



Title: Episode 20 The Power Paradox – LIVE

Meredith Johnson

00:00:08 This is Origin Stories, the Leakey Foundation podcast. I'm [Meredith Johnson](#). I'm recording this on Monday November 7th 2016, just one day before the U.S. presidential election. And I have to admit, I'm feeling nervous. Tomorrow, we're going to vote to give someone an enormous amount of power over our society. Today's episode is all about power; what is it, what happens to our bodies and our behavior when we have power, and when we don't have it, and what can we learn about lasting social power from looking at small scale hunter-gatherer societies.

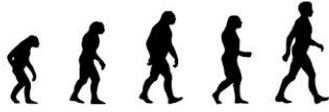
Our talk today is the “*Power Paradox*.” It was recorded at the [Leaky Foundation’s Bay Area Science Festival Event](#) on November 3rd 2016. Our speaker is [Dacher Keltner](#). Dr. Keltner is Professor of Psychology at the University of California at Berkeley. He's the Founding Director of the Greater Good Science Center. For more than 20 years, he's been studying human emotions from an evolutionary perspective. His work is focused on awe, happiness, and today’s subject; power. His most recent book is the “*Power Paradox: How We Gain and Lose Influence*.” Here’s Dacher Keltner recorded live onstage at Public Works in San Francisco.

(Applause)

Dacher Keltner

Thank you so much. That’s nice. Thanks for coming out. In some sense, probably the last thing in the world you want to do is talk about power in light of everything that's going on. You will be prevented from checking 5:38 during this talk. I think there's no more important time to talk about power than right now. It's a very consequential time with respect to this principle of social organization. It's great to be speaking on your own behalf of the Leakey Organization. I tend to take an evolutionary perspective on the things that I study from compassion to awe, to today’s topic; power, so it's very fit thing that I'd be here with you. I very much look forward to your thoughts about this topic.

I'd like to tell you a little story. It's interesting when you write books. Often, you engage in this personal reflection, and you think back to the core motivations for driving you to the absurd task



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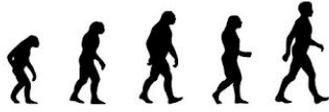
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of writing books these days. As I was writing about power and summarizing the twenty years of science that I have done—and a lot of people have done—that led to the “*Power Paradox*,” I kept thinking it back to this experience that my brother and I had when I was ten years old. It is an experience that no parent in their right minds would do today. When I speak to parenting audiences, there's not a single parent who would sort of make this decision. It turned out to be the most important decision, probably, in my life, and it was foundational to this science. It was his this, which is the that, my mom—we were living in the Hollywood Hills in 1970. My mom got her PhD at the UCLA. We were in a middle-class neighborhood with grade schools. The kids are doing well. They were all off onto good trajectories in life—and you could feel that.

00:03:16 It was 1970. My parents were counter-cultural. They did the rural experiment. We moved—when my mom got her first job—to the Sierra Foothills where she taught at Sacramento State. We moved up into a small rural town that was in the poorest county of California at the time. It was the poorest town in the poorest county of California. It was like Appalachia. It was an incredible place to grow up. It changed my life and my brother's life. We played a lot. It was beautiful countryside. There was always a place at families' dinner tables. The parents were preternaturally kind.

What I noticed on this little road that we were growing up on is that people were dying young. If you start at the top house, on this KO Drive, the dad died very early in his life. The young son—who's in my brother's class—came to our backyard and jumped off the road swing. When he landed awkwardly--my brother and I had done it thousands of times. He landed awkwardly. It split his arm in half—broke his arm. We now know that's called “[child frailty syndrome](#).” If you go down the house across the street, there was a guy who lived in his house with the shutters drawn. I never saw him. He suffered from agoraphobia, which is the paralyzing fear of going outside. He never went outside. You go a couple of houses down, it was my best friend, Memo Campos. His sister had leukemia. His dad contracted cancer in his 60s and killed himself. You go a couple of houses down, three families from Oklahoma—the mom dies in the '40s, dad dies in the '60s. That was our street.

I didn't understand it when I was ten years old, what was going on. As I move through graduate school and then studied power for twenty years, and really started to encounter that the science that I'll talk to you about today—which I think is driving the election in many ways— what I learned is that what was going on in this neighborhood was all about powerlessness and not having a place in society, that the powerlessness of my neighbors in this very disenfranchised part of California was shortening the lives of the people I live nearby. Now, we have a science that will end on that really speaks to that question.



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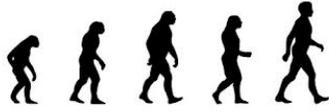
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00:05:48 With that as background, about twenty-five years ago when I was coming out of studying facial expression with [Paul Ekman](#), I got interested in the nature and evolution of human hierarchies. Ironically enough, there's no evolutionary perspective on human power or social psychology, my discipline on human power for interesting, I think, ideological reasons. What I've come to believe is what really [Bertrand Russell](#) believed in 1938 with fascism on the rise in Europe. He said that power is the basic medium in which we relate to one another, much as energy as the basic medium in which objects relate to one another. Power is the fundamental medium of social life. It defines every relationship.

Today, what I'd like to do—Well, I only have 35 minutes, and I'm going to get 20 years of my career into 35 minutes, as I'd like to provide partial answers to five questions: What is power? How do we get it? Does power corrupt? Once I feel powerful, I always behave like [Anthony Weiner](#)? Regrettable name when you think about it. The answer of regrettably is “yes.” What makes for strong social systems that can strain the abuses of power—a very important question today when we think about what's happening politically. Then going back to my childhood, why were the people I grew up around dying young, getting addicted to crystal meth, ending up in prison, being roughed up by the police. I've realized—as you would probably would intuit—that most of the problems today that are driving are fragile political atmosphere, really problems about shifts and power, and how it relates to the problems of today.

First of, what is power? So many has a negative connotation. Even when I say the word, it evokes this feeling. In part, that's because the social sciences, and most of the thinking about power, has had a particular orientation—and I would say a biased orientation—that's being questioned today, which is most people have thought about power as asymmetric force. I push people around. I do it economically, militaristically. The great history books of power are about military innovation. Or I do it through the political system, as we're thinking about today—very clear sources of power. This analysis of power as asymmetric might—through capital and military and politics—bumps into some really interesting problems that are nontrivial.

The first has to do with this facial expression right here. This view of power is just force and might can account for the enormous power that the penniless, voteless, sixty-two-pound weaklings of the world have over us, namely “children.” This is **00:08:54** (???) (inaudible) (s/l Effage). I was on this great bike ride. These are my daughters. You'll see them again. We're on this bike ride to [Zion National Park](#), like all contemporary parents who's involved in a lot of negotiations. As a psychologist, I devise this plan of like for every 500 pedals they would get some M&Ms—and they were all jacked up on candy after a while. And I said, “No more M&Ms,” and these are the facial expression that I encountered (laughter). Who won that negotiation? The kids did, right I said immediately like, “Oh. I was kidding. You know the keys to the car. Have fun.”



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00:09:27 We got to be thinking more broadly about intimate power. I asked this question. We're going to have you vote in just a second. Take the average citizen in the United States walking around—and we have a sense of how they're doing in their nervous system. Who has more influence on that person? Taylor Swift or Joe Biden? Who do you guys think? Don't vote. Don't. We're going to have you vote. We'd like you to vote. Who has more influence over your mind, or a randomly selected Americans mind? Taylor Swift or Joe Biden? Oh (laughter). You may be dispirited by that, but may be there's good reason to be optimistic. Indeed, Taylor Swift is up at 86%. This example actually speaks to a very serious development in thinking about power, of cultural power; the power of music, the power of ideas, the power of books, the power of television shows.

[Joseph Nye](#) at Harvard has written about how really in the 21st century that the central power of the United States is what he called “soft power,” or just the ideas that we give out to the world, less so militaristic power, hard power. A lot of people have written about this. Your ideas confirm this that we need to broaden our thinking about power.

First of, in the power paradoxes, power is—This is a lot of sociology moving into this and evolutionary thinking in various disciplines. Really, the better way to think about power is your capacity to alter the state of other people, just your capacity to stir other people's passions and thought patterns—altering the state of others. It can happen through money or politics, but today, a lot of power happens in other means—increasingly so.

What this suddenly tells us, so how this helps us look at history in different ways is it broadens how we think about how the world move forward and changes. Let me give you some examples. This guy literally changes the world by writing an essay when he was nineteen years old. That's [Thomas Clarkson](#). He was a college student. Started finding out about slavery, wrote an essay that won a slavery context, got hooked-up with the abolitionist, and literally went around the UK discovering the facts about slavery that led to the abolitionist movement and the fall of slavery. At the time, before he wrote the essay, three-quarters of the world were slaves. Then through his actions as a young guy, radical shift in our social structure, not our economy.

Most of the things that I'm proud of at UC Berkeley—the free speech movement and alike—trace back to this woman who is [Ella Baker](#), and all of the community organizing she did in the south that led to the civil rights movement, that led to the free speech movement, that then led to the anti-war protest. When we go out and protest against wars, it really, is this woman meeting with groups in Alabama and Mississippi that cause that. There is no bigger influence on our sexual relationships and social structures, no religious figure, no political figure has had a bigger influence in the 20th century than [Margaret Sanger](#) and the invention of the birth control pill. It



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was a crazy group of people who invented it—very unlikely. Before the birth control pill in the '50s, American women had six children on average. After the birth control—And we're dying young after the birth control pill 2.7. Radical change in social structure with no money, no politics, but an innovation. You can think of many examples.

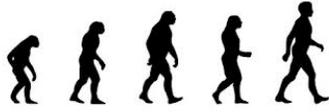
00:13:28 Okay. How do we get power? These people are curious. I could tell you about the research that we're doing related to those facial expressions, but I won't. This question has deep roots in evolutionary thinking. It's so interesting. I wish I had the talent to do the bigger picture of where we are. I'll give you some hints about, in the evolutionary context, how did human beings get power and influence, and then how do they get it today, and why in the world—anyway, I won't comment—but how in the world could this guy be running for president?

How do we get power? The short answer—and I'll give you some interesting data on this that may be reassuring to you, which is that, game theory, evolutionary thinking, social psychology, a variety of different disciplines kind of converged on this idea that there are a couple of broad strategies by which we gain influence in social groups. They are kind of adversarial and bump up against each other.

One is, what's really most well-known in our society, which is the intellectual offspring of this individual right here who, of course, is Niccolò Machiavelli, the most influential thinker in western thought on power, or one of the most. It's so interesting. How many of you have read "[The Prince](#)?" Oh. That breaks my heart. Okay. Literally, it's one of the Wikipedia ranks that is 32nd most influential book ever written in human history.

Machiavelli—Let's think back to the historical context. Machiavelli was out of a job. He was living in the country. He was disenfranchised. The [Medicis](#) had come in. He no longer had political engagement. He was in a state of depression—most historians feel—in Italy, in Renaissance Italy—although beautiful, with all of its Tuscan glory. It was probably the most violent place in human history. Out of that stew, he wrote this book called "*The Prince*," which championed one philosophy of how you get power, force, and fraud, and manipulation, and taking people down.

Here's some randomly selected laws from a best-seller that is a contemporary version of power of Machiavelli. This is kind of what is taken to believe to be how we get power in the different context of our lives. How do you gain influence? Conceal your intentions. Cord attention to all cost. Use elective honesty and generosity to disarm your victims, or your work colleagues, or whoever those people are next to you.



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00:16:17 Heck. Let's just get straight to the truth. Crush everybody totally as a pathway to power; very influential in different parts of the world. By contrast, there's this other philosophical perspective that comes out of a lot of evolutionary scholarship—that I'll tell you about—that you get power through virtue, through being good and creating value for other people. Aristotle champion this view that it's really the good people that prevail in the various competitions of our life.

Let's look a little bit of data that look at these two different perspectives. This is where it's so important to think about our evolutionary past. Here's data point number one; pitting these virtue and vice perspectives against each other. [Christopher Boehm](#), who's a spectacular anthropologist down at USC, summarized in a prize-winning paper the observations of 48 different ethologist or anthropologist who had lives with hunter-gatherer groups, small tribes, who are living in the social arrangements of really our longest period of our evolution—200,000 years, when we lived in small groups, and a lot of our genetically based tendencies built-up into principles of social organization.

This is his summary of who the leaders are in those societies that resembled the conditions of our evolution from forty-eight different cultures. The person who's a leader—male or female—is generous, brave in combat, wise in making substantive decisions, active solving conflicts, a speaker, fairer, impartial, tactful, morally upright, strong and humble. Definitely, it reminds me of this presidential election. Yeah (laughter). Isn't that amazing? The basic social forces in which our core social tendencies took shape evolutionarily. These are the folks who prevail. It just begs this historical question of, "What's happening in American politics?" You have your own speculations.

I summarize a lot of data that's coming out of this evolutionary perspective that in the new social network studies that with new statistics, we're better able to study how I have an influence in a social network. It's a certain kind of data, and it's kind of social—There are a lot of people like [Nicholas Christakis](#) and [James Fowler](#) at UC San Diego. It's really interesting—I'll just work through this really quickly—how our influence is really exercised—as [Michel Foucault](#) said—in a net-like organization. I think there's this new literature that's a counterpoint to Machiavelli that suggest that we have social structures and social processes, and even neurological processes that reward us for enhancing the welfare of other people as a principle of getting power.

What happens, let's say, in a social network, Maria expresses gratitude to her work colleague, Samir. What we know neurologically is that expression of gratitude, or sharing, or cooperation activates dopamine circuits in the brain that the ventral tegmental area projecting to the prefrontal cortex. That's your reward circuitry. We know that good acts in organization and networks make the actor feel good, which is interesting. It's inherently rewarding.



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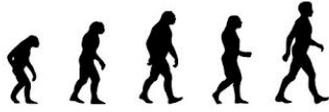
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00:20:09 Then we know, if I act prosocially with a work colleague, that person is then more prosocial and cooperative in subsequent interactions. There's amazing work by James Fowler showing if I am kind to Ariel, she is then kind and collaborative to other people. I'm not even there. Those people are kinder, and yet another interaction twice removed from me. It's viral in spreading cooperation. Then I've been really interested in how through these prosocial effects and networks we develop really positive reputations, and get the esteem of other people that then motivate more prosocial tendencies.

Just to give you a feel for how we study this in crazy ways in my lab of how good acts make teams more influential and stronger. It's a counterpoint to Machiavelli. One of the things we did—very timely, because the basketball season is upon us—we studied the effects of really prosocial touch on basketball courts. We coded one game of every team in the national basketball association at the start of the years. Teams touch each other a minute and forty-eight—in case you're wondering—out of a forty-eight-minute game. Here's what they do. They high-five. They fist bump. They arm embrace. They bear hug. Men love to hit each other in the head to say, "good job." They arm embrace. They chest bump. They flying hip bump. If everything is going amazingly well, they'd fly through the air and chest bump. I would recommend this at work with your colleagues. Wasn't that "sell the Cub" celebration incredible? Like, literally ballet, because they fly through the air. These are all acts of prosociality where you're encouraging, recognizing, celebrating, and the like.

What we found statistically these prosocial acts actually—at the start of the season—make teams play better with the best basketball statistics. People who touch a lot—as an old language of prosociality—make their teammates play better. [Kevin Garnett](#) was our most valuable toucher. Every time he shoots a free throw—he's seven-foot-one—he would step forward and touches his two teammates. He barely even sees it. He steps back, touches those two teammates back there. It's about 300 milliseconds. Those acts make their teammates play better through prosociality.

Okay. We're going to have you vote and sort of get your intuitions about this Machiavelli versus Aristotle virtue perspective. Here's what we wanted you to answer. "Having high ethical and moral standards is necessary to keep power." How true is that statement? Having high ethical and moral standards is necessary to keep power. Oh. I would say the nods slightly, it's split. That's so interesting. I would love to know the gender of the split, because I will show you some data. Here are the people who are kind of the Machiavellians. No way. Power requires to be unethical. Here are the idealist. Oh, yeah. You got to be a good person. These people are going to screw over these people. That's politics. That's very fitting for our data, which is very interesting.



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00:23:27 Okay. Here's another one. Let's see where you guys are. "People gain power through the use of manipulation and deception." "People gain power through the use of manipulation and deception." Oh. Oh. It's getting worse (laughter). Oh my God. Two-thirds of you feel like, "Yeah, you got to lie, and manipulate, and coerce, and deceive to gain power." That's really interesting. Oh no. There's one of you who's like, "No. You don't need to lie. I've met the Dalai Lama. He's got a lot of power in the world." Okay. Very nice. That's fun.

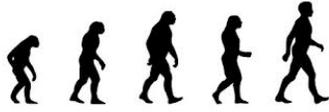
Okay. We call one version of the scale that you guys filled out in sort of a coercive model of power, and there's a more collaborative model that really thinks you need prosociality. What's interesting is coercive approaches to power. These are nationally representative samples out in the United States before Trump rose—we were all thinking about this—tend to not have a lot of power, not feel like they have much control over their lives, tend to be poor, male, and want their group to be superior. Then there are really cool measures of how moral you are. They are amoral. They don't believe in any morals at all. It's very interesting profile to think about.

Okay. Let me just—I suspect you'll have questions on this. I want to get to a couple of really important points before I turn it over to you, guys. We've done a lot of—there's a lot of work in how Machiavellians versus prosocial sphere in the game of power. One that the historians have done is rated the great legacies of U.S. Presidents. I review this in the "*Power Paradox*." In general, Machiavellians don't do well in terms of having enduring legacies. Who's the most Machiavellian U.S. President? Nixon. Right, and ranked by historians one of the least effective leaders. The great presidents tend to be on the more prosocial end of the continuum.

This is a statement about Abraham Lincoln by a journalist of his era. Lincoln rated by historians as to having the greatest legacy in the U.S. His political genius was that he sees all who go there. Here's all they have to say. Talks freely with everybody and reads what they've written.

We know this sort of adversarial coercive strategy works in short-term context. It doesn't work as a model of social protest. I just talk to a couple of social protest movements today. There are more violent, a forceful types of protest movements. Historians have rated those in terms of their efficacy. Do they work? Only twenty-six percent of the time do they work, compared to more collaborative network building models, which work fifty-three percent of the time. We did a study recently of U.S. senators. We coded how narcissistic and Machiavellian they were in their delivery of speeches, compared to how virtuous, and courageous and kind, the tone of their speech was.

00:26:39 I have to show this one. This is, again, before Trump. This is what one of our science was of the narcissist and Machiavellian. If they tend to look smug and self-satisfied, and we literally coded where they pucker their lips and they look really proud, they will (laughter)—



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That strategy in the senate from the '90s got fewer votes and support of the bills they're interested in. A lot of interesting data. They call this "tradition into perspective."

That's social life, is these complex strategies that we all engage into different degrees of manipulation—Machiavellism versus prosociality. Social organizations, families, marriages, romantic partnerships, they fluctuate in how those principles are working with each other. We have to think of the social system that enables those different strategies as really essential to the question of the direction that power takes in any social organization.

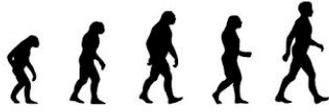
There's a lot of interesting thinking from, literally, from hunter-gatherer tribes, where this is really well-developed, where various anthropologist have thought about how in the world do small tribes keep people from exploiting others, to small social groups in organizations. In general, if the social system—be it a family, a workplace, a body politic in politics—if it has accountability and the capacity to stay connected to other people, it's interesting. Stolen, destroyed it all. Hitler destroyed all the means, by which neighbors could connect to neighbors. You break up the social network.

If you have strong collective scrutiny—the 2008 economic collapse, as you know. The ratings agencies, they weren't even doing their job. It was an abomination. Then what we really value and what we'd afford status to are ways that we constrain the abuses of power. Really interesting to think about where are we today in terms of our political system.

All right. Let me give you a little bit of data on the abuse of power, and then return to my neighbors in this really amazing new science on the costs of powerlessness. Does power corrupt? As [Lord Atkin](#) said, a great social critique from the 19th century, "Does absolute power corrupt? Absolutely." Regrettably, I've made the case that having a little bit of power—And I'm not just talking about Donald Trump. I'm talking about everybody in this room. Once you feel a little powerful—you do well at work, you get that promotion, whatever the case maybe—it produces this mental state that feels a little bit like you're on drugs. You can get into a lot of trouble if you don't watch yourself.

Let me show you some data. Here we got some findings. I love these findings. If you have a little bit of power randomly assigned in experiment, you're more likely to gamble away money—other people's money, in particular. You take the irrational risks.

00:29:58 Who's likely to admit rude behavior at work? High-powered people or low-powered people? High-powered people. Three out of four. Two out of three. Rude acts at work are from people in positions of power. This is a classic. Nationally representative sample, who's more



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likely to shoplift? Rich white people or poor ethnic people? The rich white people are more likely to shoplift. That blows me away.

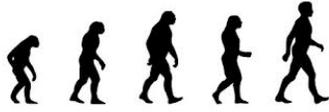
We did a study that came to be known as the “cookie monster study.” We randomly assigned people, one person to position of power. They’re in a small group exercise. They are working on stuff for a while. Halfway into the experiment, we put down a plate of chocolate chip cookies. Everybody takes a cookie. They’re really happy. Who takes that extra cookie, that last cookie? Indeed, it’s the high-powered person taken the extra cookie. We code how they ate their cookies. They’re more likely to eat their cookies with their mouths open, lips smacking, cookie crumbs falling all over the sweater. Well, you know—And I could go on.

We turned the Berkeley Highway into the lab, and we did a variety of iterations of this. My favorite. We positioned a Berkeley undergrad right at the start of a pedestrian zone. Do you guys know those pedestrian zones? White stripes. Cars are supposed to stop. They’re very dangerous in the Bay Area. A lot of people get hit, right? I’m not kidding. We have this Perry Berkeley undergrad who’s at the edge of the pedestrian zone, and we have somebody hiding in the bushes tallying up the data. He looks at the car coming towards them and acts like he wants to cross the street. You’re supposed to give the right of way, if you’re driving. We have this complicated scale of how powerful the car driver is. The low-powered person is usually driving an AMC Pacer. Then you got the Ford Torres, the aptly name “Honda Civic.” Here’s a Honda Accord—number four—and then the high-powered people are driving the Mercedes and the BMWs.

Here are our data. If you drive a poor car, you always stop. You are a very moral, a prodding person. You’re probably thinking a little like, “God. I wonder if my tail lights out,” “If I get pulled up, what’s in the glove compartment,” you know, whatever. If you’re driving a fancy car, you blaze through the pedestrian zone 46% of the time, ignoring the law and the safety of the person. We’ve got a lot of emails. We got an email from Audi, the car company. “Can you look at the data for Audis?” They actually are—Their Audi drivers are pretty moral, right? They have these interesting new commercials that, I think, play about this. A lot of people were like, “Well, you know, a Prius is a four, but I’m a moral person.” So, we analyze the data on the Prius drivers. They were the worst. They (laughter)—which led Conan O’Brien to say, “Hey. You heard about these Prius drivers? They drive like assholes, or whatever. It’s hard to drive well when you’re patting yourself on the back,” (laughter). I was like, “I should retire.”

Let me take seven or eight minutes to finish up, and then open it up.

00:33:15 After I lived in this neighborhood where very few people who graduated college, our golden boy, and a lot of people ended up in prison. Golden boy of the class ended up in prison, and a lot of young guys died young in fights in boat racks and weird stuff. You know, I wandered through the social sciences, and I started to hear theories about the underclass or the



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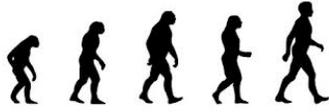
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lower class who I grew up around. There were theories like the culture of poverty. They don't have a culture that really is interested in succeeding. I thought about the parents I grew up around. They cared a lot about their kids' success. Another one was, well, they don't like to work hard. That's a common ideology out there. Well, actually, poor people out on average have 1.2 jobs, and the people I grew up around were working very hard jobs at mills and in construction that breaks their body down as a man or a woman. That just didn't ring true. Then there's all this stuff out there. They don't have the right mindset or whatever it is.

We kind of forgot the obvious one, which is what is it like when society disempowers you. We know their historic levels of inequality. This is the audience, so we'll be friendly to this hypothesis. There's not a thing you can find in human societies that, in which, inequality is good for it. I'm talking about from gun disease, to we have new data showing in unequal parts of the United States there's more racism. These are the raw data on just poverty. That's the poverty level for US families. It's kind of striking. One in five American kids is in poverty. One in six or seven kids is hungry. They're literally physically hungry.

What this science has started to show—and I think it's one of the most important findings in the health sciences—this is your stress system that you probably have heard about the HPA axis. hypothalamic pituitary adrenal axis. If I see threats out in the environment, and we used to think like big dangerous predators, or spiders, or snakes, or kind of prototypical evolutionary threats, what happens is old parts of the brain send neurochemical signals down the adrenal glands, which send out cortisol into your blood streams. As [Robert Sapolsky](#) has made the case at Stanford, high levels of cortisol are really bad for your nervous system; immune system compromise, brain cells start to age. Telomeres at the edge of your DNA start to shortened. That's Elisa Apple.

There is this new literature that I review at the very end of the “*Power Paradox*” that starts to make sense of the guys I grew up around—and it's even worse for many groups today. We know if I go to—If I'm around the place where there's a lot of racism, I will have hyperactivated cortisol in my blood stream as a threat to my—a disempowering threat to my identity. We know women when they hear sexist talk or hear about sexism, it's the same effect upon the stress system. It hyperactivates cortisol in your stress system. We know—I've done a lot of work on social class—a very forgotten dimension of human, of American society—when kids from poor backgrounds go to a lot of the elite university, quote, elite universities where it's mainly wealthy students. They feel stigmatized and threatened, and have elevated levels of cortisol in the biomarkers of stress. We know at work, if you—Jen Learner, my student at Harvard, has done studies of leaders. These are leaders who have great positions, but if they don't have voice, they have elevated levels of cortisol. I think the stress system, the cortisol system, what it used to be



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hyperactive to predators and the like, has been socially transformed into being responsive to threats to our power, to disempowerment.

00:37:33 Now, let's go one step further. We also know—This is the cytokine response. It's part of your immune system. It basically is the inflammation response where little chemicals attack pathogens in your body, and it's like having a flu. It's great in the short-term when you have these pathogens in your body. You need to get rid of them, where you cut your skin and your skin swells up, to make sure it doesn't get infected. Being threatened and disempowered hyperactivates the inflammation response.

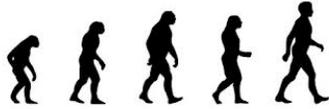
Let me just end with this right here, amazing work that I review in the "Power Paradox," by [Greg Miller](#) **0:38:12** (???) (inaudible). Basically, the kids I grew up around—poor kids, really poor kids in the United States—by the time they're five—if you look at their cells—are filled with inflammation and cortisol. Their stress, their inflammation response and cortisol response had become hyperactivated and discoordinated, and are constantly on overdrive. That means they are vulnerable to diabetes, and heart disease, and depression, and anxiety, because the inflammation response is a major pathway to these outcomes. The estimates are, if your first part of your life is in the conditions my neighbors grew up in, you lose six years of life expectancy. It probably will get sharper.

Let me just say, we're in an amazing time in terms of power. That's why this election is so fraught. It is fair to say when you think—take a step back—women now occupy more power than they have had in 12,000 years. In 12,000 years ago, we shifted from very communal social forms of organization—as various archeologist have argued—to much more hierarchical organization and religious forms of organization that were bad for women, and led to a lot of problematic social arrangements. We're slowly, inchingly moving out of that organization, so it's a very interesting time. There's a lot of reason for optimism from the rise of democracies, to new forms of influence. Obviously, there's a lot of reason for concern. When you see what's happening in today's election, it's awakening—that coercive approach to power—but I think a great time to be engaging in this topic, anyway. Thank you very much for your attention.

(Applause)

Meredith Johnson

00:40:17 Origin Stories is a project of the Leakey Foundation, a non-profit organization that funds groundbreaking research in the human origins, evolution, behavior and survival. You can support scientific research and outreach with the donation to the Leakey Foundation. For a limited time, all donations will be doubled up to a million dollars. Visit LeakeyFoundation.org—that's L-E-A-K-E-Y Foundation.org—to make a donation or sign-up for a newsletter.



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00:41:11 (end of audio)

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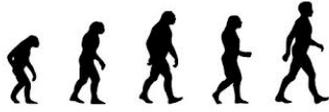
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