. It was a little. There were some elephants of empiricism. But in grad school I was excited about the idea of really trying to understand, "Well, we could collect data on this and understand how much people do this and also when people do it, do you interpret it as inclusive, or do you think of men more than women?" Yeah.

That was [inaudible 0:02:59.7] spend a few decades on that topic, specifically, of empirical work, so yeah.

Andy Luttrell:
Yeah. I get the sense that there's plenty of stuff in other domains that like other disciplines have raised all these questions. I mean, I'm not the first person obviously to have that insight, but there are these other disciplines that have been plodding away, and if we were to pay a little more attention we'd go, "Actually, there's some questions out there that we've just ignored because we've gotten so rooted in our perspective." And what I actually really like about the way that you've approached this is it's super social cognitiony. It's just like basic psychological science in a way that sometimes I fear that our field is veering in a direction of people carving out these very, very narrow niches, and then inventing stuff to solve a particular problem.

But what I really like about the perspective you've taken is you go, "Well, maybe there's not a ton of work on androcentrism specifically, but we've got a lot of work for decades in social cognition about what categories are, how we think categorically, who belongs in this category or the other, and there are maybe quirks that make androcentrism unique, but still, we can lean on a long tradition to at least start to answer that question.

April Bailey:
That's right. That's right. So, I'm so… This is very exciting to me because that's also what I found exciting about the work, and what got me interested in it, yeah, was reading classic work from Greg Murphy and Eleanor Rosch on just categories, and concepts, and what are the cognitive mechanisms for how we represent them, and realizing like, "I think this is the cognitive mechanism

for some of these phenomenon that we're seeing where people seem to think of and pick men when they're just thinking of people in general."

We've kind of been chatting, and so let me let you lead more in terms of…

Andy Luttrell:
Yes. No, all good. So, I think we might as well consider ourselves having begun, because we've already been talking about this, but we should I think maybe take two steps back and clarify what any of this is. So, if for the listeners you could give a sense of what do you mean when you say androcentrism and why or is that different from just referring to sexism?

April Bailey:
Yeah, so androcentrism is a term that comes from not necessarily psychology disciplines, but more a sociology or philosophy, and is sometimes used to refer to kind of like a broader system where we take men as the default person, and when we're thinking about women we really think about them as gendered. So, in terms of their gender identity as women. And when we think about men, we think about them just as generic people.

And what I'm interested in in my work, and what I've been doing for the last several years, is taking a more kind of social cognitive perspective on this phenomenon and trying to ground it within psychology and within cognitive mechanisms. And so, I talk about it in terms of the cognitive processes as when we think of these generic concepts, like a person, people, humanity, that our typical representation of that concept is men more than women. So, in the same way that when you think of a bird you're more likely to think of a robin than a penguin, you know that robins and penguins are both birds, but robins are more typical representations for most people. And that leads to all kinds of behavioral things, so if I ask you to think of a bird, a robin is more likely to come to mind.

And we've shown similar kinds of effects for men versus women and person concepts, suggesting that that's… The same kind of cognitive mechanism is coming online there, as well.

Andy Luttrell:
The interesting thing there too, though, is… So, this reminds me of when I teach prejudice and stereotyping. Oftentimes, when we talk about those categorizations, we're already slicing humanity into groups, right? We go, "Think of the prototypical member of this group, or think of the prototypical man, or think of the prototypical Asian person," right? These are schemas that people have. And so, the bird example kind of seems like that, where you go, "Oh, I've already sliced up the animal kingdom into these discrete species and one exemplar comes to mind." But this is more like think of an animal, and you go, "Of all the animals, I think of a robin."

And you go, "That's so strange that you are ready to jump so specifically when we're at this big global level of animal."

April Bailey:
That's right.

Andy Luttrell:
So, this is think of a human person and people leap to man, right? That's what you're saying, right?

April Bailey:
That's right. That's right. Yeah, and you're right that it's also different than a lot of the work that has been the focus in research on other forms of gender biases, like sexism like you were talking about, so there's a lot of work that's very important showing that in specific domains, like people are asked to think of a scientist, or think of a leader, they're more likely to think of men. And then on the other hand, if people are asked to think of a nurse, 90% of nurses are women. People are more likely to think of a woman when asked to think of a nurse.

And what I have always been kind of interested in is trying to understand this even more fundamental bias that I think is running through in the background for all of these domains, which is just when you're asked to think of a person in general, kind of what do people think of? And I'm interested in it in part because it has always struck me as just particularly strange. 90% of nurses are women, so it kind of makes some sense just from a basic frequentist perspective that you're going to think of women in that domain. We still might be worried about that, that might have consequences for men who are nurses, or people of other genders who are nurses, but at least the mechanism kind of has always made sense to me.

But for people, and when we're talking about men and women, men and women are each about half of the population. And so, it doesn't make sense from that perspective that people would kind of err towards thinking of men. But my work and other work suggests that they do. Yeah.

Andy Luttrell:
So, that's a good example of it, right? Just think of a whatever and what comes to mind for people are men. Do you have a sense of is there a particular kind of male figure that comes to mind? Where that question is coming from is the other studies that ask think of a scientist, think of a nurse, I've pre-specified a slice of humanity for you to start from. And so, I just wonder when you really give people the run of billions of people in the world, they do all sorts of things, there are all sorts of different kinds of people, people keep jumping to man. But is there a particular kind of male figure that you know that people are jumping to?

April Bailey:
Yeah. Right, so this has been measured in different ways. Some of the ways that we and other folks have measured it don't really allow for the kind of complexity that you're asking about, but there are some [inaudible 0:10:15.4] that we've gotten about other features that people are thinking about. So, one of my first projects in graduate school, actually, we had participants were given this kind of silly scenario where they were told that there are these aliens, they don't know what a human is, and so your job is to send them an image from a selection of images to show them what a human is. And then the available images were men and women who were Black or white.

And so, we were able to look at both kind of are they more likely to pick a man and also are they more likely to pick someone of a particular race? And then is there an intersection between those two things? And in that study we did find like two main effects. So, people were more likely to pick a man and they were more likely to pick a white person. But it wasn't necessarily that they

were more likely to pick a white man, per se. So, even among people who picked like a Black person, they were also more likely to pick a Black man than a Black woman. So, that did have the effect of a white man was the most likely picked group of those four, and a Black woman was the least likely picked, and therefore most kind of invisible or marginalized.

And then there's been some other research that's starting to look at other kinds of default prototypes like this, so it does seem that people also tend to, if you're thinking about like couples in general, people tend to think of straight couples rather than queer couples. So, I think that… But I think in terms of other traits and aspects of what people are thinking of, I think that's still kind of a more open topic.

I will say also I think sometimes people talk about my work as me showing that people think of a person as masculine, and I don't know that that is what we've shown, and I do think those two things are different. So, I think to show that we think of a person as a man is not the same as to show that we think of a person as having stereotypically masculine traits and attributes. And in fact, in our kind of recent paper where we were looking at billions of words on the internet, we did not find evidence that people think of a person as masculine, but rather that the concept of a person is more similar to how people talk about men, but that people use all kinds of traits and attributes, both stereotypically masculine and stereotypically feminine traits and attributes to talk about men.

Andy Luttrell:
That is a great connection because that puts a pin on kind of what I maybe was assuming could be the case is there's like a prototypical man that has the features that are the things that make it more accessible, and it's not the male category per se, but it's these features that overlap with people's conception of man. But it sounds like… I mean, maybe that's sometimes the case, but it's not absolutely the case that it's… It really is this special category that matters and not the thing that makes that category. Not the attributes that define that category.

April Bailey:
I think you're right, so that's a really clear way of putting it. I think that there is more work that needs to be done to really feel confident in what you just said. But yes, on the other side, I do not think that we have strong or any evidence that people think of a person as a masculine person, someone who has these… Yeah, like traditional stereotypical masculine traits, like being arrogant, or witty, or… These are traits that we associate with men and masculinity. And I don't think we have evidence that those features are what's causing men to come up.

It could be other features, though. Maybe men are more kind of important in society in general because they tend to fill positions of leadership and are also more dominant maybe from a basic kind of threat detection perspective. These are all mechanisms at least that I've thought of, so those would be features of men that don't have to do with these masculine traits and attributes, but that could be causing this to occur. But these are all, from my perspective, open questions. Yeah.

Andy Luttrell:
Could you give a sense of maybe some other ways in which we see androcentrism? Like what is the evidence? So, one of them is imagine a so-and-so and people are more likely to imagine a man.

Are there… What are some other ways in which we see androcentrism play out in people's perceptions and behavior?

April Bailey:
Yeah. Right. So, I think thinking especially about examples in the real world that all of us might have encountered, so one common one seems to be in language. It is very common in English, but in other languages as well, to use male-specific terms to just refer to people in general, and not use female-specific terms in the same way. So, this is changing. This is definitely evolving in the last few decades especially. But for instance, it's much more common if you're talking about just like someone in general to use he to refer to that person, and not she, and since the turn of the kind of 20th century, this was actually explicitly prescribed by grammarians. So, I think that's one kind of everyday example that we see.

Some other examples that also I think people find intuitive is you kind of see like this image version of this, as well. So, here I'm mostly focusing on real world stuff, and not as much on empirical stuff, which we can talk more about, as well. But if you're crossing the sidewalk, the little white person that tells you that it's time to cross is a little bit more similar to the kind of bathroom symbols that we would see for a male bathroom than the bathroom symbols that we would see for a women's bathroom. And so, I think that's another kind of visual analog to the generic he, where we're using representations for people in general and for men specifically more interchangeably than we are for representations for people in general, and kind of women specifically.

Some other examples, now we're kind of crossing over a little bit into something that I think we can both recognize intuitively, but where there has been some empirical work, as well. So, there's a longstanding tradition in various science fields to at least historically rely a little bit more on male samples than female samples, although this has changed in recent years in psychology because of convenient sampling of undergraduate populations, which tend to be disproportionately women coming from the psychology entry level classes. But in medicine, and in other fields relying on human subjects, there has been a longer tradition of just using male subjects.

And kind of even more interestingly, there is some evidence doing empirical content analyses of published works reporting on subjects where there's human subjects, and it seems like people are more likely to emphasize the gender of a sample when they have an all-female sample, or a mostly female sample than when they have an all-male sample or a mostly male sample. And people are also more likely to locate the source of gender differences with women.

So, of course, most of this conversation is gonna be pretty gender binary. We know that there are people that don't fall on those strict binaries, but a lot of times you are talking about a difference between men and women, so you have two groups, and so anytime you have a difference between two groups, it could be that who is the baseline is ambiguous. So, it could be that kind of men are doing the normal thing and women are what's different, or it could be that women are doing the kind of normal thing and men is what's different. And it seems like social scientists themselves are more likely to just habitually talk about men as kind of the set standard and locate the source of any gender differences with women deviating from men, which is a subtle, but I think revealing pattern that shows that even scientists are more likely to think of men as kind of the gender neutral standard or norm and use them as a baseline even when learning about the world.

And that example in particular, for which we do have some empirical evidence based on these content analyses of published empirical works, I think is quite troubling because it connects pretty clearly to why this is a problem and why we might be worried about it causing harm.

Andy Luttrell:
Yeah. I'll get back to the implications in a bit, but in terms of other places where we see it happening, isn't there some stuff on order effects? Remind me, what is that… What does that look like? Men come first, but in what kinds of contexts?

April Bailey:
So, it's a similar few papers, so this is not my own work. It's Peter Hegarty and some other folks who have looked at these published empirical works and really kind of studied those as the thing that they're studying. And yeah, men are more likely to be listed kind of like first, top, and on the left. Listed in order when you're talking about Adam and Eve, or any time you're talking about men and women it's more likely to be… This is a special thing in linguistics called a fixed binomial where you have these two words that often appear in this particular pairing and in this particular order. So, it's men and women. We don't say women and men as much.

And also in visual displays, so in graphs, or figures, where you're plotting a gender difference, it's more likely to be the case that men are kind of first and on the left, which for English speakers who read left to right, that's the first thing that you encounter. And then I think in a revealing kind of exception that helps to make us feel even more confident in this result, the one domain in which this seems to be consistently flipped where now women are more likely to appear on the left or appear first is in the realm of when we're talking about parents and childcare. So, if we're talking about kind of a lot of the work just looking at gender differences, they see this consistent pattern where men tend to appear on the left. But if you're talking about gender differences in the domain of parenting, now women start to appear on the left.

And this makes sense because in general, we do tend to think of women as the kind of primary parents when we're talking about a heterosexual household where you have a mother and a father. Though of course, we know that there are households that don't have that arrangement, and a lot of people, including yourself, are in fact parents and are fathers. Yeah.

Andy Luttrell:
I'm trying to think of other domains in which you'd get this, two names in the order in which they're coming in, and where I went to was wedding announcements, and like the websites people have for their wedding, and I assume not, but do you have any idea? Has this been subject to this, as well? The order in which… Who's getting married? Well, it's the man who's getting married to the woman.

April Bailey:
That's right. So, I don't know about in wedding announcements, per se, but I do know that there was one study, it was a few decades old now, I think, and wasn't the largest sample sizes, but it looked at greeting cards in particular. And there they also didn't find clear evidence for this kind of male bias, and if anything, it seemed like it was maybe flipped. And the authors, their rationale

that they provided, though it would be good to really test some of this, is that this is because in correspondences like this, a lot of times women are the ones doing the more emotional labor. So, if you're… This is certainly true for me. I just sent out a bunch of holiday cards to my grandparents, my aunts and uncles, and I do have a closer relationship with all of the women in those arrangements just based on my own family dynamics, but gender typical scripts about who's kind of responsible for maintaining those relationships.

So, that was the explanation that they provided, is that they thought that it was more likely the case that people who were writing letters, regardless of their own gender, had a kind of closer emotional tie with the woman in often these heterosexual couples, which makes some sense to me given the broader body of work showing that women just do a lot more social work and maintain a lot more intimate relationships. Men tend to have their most intimate relationships with women and women tend to have their most intimate relationships with other women. Like emotionally intimate.

Andy Luttrell:
So, you're saying this is like when you're sending out these greeting cards, do you, on the envelope, write it to the woman's name first and then the man's name? That's what you're saying?

April Bailey:
That's what I'm saying. Yeah. And that is what I do. And I always think about this finding when I do that.

Andy Luttrell:
Yeah. And it's reminding me, too, of like I'm just remembering sending out… So, when I said wedding announcements, I really meant on the card, like is it… Who's getting married? What's the order in which? But it also is reminding me of the time when you have to actually send all those awful invitations out. And there's all these prescriptions about exactly how you write people's names, and do you address it to Dr. and Mrs., or Ms. and Dr., and almost for sure it has to be… Almost by law you write the man's name first in these kinds of settings. Reminds me too, I think nothing makes my wife more livid than when companies address things to me when she's obviously the one who's more competent in that area. I go, "Listen, I don't know. They sent this to me, or they called me, and I don't know what to tell them."

And that speaks maybe again… In some ways it's slightly different, right? That's like more of a stereotyped assumption of who does what. And so, a question I had for you too is in what way is this different than sexism that prioritizes men over women? And androcentrism, is it basically just that? Or is that something different?

April Bailey:
Yeah. I think that we don't know because we don't fully understand the… So, I think the proximate mechanisms are different, so I think that we see a lot of these behaviors in part because we have this habit to think of man as more typical or prototypical of the superordinate categories that technically include everyone. So, that's the kind of proximate cognitive mechanism. And that is different than sexism, which is more about depending on the type of sexism, but kind of the prototypical model that we have for sexism, sexism is more about who do we think is better, or more important, or more valuable, things like this. And sometimes often has to do with attitudes,

where we have really kind of positive but paternalistic attitudes towards women who are kind of following the rules, and more negative attitudes towards women who are agentic or otherwise violating the kind of hierarchy.

And so, I think that those, the phenomenon and the proximate mechanisms are different, but then I think we have to ask ourselves, well, why is it that we think of men as being more typical of this category? And there I have ideas, but they're theoretical ideas, and I think it's really an open question. And so, when we kind of go back to the source, it could be similar.

But I do think it's different than when we're… I think we've touched on this a little previously, but I do think it's different than… A lot of the work that's been done on sexism and gender bias has focused on specific domains, and I think that's important and relevant, but I think this is kind of cross cutting. So, I think we can come up with examples of domains, like parenting, and potentially letter correspondences, where women are more prioritized and more prototypical, but I think if we were to look at kind of like hundreds of all possible domains, we would see that there are some domains where women are prototypical, and then there are some that men are prototypical, but kind of underlying all of that is this general tendency to think of men as prototypical for generic context.

And I think that that's what we would find based on some evidence and also based on just the evidence showing that we think of men as more typical of people. So, kind of if you don't have specific knowledge about a domain, your default is gonna be to think of a man. And I think when we think about sexism, we tend to think about this kind of reciprocal but unequal tendency to think of men as… that men belong in domains that are high power, like leadership and science, and that women belong in domains that are important, but not as important, or at least not as valued. Yeah. Like the arts, or parenting, which is of course important, but doesn't usually come with a paycheck.

Andy Luttrell:
Which is different than just saying men are human and… Well, I don't want to get into that, because you've been careful to say that this isn't necessarily about dehumanizing women. Just that when it comes to the way people think about what it means to be a person, men occupy a central presence in that image in people's minds.

So, you teased it and then pulled back a little bit, which is why is it that this is the case? And so, maybe we don't have hard and fast evidence, but what are some of the possible explanations for why of all things to be a human seems to people more often to be a man?

April Bailey:
Yeah. Right. I think we do not. In my theoretical work, I've speculated by drawing on basic categorization research and tried to use the mechanisms that have been found there. So, I think there's a few, so we've kind of talked about usually when we think of something as typical of a category, it's because they're the numeric majority in that category. Because when we're representing categories, it's not a straightforward average, but we are doing some amount of averaging. So, if you live in the Northeast of America, you're more likely to think of a robin as a bird because you see robins a lot more than you see penguins.

Of course, we talked about how this can't really straightforwardly explain what we're seeing with the case of men and women and person concepts, because men and women are about equal in the population, but I've often kind of toyed with the idea that maybe in terms of our experience, men and women actually aren't equal. So, there's quite a bit of evidence showing that men are just vastly overrepresented in any kind of public-facing and media representation. So, if you look at kind of children's books, books for adults, TV shows, movies, blockbusters, the news media, men are just way overrepresented. All of these domains, both as protagonists and as creators. And so, that could create a scenario where of course we know that men and women are equal, but we actually do just have more representations of men than women.

Not quite sure about that, because of course, a lot of people do have very important women and men in their lives. Mothers, wives, partners, and so for men in kind of heterosexual situations, and for all people that have mothers, and close female friends, and partners, that… Yeah. I'm not sure.

But that was one reason. Another possibility is that that kind of more distal mechanism where men are more important because they are more likely to be in high power positions and roles, and men are also a little bit more scary. Men are much more likely to commit violence than women are. Of course, most men don't, but when we see violence it is way more from men than women. And so, maybe it's adaptive to just kind of default to thinking that something or someone is a man or a male if in doubt. And that could be something that's adaptive, which is why we've kind of developed this tendency to do it.

And then, so that's a kind of… Then we had the more cognitive mechanism. That was maybe like a more kind of functionalist mechanism. And then I also think it's possible that there's just sociohistorical explanations. So, it was the case for many years in our kind of recent history that men were the only ones that were in public, period. Women were sometimes in public, but not really at all. And so, if you were interacting with people in society, you just were interacting with men, and then that has gotten baked into our kind of collective understanding. That's gotten baked into our language, like we were talking about at the beginning, where a lot of languages have this tendency to use male terms just to mean people in general.

And then those have kind of… Those factors that have been baked into our collective understanding and our language have served to sustain this way of thinking even though at least increasingly in our society, it's not relevant because you do see women in public spaces. Yeah.

Andy Luttrell:
Yeah. The idea of why did it become the case that masculine pronouns are substituted when you talk about any person, and it's sort of like for that to have been decided meant people were talking about people in general, which is probably not true for a lot of human history when you didn't really know, "Oh, there's a lot more people out there than just the people I've seen." And so, you have to be sort of writing and talking about these big, people-related ideas, and probably at the time that was happening that was predominantly men doing that writing and thinking to codify a form of language, and that would be an interesting story if that is sort of the seed of this. Yeah.

April Bailey:
Yeah. That's right. And that was, at least in English, it really was the case. It used to be very common in just everyday speech, as it is today, to use they just generically when you don't know someone's gender. That's what people were doing. And that was the case for centuries. And that had always kind of bothered some linguist grammarians who were bothered by the fact that then you have a plural-singular misalignment. And so, it actually was a pretty conscious choice to recommend he, and that's… We're still feeling the remnants of that. And at the time, it totally made sense to do that because all of the people that were making these decisions were men, they were academics, they were in educational settings which were completely… either completely or predominantly dominated by men. And so, yeah, when you're talking to other people, and even in our field, right? There's this kind of understanding of psychologists as this group of people, many of whom I haven't met, but they were operating in a time where all of those or most of those people were men.

So, it did make sense to, if you're gonna make a recommendation between he or she, in English we have it, but we don't use that to talk about people, so then of course it made sense to use he. And then it is possible that that has created a mechanism by which this was built into our collective understanding, and it was just reinforced across generations. Some people working in this space think that this is primarily a linguistic phenomenon and that if we were to remove this kind of bias, we wouldn't have it in our collective understanding so much. I'm not so convinced by that. There's evidence that in other languages that don't have as much gender marking as we do, like Turkish, which has very little gender marking, of course there's a lot of cultural confounds there, but it's not that… There is evidence that people who speak Turkish, for instance, also very much tend to think of a person in general as a man.

So, I don't think it's purely linguistic, but I think it's at least part of the story.

Andy Luttrell:
It just seems to run so deep. All the examples we're giving, only some of them are linguistic, but others are just who's a person? Draw a person. Come up with this person's name. List a set of people in a certain order. And so, yeah, maybe language would chip away at it. I talked to Efrén Pérez for this a few weeks-ish ago, depending on when this comes out, who's done a lot of that work, and sort of compares, like you were saying, languages with a heavy gender orientation, a heavily gendered language, and languages that don't distinguish, and I think it moves the needle, but it doesn't completely eradicate these kinds of biases.

April Bailey:
That's right. That's right. Yeah. That's a project we're doing right now, actually, so I've been thinking a lot about it, because we recently published this paper showing that when… This was a large-scale analysis based on billions and billions of words, and we showed that when people in general are talking about a person, that they talk about that person more similarly to how they talk about men specifically. So, we showed that kind of the words around the word person is more similar to the words around the word man than the words around the words women. This is based on very large scale corpora-based analyses of billions of words on the internet. And right now, we're trying to see if we can replicate this effect but in other languages, so the analysis that we did

was mostly English language, and then also see if there are systematic differences based on some of the things that we were just talking about. The features of different languages.

And I'm really curious to see what we find because I and members of the research team have conflicting predictions about whether it will matter at all whether a language is a language like English, where we have some gender marking, we have words like he and she, or it's a language like Turkish, which has very little gender marking and they have this pronoun, it's like an O, that they use in all contexts. And so, we're curious to try. And so, for that project we're… It's very complicated because translation is not a straightforward issue and we're trying to make sure that we're capturing the same concept in different languages, but I'm excited to see what we find.

Andy Luttrell:
It almost seems tricky because you can't anchor it on the pronouns. I mean, how… So, I want to talk about this, the big billions of words thing, because that was incredible, so at some point you have to anchor these word embeddings on something, right? So, like the word person, or the word man, is that how you did it with English words?

April Bailey:
Yeah. So, we came up with a set of words that are all circling around the same concept. And that seems to be a good way to do it because that way your analysis isn't anchored too strongly on just one word, which could have polysemy to it, so it could mean more than one thing in different contexts, but if you have kind of a set of words that are all circling around the same concept and then you're looking at that in the analyses, that seems to be at least the current approach that's generally accepted as the best way to do it.

So, yeah, we had a set of words for the concept of a person, which included literally the word person, but also people, humanity, individual, individuals, and these, through part of our process, had been validated by a set of coders who agreed that these words were all good words for this concept of a person, which is this… We defined it for them. What we were interested in was this kind of maximally inclusive category that includes everyone, technically. And we anchored on that as the first step of the analysis because we wanted a concept that everyone would agree is gender neutral by definition and includes people of all genders, and then through a similar process we had a set of words for men, and a set of words for women, which was words like man and woman, but also we did have pronouns in there, and I can talk more about that, as well.

So, we had they and them in our list of words for people, and then we had he and him, and she and her as words in our list of words for men and women. And then… Yeah.

Andy Luttrell:
This is good, because the concern only was that if it's all pronouns, translating that into Turkish would just be impossible, right? Because you're saying they don't have that. But presumably there's still gendered words, right? There's a word for man versus woman. Yeah.

So, can you talk a little bit about the… You sort of hinted at it, but where are these words coming from? That, to me, is the most incredible thing, and I don't understand how computers didn't melt when you were trying to do these analyses. What are these words? How can you say something

about just human psychology in general based… How representative, I guess I'm asking, are these words?

April Bailey:
Yeah. That's right. So, I do see this as… So, we kind of started our conversation talking about these cognitive mechanisms and some of the research that's been done where… yeah, you are really drilling… You have a lot of understanding of who your sample is and you're drilling down to make sure that that sample is at least somewhat representative, or if it's not representative of all of humanity, in which most no samples are as we know, you at least understand the features of your sample. You can make sure, for instance, if you have 300 participants, you're asking them to draw a person, you can make sure that you have equal numbers of men and women.

So, with this analysis, it's a really different level of analysis, which I see as complementary to that first type of work, because… So, we're looking at really a large cross-section of the English language, mostly English language internet that's been compiled by this nonprofit called The Common Crawl that just periodically goes through the internet and crawls it, which means that they just take samples of text on the internet. And they do this periodically to facilitate research in computer science, research in linguistics, stuff like this.

But what that means is that we actually don't have a ton of clear information about… We know that this text is based on millions of different authors, but we don't know who those authors are. We don't know if they're disproportionately men, for instance, something that we might be worried about for this analysis that we're focusing on. There have been analyses of The Common Crawl, but The Common Crawl itself doesn't provide a lot of information about exactly what is in it, and those analyses give us some hints. So, we know that it includes at least some text written by everyday people, like you or I's websites could have been part of it. But it also includes information from government organizations, because some of the websites have .gov on them, and also news organizations, so we know that there is at least some information in there that is being produced by what I would say are like thought leaders, like not everyday people, but people like politicians or news writers who already just by virtue of their position kind of have disproportionate influence.

The reason I think this is still important is because by taking such a large cross-section of text that we're exposed to, I think we're capturing something like a collective representation, which is this old idea from sociology, which is that there are these representations in our society that yes, reflect what people think, but also serve to kind of reinforce shared ways of thinking. So, in this case, because we're not sure how representative the millions of authors are of everyone in general, we don't know exactly if we're capturing what everyone in society thinks. But instead, I think we're capturing this other, also important thing, which is what is our kind of shared, collective understanding as a society?

And that's important because even if I am a magic person who doesn't have this bias at all, I'm still being exposed to this, and so that still has an influence on me.

Andy Luttrell:
What is it, 630 billion words? Is that what I wrote down? I mean, if you're at that level, you're capturing communication. Just-

April Bailey:
That's right. And that's what I was going to say, as well, because yeah, communication has this feature to it where it's not just about what I think. Even in this conversation right now I'm modeling my own thoughts, but I also have a representation of what you think, because we're talking together, and because I know that this is gonna eventually have a broader audience, I'm also modeling in some ways my representation of that audience. And so, communication at this level I think is not, and this is true for even smaller levels of communication, but it's really different than just bringing a participant into the lab. I'm like, "This is an anonymous response form. No one else is gonna know what you're gonna say. I'm really trying to figure out what you think about these issues."

Of course, there's still some element of the participant might be trying to model what I, the experimenter, think. But it's not as much as what's happening right now and it's not as much as I think what we're capturing with these word embeddings when we're looking at 630 billion words on the internet and understanding how people are using words in this kind of collective communication.

Andy Luttrell:
How did you know this existed? It strikes me that I read this paper and I was like, "This was like a little magic trick here that you already had this interest in androcentrism, there was this statistical method that was perfectly suited to a question you'd ask about this topic, and then oh, someone has collected hundreds of billions of words of just random communication." It just seemed like so fortuitous. So, how did it even start? How did you know you could do this?

April Bailey:
Yeah, so I was not the pioneer. What I mean by that is I was not the first psychologist or the first social scientist to use these tools to try to understand social biases. But I think it's been a more recent thing, so in the last… Yeah, more recently there've been advances in computer science and in computational linguistics to develop these things called word embeddings. Word embeddings are a way to represent what a word means in a way that a computer can use it and can talk to other computers. That's why it was being developed. So, anytime you're using your phone to do automatic translations to and from English, or to automatically guess what text you're trying to write, those tools are specific proprietary applications, but they're using word embedding, so somewhere in them they're using these things, which is a way of representing a word, kind of capturing at least partly what a word means based on the other words that it frequently appears alongside.

And then there was this really influential paper by Aylin Caliskan that was published in Science a few years ago that showed that these word embeddings capture humanlike social biases. To me, as a social scientist and a psychologist, this was not totally shocking because all of the models were trained on text produced by humans to capture what things, what words mean, and how we use words, so humans are, of course, biased in all kinds of ways, including in having social biases.

We associate men with science and women with the arts more than the reverse, and a lot of research has shown that. And then she found that these word embeddings also have those same kind of associations in them, where they… The word embedding for science is more similar to the concept of a man than it is to the concept of a woman.

And this was kind of our inspiration for wanting to ask this question about, "Well, what about just the concept of a person? Is that similarly more close to our concept of men than women?" And I think it was a particularly fitting application for this because what we're interested in is really like when people talk about people, do they mean men more than women? And that's hard. So, we're not actually just interested in co-occurrence, so we're not interested in just does the word person co-occur with the word man, because actually we would predict that it wouldn't, because when people say person they mean man, because they wouldn't necessarily be talking about a person and a man in the same sentence. Instead, when they're talking about people they kind of mean men, and so these tools were really a fitting way for us to test our hypothesis, which was about well, when people say person, is there evidence that at some level they mean men more than they mean women?

Andy Luttrell:
So, it's kind of like that's a great distinction because it's not like you're saying that these words that co-occur. It's more as though these words are relatively interchangeable, at least more so than person and woman are.

April Bailey:
That's right. That's right. And so, word embeddings will capture to some extent co-occurrence, but they don't just capture that. And yes, instead, word embeddings that are extremely similar, the word embeddings for two words that are extremely similar will be like synonyms. Yeah.

Andy Luttrell:
Yeah, so it's almost like if I see someone talking about people and I see someone talking about men, my algorithm can't easily tell the difference between what are you talking about? It sort of looks like it's the same passage here. As opposed to when people are talking about people versus talking about women, you go, "Well, those are quite different. I can tell something different is happening in these two expressions."

April Bailey:
That's right. And that's I think… The differences we observe, I think it's a very charitable reading of what we found. I think that the acts are probably not as large as that. But yes, that's the basic idea. And we do find that the two passages about a person and a man are more similar than the passage about a person and a woman.

Andy Luttrell:
So, you know, it's I think straightforward to say that this is problematic maybe in its own right, but if you think about the implications, one of the things that came to mind when you were talking about this is it reminded me of rhetoric around animal rights and what it means to exclude… This is where I came from, right? This notion of personhood. And so, who counts as a person is the same question we often ask when we mean who deserves our moral concern, right? Is there a

danger that this privileges men in our sphere of moral concern over women if we see that as being more tied to personhood than female identity is?

April Bailey:
Yeah. I think that's one of the chief concerns. Yeah. The concept of a person is… We were interested in it both because it was kind of the superordinate category that we should all belong to, so just for frequentist reasons we should expect men and women to both be included to the same degree. But it's not just a matter of these kind of frequent… This 50/50 representation of men and women. The concept of a person is also really important for these kinds of moral issues that you're talking about. The concept of human rights. The concept of a reasonable person in law. These are two concrete, real world domains, where the concept of a person is at the core of these issues around ethics, and morality, and also rights, and then also fairness, and making sure that that's happening.

And I think the concern that I have based on this work is that in those domains, we're not equally representing the perspective of men and women, which in some contexts is very similar and there's not a difference, but there are contexts in which there are differences. Women are much more likely than men are to experience pregnancy in their lifetime, and so that's something that might impact a human rights conversation that we should be concerned if we're not thinking about half the population is weighing on us heavily.

And there is some discourse, at least in law, around this with the reasonable person standard in particular, and some historical cases around sexual harassment, because sexual harassment is a tricky issue because sometimes it can be difficult to tell if it was playful, and harmless, and all in good fun, or if a line was crossed, and there's ambiguity about those events. And sometimes who you are is relevant in terms of what an act means, and so that might be a domain where you do want to be thinking about the perspective of men and women, at least equally, when you're thinking about what would a reasonable person think of this as kind of sexual harassment?

Andy Luttrell:
Are there other implications that you've been pursuing? Do we know anything about… It sounds like we know quite a lot about having established this phenomenon that people think about men and personhood as interchangeable relative to women and personhood. What else? What are the implications of that? You talked about two, and maybe that mostly covers it. Are there others that come to mind?

April Bailey:
Well, there's another that's kind of in the same vein, where it's like… I guess a real world example, which is that there's been this longstanding practice in testing car safety to only test it based on crash test dummies that are modeled off of a male body. And it wasn't until I think it was 2013 that we even had a female modeled crash test dummy. And I think the idea of creating an average man or woman is, of course, fraught. People differ. But if your average person is actually just based on about 50% of the population, you are gonna have a problem, and there is evidence that women are more likely to die and be seriously in front end car crashes than men. And the experts working on car safety think that this is at least partially because of the longstanding practice to only use male modeled crash test dummies.

And then this is where it gets a little bit speculative, so that's a real world problem that we know that exists, and we have some sense of why it is happening. What I'm about to say is more speculative. We don't have evidence for this, but it strikes me as at least possible that part of the reason why it took so long for people to recognize that this was a problem was because the people that were working in this space, and just the people that were kind of adjacent to it, were just thinking of people as men, and it didn't strike them as problematic that, "Oh, we're basing everything just on this male crash test dummy." And I think that that's a kind of serious real world example, but there are others that you might think about too.

There's some work suggesting that the kind of average temperature in office buildings makes men a little more comfortable than women. Again, there's a lot of variation, but women tend to run a little colder on average than men, and there's actually set temperatures that are sometimes used in office buildings to ensure this safety, productivity, comfort balance, and that is based on like a male metabolic rate.

So, those are kind of some more real world examples. I think the other thing that's important about this more recent work that we did with the kind of billions of words thing is that then we can start to think about closer issues. So, these tools that we use to study this bias are used in currently active applications, and that suggests that these tools themselves are now serving to at least instantiate and potentially reinforce this way of thinking. So, if everyone was to right now not have this person equals men bias in their own minds, we would still have this bias in our society because it's embedded in these current reactive AI applications, which are based on our recent history, our text that we've produced.

So, I think that's troubling, and another thing that we should be concerned about that we do have more direct evidence for.

Andy Luttrell:
Well, this was all very interesting. I've already asked you for enough of your time, so I'm gonna call it there and just say thank you for taking the time to share all this.

April Bailey:
Yeah. Thank you so much for having me. I really enjoyed talking with you, Andy.

Andy Luttrell:
Alrighty, thank you so much to April Bailey for taking the time to talk about her work. You can find her at aprilhbailey.com. For a link directly to that site and to the ideas and research that came up today, check out the show notes at this episode's webpage…which by the way is at OpinionSciencePodcast.com where you can also find full transcripts and information about all of our past episodes and guests. Subscribe to the show wherever you like to listen to things like this so you don't miss anything. Okeedoke. I think that does it! Thanks so much for listening, and I'll see you back in another couple weeks for more Opinion Science. Buh bye…