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MIKE LIVERMORE: Welcome to the *Free Range Podcast.* I'm your host Mike Livermore. This episode is sponsored by the Program on Law, Communities and the Environment at the University of Virginia School of Law.

With me today is Arden Rowell, a professor at the University of Illinois College of Law. We'll be discussing her new book with co-author Kenworthey Bilz. The name of the book is *The Psychology of Law.* It was recently published by NYU Press.

Arden, thanks for joining me today.

ARDEN ROWELL: Happy to be here. Always fun to chat.

MIKE LIVERMORE: So as you know in the book, environmental law, which obviously we're both environmental law professors, it's a very interdisciplinary field. There's obviously ecology and the natural sciences. You have economics and other social sciences. You have philosophy and humanistic disciplines that all intersect with environmental law in lots of different ways.

But as you make a compelling case in the book, psychology hasn't had as much of an impact on environmental law, even though maybe it should have. So what do you think the reason for that is? Why has psychology lagged these other disciplines in terms of making an imprint on how we think about environmental law and policy?

ARDEN ROWELL: Yeah, that's such a great question, Mike. I think that the heart of the matter really is that the environments is what surrounds us, it's what's outside of us. It's external to us. And psychology is truly the study of what is most internal, what is happening inside of our minds, inside of our hearts.

And so I think there's just something very counterintuitive about putting the two together. I think, for me at least, that's the explanation for the heart of why there's been less attention, less attention to psychology and environmental law than with these other sciences and social sciences that you just mentioned.

I think an additional explanation, though, might look to the fact that psychology has traditionally been very, what I would call, non-normative. That is, it's a really very descriptive social science that's trying to understand how and why people think and feel and, to some extent, act as they do.

And it's really not interested in trying to promote or even really invest in any particular view of how people should be behaving. And that I think is different than at least some portions of other social sciences. Like for example, economics, where there's long been a much richer tradition of engaging with normative aims like efficiency and social welfare.

MIKE LIVERMORE: Yeah, that's interesting. And I think that's something to explore a little bit, is that idea of psychology as a non-normative discipline. That's worth definitely getting into if we have time. But maybe again, just to ease our way in to the conversation, there are areas of law or there-- at least in the conversation about law generally, psychology has been playing a greater role in recent years.

And I think it's probably fair to argue that the role of psychology in thinking about law has perhaps lagged other disciplines like economics. There's a huge law and economics movement that dates back almost-- I mean maybe more than 50 years at this point. Whereas behavioral economics, law and psychology is a newer area. Now is there anything--

So for your book and for your project about the psychology of environmental law, are you applying the general insights of psychology to law the way that we see in other fields, like consumer finance or something like that? There could be a psychology of consumer finance law. Or is there something special or some features of environmental law that are special that make the application of the field of psychology and insights from psychology, particularly important?

ARDEN ROWELL: Yeah. Great. So certainly, you can use general tools of law and psychology in any field. And they're useful for helping to inform and understand and predict human behavior across different realms that the law-- and behaviors that the law tries to regulate.

But yeah, the thrust of the book is really to make an argument that there is also something special psychologically about environmental law and policy that makes environmental law and policy particularly need psychological tools and psychological research so that we can best understand how environmental law works and how it can work better.

And what is that? What is it that makes, in my view, environmental law and policy psychologically distinctive, is that environmental law is fundamentally concerned with environmental injury. And that environmental injury has a recipe or a cocktail of characteristics that make it unusually difficult for people to perceive, to process and attach value to. And because of that, that creates a series of challenges in regulating environmental injuries that don't necessarily come up in other contexts.

MIKE LIVERMORE: So like what are some of-- what are-- so a Negroni is one part gin, one part Campari and one part sweet vermouth. What are the parts of-- what is the-- how do you make an environmental law and psychology cocktail in such a way that it creates these problems?

ARDEN ROWELL: Yeah. So the three distinctive parts that I see to environmental injury are the environmental injuries tend to be diffuse. That is, spread through space and time. And that creates, in particular, a bunch of challenges in people perceiving them as though they're diffuse. They're complex and that they often implicate multiple causes and nonlinearities, interactions, et cetera. And because they're complex, that makes them even more difficult for individuals to process and understand.

And then the third ingredient is that environmental injuries are distinctively and frequently nonhuman in character. That is, they affect non-humans. They work through non-human processes. And because of that, they are psychologically difficult for people to attach emotion and value to.

The social brain that humans have developed over so many years suits us really well for understanding social problems with other humans or at least for having tools for processing those problems. But when it comes to trying to think about non-human processes and non-human stakeholders, it's just a-- it ends up being a misfit. It ends up firing in cases where it doesn't actually make sense to do so. And it ends up not noticing things that are potentially important when they don't fit into the social structure of our brain.

So environmental injuries are distinctively a diffuse, complex, and non-human and character. And all of those create additional challenges for individuals in perceiving understanding and then attaching value to them.

MIKE LIVERMORE: Great. OK. So we've got our ingredients. And they do make a difficult cocktail to address through law or to-- or it can make it difficult even to build political constituencies, to get legal change, and all of that kind of thing. So maybe just to get into these in a little bit more detail, maybe we could take the non-human one first.

And I think part of-- OK. So one of the things that I'm trying to disaggregate a little bit is-- and of course, I'm bringing a particular law and econ mindset to this, which may or may not be useful. But to think of the-- to desegregate between people making mistakes that are due to psychology or the interaction of human psychology and certain features of a policy problem versus preferences, right?

So a few times in the book you note that people tend to have more empathy towards cute and cuddly creatures that look a little bit like human babies. And therefore, that might explain how in practice, the Endangered Species Act works. Like in theory, the act doesn't say-- it's not the cute, cuddly animal protection act, right? It's just the Endangered Species Act. But in reality, we do see-- there tends to be an emphasis on protecting megafauna, the cute and cuddly. And not that grizzly bears are cute and cuddly, but in a picture I guess they're cute. Or little grizzly bears are cute. So--

ARDEN ROWELL: Baby ones.

MIKE LIVERMORE: Baby ones. But-- OK. So on the one hand, an economist might just say, an economically-oriented person might just say, look, that's just what people care about. They care about cute and cuddly. There's nothing wrong with that. That's not a psychological failure. That's just a reality of how people relate to the world. I mean, is that an OK view or is there another way of looking at the problem?

ARDEN ROWELL: Well, is it OK? I mean, I think that it goes to the heart of an economic mindset and the way that economics and law economics-- law and economics has traditionally approached behavior, which is to start with preferences and move on from there, and to just take preferences as given. And not everybody in law and economics always does that, but that's just the starting point.

And it makes sense because economics is largely built on observational studies, for example, which aren't necessarily going to get very effectively into questions of motivation or why it is that people have the preferences that they do. And because what economics is often largely interested in is figuring out what the impacts of those preferences are going to be and how to implement them, not so much whether or not their good preferences.

And so is it good, Is it bad to think that way? It's worth noting that you're thinking that way as you are in fact noting. What I think psychology offers, if it's a little bit different, is some tools for stepping back before the time of preference formation and asking why it is that people hold the preferences that they do.

So as you said, in the Endangered Species Act context, basically the way that species end up being protected is that someone, whether it's an agency or an individual, ends up initiating a petition process. And that means they have to pay attention enough to this species to know that it's potentially endangered to be able to even trigger that process. And then they have to actually care enough about the species to go through the process of gathering up the information, et cetera, to potentially get it protected.

And so what is it that leads people to notice or to care about particular species, animal or plants, is going to affect which ones end up getting protected. And it might be-- and I think, in fact, it is the case that sometimes people aren't aware of what it is that makes them notice things or care about things.

And it might be that their preferences for cuddly animals that look like human babies it's not a preference that's particularly deep or that they care that much about, it's just something that they have without thinking about it and that they just go around the world expressing. Again, not necessarily in a reflective way and not even necessarily in a way that truly reflects their deeper values or commitments.

And so, for example, it may be that many people, if you really had a long conversation with them, would be perfectly willing to even change their minds about which species they cared about if you emphasize the importance of, I don't know, low-level plants or animals on a food chain and how if we have an insect apocalypse that could end up undermining enormous portions of the Earth psychologies.

And they may just really never think about that as even a possibility for reasons that are really opaque to them and which don't represent anything particularly important either to their welfare or anything else. But if we never realize that the mechanisms that lead people to notice some animals and not others, or to care about some animals or plants and not others, if we never notice that there are mechanisms that are affecting those things, we can never even get to the point of asking, well, are these good or bad? Have we ended up with a pattern of protection of endangered species that is appropriate or inappropriate?

And I think a feature of the psychological approach is that, what's an appropriate or inappropriate pattern of protecting endangered species? We could try to answer in a bunch of different ways. We could try to answer it by looking at what's most efficient or what's best for social welfare, or we could try to answer it by reference to what's most just.

And psychology would allow us to answer that question either of those ways. But unless we know that there's a pattern to look at and ask that question about, are we choosing the right animals and plants to protect, we'll never even get to the point of doing that analysis.

MIKE LIVERMORE: Yeah. I mean-- I think, yeah, there's-- it's very interesting because-- so just, in a way, on the non-normative point, do you think you would concede that the-- what's your view on that question of whether someone's reflective preferences are, in some sense, better than their non-reflective preferences. So people go around. They like the cute and cuddly species, and that's what they focus on.

And then you say, well look, that might just be an artifact of your psychology and you should really care about insects and other types of critters just as much as you care about koala bears. And then someone updates their view and says, OK, now I care about cockroaches just as much as koala bears.

Then is that second set of preferences better or more robust, or have we benefited in that situation or is it just a matter of like, well, if you think that reflective preferences are better, then they're better. But you don't necessarily have to think that.

ARDEN ROWELL: Yeah. I mean, I think-- my view on this is that people's uninterrogated environmental preferences are going to be a product of this bitter cocktail of psychological impacts. That mean that what we're getting with the animals and plants people choose to protect is decided by a whole bunch of factors, again, which they may be totally unaware of and which are likely insensitive to the complexity of relationships between different species, that likely are insensitive to the diffuse impacts of the thriving of various species, not just in the ecosystem they're in but also interconnected with other ecosystems, and which are triggered by these probably--

I mean, these potentially irrelevance, a human factors that make us see faces, not just in animals but also in inanimate objects. And so--

MIKE LIVERMORE: Like a piece of toast.

ARDEN ROWELL: Yes, exactly. Exactly. And we do the same thing maybe to polar bears. We anthropomorphize them. We imagine that they have human expressions. And is that-- if you point that out to people, are they necessarily going to develop a better preferences in some way? I'm not sure. I think it depends on what our policy goals are.

I mean, I guess one way of thinking about this when it comes to the Endangered Species Act is there's really nothing in the act that suggests that Congress meant the act to be a cute, cuddly, safe-- a cute, cuddly--

MIKE LIVERMORE: Oh, I bet if you look at the legislative history though, they talk a lot about cute and cuddly and less about the nasties out there.

ARDEN ROWELL: Because they're subject to the same kinds of impacts as just anybody else, any other human. But the actual statute itself, it doesn't try to distinguish between where it is that plants or animals fall in a food chain or it doesn't create a mammal protection provision that only applies for mammals, even though it gets used so frequently for mammals. And plants are included as well.

And so the way that the statute itself is written works for even scary, ugly, tiny animals that are non-mammals. It's just not getting invoked and used in that way. And so I think that there's a potential basically for a misfit between statutory purpose and the actual impact of a statute when we get these psychological factors coming into play, particularly if policymakers are not themselves understanding the kinds of psychological factors that can go into people invoking the law in skewed or psychologically impacted ways.

MIKE LIVERMORE: Yeah. It's very interesting. I mean, I think I'm of two minds about this as we're talking about it. On the one hand, I think I'm probably happy to just say free your mind, man. Like your preferences are better once you're alerted to ways that you could be led astray. And they're more likely to line up with your underlying commitments. They're more likely to be morally sound. They're more likely to improve your own well-being. And that-- I think I'd be pretty comfortable with making a claim like that.

On the other hand, I think that one could take a psychological perspective and say, if what we're really trying to get at is what were the purposes of the Endangered Species Act, then what we know about human psychology is that they probably were thinking about megafauna when they were-- even if they didn't put that down. And then we'd have to have a conversation about how best to interpret attacks. Yes, they didn't put the words in there in exactly that way, but maybe they were thinking along those lines.

So I think that's an interesting thought. In some sense, if you're thoroughly non-normative, thoroughly going in a non-normative perspective it's just like these are the facts. Like people care more about cuddly than they do about maybe-- I don't know, than they quote unquote, should. Whatever that means I guess. Or we could take a view and say, actually people should be pretty agnostic. Cute and cuddly shouldn't really matter. It doesn't really matter and that people are making a mistake.

It sounds like you're in a bit of a middle ground on that question.

ARDEN ROWELL: Yeah. I mean, one thing you said there, I think it really triggers just such an interesting question, which is, should we read psychological bias into statutory purpose? And that's a bigger question, a hard question. I sure feel uncomfortable with that. And that doesn't mean that we couldn't mount an argument for it, but that's a tough one. And I'm certainly not here to advocate for reading statutes in light of the likely psychological bias of the policymakers who were drafting them.

MIKE LIVERMORE: And it's interesting. It's an interesting thought.

ARDEN ROWELL: Yeah. Yeah. I mean, one thing I struggled with throughout this book and which I also struggle with in talking about it, is I think that, again, a feature of a psychological approach to environmental law and policy is that it can fit with so many different normative views. So you can take a justice-based approach, a rights-based approach, an efficiency-based approach. That doesn't mean that I myself have no normative views, right?

And so I really tried throughout-- and I was helped by the fact that my co-author Kenworthey Bilz has a different set of normative preferences than I do. I tried throughout the book to really not confuse my own normative leanings with what it is can use psychology to do. But yeah, so even in the question you just asked, I mean, I don't-- I think you can take a psychological approach to the question that's descriptive and helpful regardless.

And then I guess I could clarify my own position on it, which is, I think that people's unexplored preferences about the environment are often misguided and that even-- it's actually difficult-- although you can change those preferences by talking with them sometimes, it can also be quite difficult to change those preferences because of all the psychological challenges that come along.

And so I tend to think that we should be more skeptical of using preferences as an indicator or a vector or a driver of policy in the environmental realm than in other realms where we regulate even human health and well-being. That's where I end up coming down.

Now that still ends up-- that opens up a whole host of different puzzles that, in some ways, are tangential to this particular project. But that is where I've ended up after this project in seeing just how tricky it is for people to see and understand and attach meaning to environmental impacts.

MIKE LIVERMORE: Yeah, it's really interesting. And maybe towards the end, we could return back to this question of almost more generally law and psychology in a democracy and how do we think about the relationship of democratic legitimacy when we know that people's instincts or preferences or perceptions can lead us astray. And that just raises a host of interesting and difficult questions.

But just to dig into the actual environmental context and the intersection of psychology and the environment a little bit more, one of the-- I mean, there's lots of different things. I mean, the book is really rich. I, of course, encourage folks to read it. There are many, many different interesting examples and incredibly useful just summary of existing literature that's relevant. So that's incredibly helpful.

But a few that popped out to me that I particularly find interesting is the-- one was the distinction between natural and non-natural. And this plays out in lots of different ways, like how we define pollution versus non-pollution, that kind of thing, and the psychology of that. And then, of course, it has a lot of importance for environmental law in lots of different contexts. So what's going on there? What is the psychology of that and how is it relevant?

ARDEN ROWELL: Yeah. Great. So one of the things that I think is particularly interesting about how people engage with pollution in particular is this emotional content that people end up attaching to things that they think of as polluting or clean or sacred or profane. And so there's been work, of course, in other social sciences and anthropology in particular on cultural evaluations of risk, which finds that people in different societies, in different cultures end up thinking of different things as safe or risky, dirty or clean.

And when it comes to modern Americans, one of the ways that modern Americans tend to think about what is clean and what is dirty or what is dangerous and what is safe is that we tend to, as you already pointed out, to think of things that are natural as if they're safer and then things that are man-made or artificial and-- now this is not inevitable. We didn't have to develop that view.

And of course, many, many risks, many forms of pollution can be either naturally occurring or artificially produced. I mean, you can have naturally occurring arsenic in the soil or you can have a complicated industrial process that ends up creating arsenic waste. And the arsenic itself is equally dangerous either way. So this is just a cultural phenomenon that informs people's perceptions, the psychology of what they see as risky and what they see as safe.

And so one example I give in the book is we all know that-- if we all know this. But people who do environmental law and policy know that particulate matter, air pollution is particularly dangerous, particularly deadly and it kills so many people every year, makes so many people sick. It also exacerbates, we now know, risks from COVID and other types of illness, et cetera. It's dangerous.

And yet, if you think about what people think of as a natural source of particulate matter, wood smoke, you can see that people often associate cozy, warm, safe feelings with the sense of wood smoke. That is, with the scent of particulate matter.

MIKE LIVERMORE: Right.

ARDEN ROWELL: And it even goes so far as to mean that we have wood smoke as a popular candle scent. And why is that? Well, if we called it particulate matter scent, it won't sell as well. Industrial pollution scent. People don't want that. They want the scent of wood smoke, even when in reality what they're smelling is much the same.

And so what is it that's leading to people's perception of a particular thing as polluting or as dangerous? And what leads them to be tolerant of that or to think that they're safe enough? There's a number of different psychological factors that come into play. And of course, that can end up interacting also with other social and cultural factors as well.

MIKE LIVERMORE: Yeah. I know. There's some great examples in the book on this. If I'm recalling this correctly, so there's the story of the Portland reservoir?

ARDEN ROWELL: Yes.

MIKE LIVERMORE: So how does that go?

ARDEN ROWELL: Oh my goodness. I think it was in 2014. There was an incident caught on camera for this reservoir in Portland, a open air reservoir at Mount Tabor Park. And they had some security cameras wringing this reservoir and they caught this teenager peeing into the reservoir on tape. And this got picked up by news outlets.

And it just caused a furor. People were so upset. They were so disgusted and they just-- why? Because they didn't want to drink water that came from a reservoir that some-- I think as the water official said later that some yahoo had peed in.

And so this became such a big deal that the water board ended up deciding that it would just dump 140 million liters of water, at the cost of tens of thousands of dollars, out of the reservoir and then just refill and start over again with treatment.

MIKE LIVERMORE: Which is crazy because, of course, in the natural course of events, what happens all the time.

ARDEN ROWELL: Well, there's animals who are peeing in that reservoir every day. And not just peeing in the reservoir, which animal urine is probably pretty sterile like human urine. But dying in the reservoir. They have to fish animal corpses out of the open reservoir very frequently. And they just look at that as the business of an open reservoir. But when it comes to a human a peeing into it-- and peeing into it, you can only imagine what the kind of malicious-- some sort of malicious intent.

That creates pollution that people are upset about, so upset they end up draining just millions of liters of water, even as pollution that is either essentially equivalent like animal pee or presumably much worse biologically in the form of these animal corpses. Those are just tolerated and nobody even thinks about them. It's just, of course, we have an open reservoir and they're not going to drain it every time that a fish dies in it.

MIKE LIVERMORE: Right.

ARDEN ROWELL: So this I think it tells us something important about how it is that people perceive pollution and the kinds of triggers that lead them either to tolerate it or not. And those triggers are their psychological triggers, right? It doesn't make sense-- it's hard to tell a sensible story.

Well, maybe it's hard to tell a sensible story about this incident at all. But it's really hard to tell a story that makes sense about it unless we realize that there's psychologically something different for people in human peeing in this reservoir and animals doing so.

MIKE LIVERMORE: Yeah. No, it's a hilarious story. And yeah, it highlights-- now again, does it highlight a rationality, maybe that's a different question, right? Was it a bad idea to drain the reservoir? Maybe not. Maybe it was a good idea if people really didn't want to drink the water and that's how they want to spend their money. But the psychology highlights and perhaps illuminates what's going on there.

A related example that you mentioned is even more serious. Consequences is the treatment of particulate matter pollution in the context of the National Ambient Air Quality Standards with respect to wildfire management. I actually didn't know this. This is a really interesting-- and this goes to, I think, both the natural, non-natural human cause versus in the course of events. And I think in the context of the book, you describe it as an action in action distinction as well.

So do you want to just explain-- assuming that I've done a good enough job of saying what I'm talking about here. Do you to just describe the situation?

ARDEN ROWELL: Let me say a little bit about it anyway. So yeah, so one important source of particulate matter air pollution, particularly in Western states and to some extent Florida, is fire and wildfire in particular. Because basically when you burn up a bunch of vegetation, it sends a particulate matter into the air. And it can create dangerous levels of particulate matter.

So basically, fire managers around the country, and particularly where there's a bunch of public lands to manage, typically have a choice, a basic choice in managing the lands under their control, either with doing small, prescribed burns over time on purpose and then having a little bit of vegetation burnt up and a bit of particulate matter pollution over time, or it's just waiting around until there's a lightning strike or some fool throws a cigarette out of a window and a wildfire--

MIKE LIVERMORE: Or does a gender reveal party.

ARDEN ROWELL: Exactly. Exactly. And triggers a wildfire and burns up all the vegetation that wasn't burnt up in prescribed burns. And the way that these two different methods of management tend to get perceived is that prescribed burns, that is people burning on purpose, is a man-made source of pollution and that wildfires are just an accident that can happen.

And so historically, that view has been then embedded into the way that EPA has calculated particulate matter levels in the states for purposes of figuring out whether or not states are in attainment with the requirements of the Clean Air Act or not. And historically, they have-- EPA has actually basically preferenced allowing wildfires, which create much larger quantities of particulate matter released during the period of the fire and which, of course, as we've seen sadly, tragically, it recently also come with a series of other risks.

Has preferenced those by basically accepting wildfires from the calculation of whether or not a state is in compliance or not. And so that's a potential problem and it's one that might be at least partially informed by the way that these different things are being perceived as man-made or not man-made and the psychological impacts that come with that. Is that the part you were meaning--

MIKE LIVERMORE: Yeah. That's right. [INAUDIBLE] and it's super and really impactful, right, because it creates this situation where basically you're penalized under the air quality standards for engaging in controlled burns and you get-- and there's-- and you're not penalized or it's just treated as outside of your control when you have a wildfire that releases the same pollutants, except all at once, which likely makes the situation worse from a public health perspective.

ARDEN ROWELL: Yeah, exactly. And to be clear, it's the same vegetation in some sense that burns, whether it's a prescribed burn or whether a lightning starts the burn. But because wildfires tend to be triggered less frequently, you tend to have more bracken and brush and small trees, et cetera that burn.

And so yes, if anything, because particulate matter seems to be a non-linear-- have a nonlinear dose response function, very high concentrations of it seem to be more dangerous. And so if anything, you may be even creating additional risk with these very high levels of release in a wildfire.

MIKE LIVERMORE: Right, exactly. Yeah. While we're on the wildfires, I wonder what your thoughts are on-- this [INAUDIBLE] a little bit to this perception of natural versus non-natural if-- now that we know about climate change and the Anthropocene more generally, especially in a place like California where folks are quite conscious of the reality of climate change and they know that wildfire risks are part of the package.

It just is a bit of speculation. You think that as people start to attribute wildfires to human activity, i.e. climate change, that will lead them to perceive them as worse and more dangerous than they would otherwise.

ARDEN ROWELL: Yeah. That's a great-- that's a great question, Mike. Yeah, I do. And same thing with other climate-mediated events like hurricanes. As people start to perceive those as anthropogenic, then they are likely to also increasingly perceive them as riskier.

MIKE LIVERMORE: This is a little bit off of the environmental topic, but I was interacting with someone recently who was basically-- didn't believe in the vaccination and was strongly opposed to any mandate on vaccination. And my instinct or what came out of that conversation was, this person just believed in what they would call natural medicine. They didn't like the idea of putting artificial things in their body. So is this the same underlying mechanism at play in a slightly different context?

ARDEN ROWELL: Yes. I really think that it is. And again, it's socially constructed how we-- whether we decided whether people ended up believing that man-made items are more safe or that natural, so to speak, natural, that is non-human, products and processes, et cetera are more safe. And even in the United States, it hasn't always been the case that we've had this preference or that people have exhibited this preference for the natural.

At the beginning of the Industrial Revolution, artificial products were seen as higher quality as if they were sanitary. And so it's a modern phenomenon that we're seeing this shift towards a preference for what's perceived as natural. And I mean, I'm not in the business of saying a natural isn't better than man-made. I just don't think that the distinction makes sense in all circumstances.

And to me, the source of the effect is not what for policy purposes we should really care about most of the time, except that we need to note that the individuals may care about it. Individuals, it may very much matter whether or not the source of a pollutant is what they perceive to be natural or what they perceive to be man-made.

And I may see this-- what's called a source effect in other circumstances too and in ways that can really matter to policy. So a source effect is just the idea that the source of a pollutant or the source of a risk is a determinant of how risky or dangerous it is.

So another source effect that comes up frequently now, not just in environmental contexts but also in regards to the pandemic, is that people tend to believe, to see, to perceive themselves and people that are close to them as not being as risky, as not presenting as many risks, as not being as disgusting, as not being as polluting as strangers and people that they don't know.

And so there's a couple of pretty funny studies on this actually where they, for example, will spray people with a stinky spray and then ask them how smelly their friend is versus some stranger. And they'll say that their friend isn't as smelly. They think they themselves are not as smelly either.

So anyway, so source effects like this mean that people tend to just not recognize risks, for example, of communicable disease as easily when they're emanating from someone that's close to them as when they're coming from a stranger or someone that's unknown to them. And this tolerance of familiar sources of risk, familiar sources of pollution it's potentially dangerous.

In the environmental context, the book suggests that it may contribute to what we call a hometown pollution effect where people may-- people in general don't want to live and work and raise their families in places they think of as polluted. But they may really not think about the familiar Frito-Lay factory that's always been in their town and that Uncle Stu works at as a source of pollution.

The fact that it's so familiar, that they had these connections to it, personal, emotional connections to it may end up having a source effect where the actual factory itself seems unthreatening and thus the pollution seems-- it seems either tolerable or if it must not be that damaging. And so this is-- source effects can be dangerous when they lead people to struggle to perceive what can be very real risks.

MIKE LIVERMORE: So with this insight in hand, let's say, this-- I think it's an interesting example that there is this source effect or that there's a potential for these source effects. What do we do from a policy perspective with that information? Do we-- I mean, we could-- one possibility would be to say, well, we're going to ignore people's views on the dangers of local threats because they're going to just-- they're going to misperceive what's going on there.

We could try to talk to them. As you noted, people's views on such matters are often pretty stable and difficult to change just through chatting. So what do we do with this information now that we have it in hand?

ARDEN ROWELL: Yeah. So I think, first, we can do a better job of predicting how it is that any policy instrument that we choose to exercise might actually work. And especially if we've created a policy instrument that allows individuals to select when and how it operates, as we talked about earlier with the Endangered Species Act, then we want to be really, really sensitive to these kinds of-- you could call them distortions or impacts or phenomena, et cetera.

Because we're basically making the function of our environmental law and policies a contingent on shaped by people's psychological perceptions of their environment and environmental risk. And so that's not something that a policymaker is happy with. If they don't want people to be living in more polluted places happily, then you're going to need to come up with policy instruments that control the pollution without requiring individuals to calibrate their level of exposure or to calibrate their level of tolerance. And so that can be tricky.

And I can see a world where-- and this goes to democratic theories that you referenced earlier in our conversation, Mike. I can see a world where if you want to take one form of a democratic approach to this, you would just be stuck. You'd have to say, look, people don't care about local polluters, hometown polluters. And so why do we need to do anything about hometown polluters? People are fine with them. Implement their preferences as is.

But you could also have a different or maybe even just a more nuanced democratic theory that would say, well, the reason they don't care is because of these kinds of psychological challenges that are leading them to basically misperceive or underperceive the risks that they and their family are being exposed to. Let's not force them into that situation. Let's set up policy that's optimal or preferable based on whatever mechanism you prefer and just don't leave it to individuals to make these sorts of-- make these sorts of trade-offs.

MIKE LIVERMORE: Yeah, it's tough. It's a tough question, I think. One that we face a lot in many different contexts actually, in my view.

So another phenomena that you describe in the environmental psychological phenomena that has consequences for environmental law that struck me as really interesting is the in-group out-group phenomena that people tend to understand themselves via group membership, they express very different attitudes towards people who they perceive as outside their group and people who they perceive inside their group. So what are some ways that that psychological phenomenon affects environmental law or policy or its implementation?

ARDEN ROWELL: Yeah. So this can affect environmental law and policy, and particularly of course, environmental politics as well. But basically, what it boils down to is that so long-- actually, I'll back up a little bit here and say most people who are not sociopaths-- most people are not sociopaths. And those people who are not sociopaths don't want to hurt other people and they don't want other people to be hurt. And they actually experience the thought of harming others as painful or as upsetting.

And so this has a number of impacts on its own. The book talks about this phenomenon, which psychologists have called moral disengagement that flows from this, where it can be very difficult to convince people that they have done something that hurts other people because it is so harmful to them to imagine that that's the case. And so that creates a number of challenges when you're thinking about, for example, communicating with people about climate change impacts and their role in it, or even potentially communicating with people about their role in pollution, et cetera. So--

MIKE LIVERMORE: Just to pause for a second there. I mean, one of the things I think is interesting here is that I think provides some really nice insight into why so much of the conversation about climate change has been about climate science, which I think is a very-- an outside observer or an alien from another planet might find that to be very peculiar. Why are you fighting about climate science? Like the science has been settled for a very long time.

That really doesn't seem to be what's-- obviously people's views about the science map onto these other features like their political leanings, their geography, what they do for a living. So why is it that we keep talking about climate science rather than about climate policy? What is the economically best thing to do? What obligations do we have to future generations or to people in other countries, et cetera, et cetera, talking about the underlying values. Instead, we keep sticking with talking about whether climate change is happening or not. And it seems like it might be related very closely to this issue of moral disengagement that you're describing.

ARDEN ROWELL: Yeah. I really think that's-- I think that's right, Mike. And I think-- so psychologists have chronicled basically a bunch of cognitive, we could say, strategies. Although, many of them are unconscious cognitive paths that people use to disengage from the recognizing the possibility that they are causing harm. And they are paths or strategies that we see so often in the climate realm.

So minimizing the harm, diffusing responsibility, shifting of blame, displacement, euphemistic labeling. All of these are basically mechanisms for people who are trying to avoid feeling bad at the thought of having done something that hurt others.

And I think, to me, one thing that's important about seeing this connection to moral disengagement and the psychology of moral disengagement in the climate realm is to recognize that the reason that people may do these things is actually because they aren't sociopaths. They don't want to cause harm. And to some extent, the more upsetting that people find the thought of causing harm, the less they want to believe that in fact they have done something hurtful.

And so, to me, this helps in illuminating the humanity even if people who are, for example, intransigent climate deniers. There's a tragedy there and also perhaps a sense of like, people can have a very good heart and still be engaging in these basically distortions, contortions to avoid seeing something that's terrible.

MIKE LIVERMORE: Yeah. I mean, what I've-- the way I think of this it's almost as though the fact that we're still talking about the science just means that, as a society, we've conceded that if climate change is real, we really need to be doing something about it. Because otherwise, we would have just accepted the reality of climate change and moved on to questions about what we should do about it.

ARDEN ROWELL: Yeah. Yeah. And I think it also-- that's a great point, Mike. And I guess what I would just add is that the trick there is that as we do specify more and more of the awfulness that comes with most climate scenarios, we're, in a sense, entrenching some people more and more because we're making it worse and worse for them to recognize the causal mechanisms. So yeah.

MIKE LIVERMORE: Yeah, it's not great. Sorry, I interrupted. We were moving in the direction of the in-group out-group issue, I think.

ARDEN ROWELL: Yes. So basically, people tend to internalize the harms to their in-group, people they see as part of their community or relevant to them, and they tend to really not want to hurt those people. And at the same time, as social scientists have found that people tend to be much more tolerant of harms to out-group members. And in some cases, some upsetting cases, they may even seek to harm people who are-- they perceive as outside of their community.

And so one application that I find interesting for this research is in thinking about whether or not environmental laws and policies should extend beyond the borders of the United States, and how much we need to be thinking about foreign people, ecosystems, et cetera in setting domestic policies.

And this is a very tricky question already with a whole bunch of different fascinating, but hard interactive factors to decide things like when we're calculating the social cost of carbon, should we be using a global or a domestic number? But at least one way of thinking about how individuals see that question is to recognize that to the extent that people see fellow Americans in the US as in-group, that's going to trigger a whole set of basically forms of internalization and caring, and they won't necessarily get triggered when they're thinking about foreign persons or people outside of that group.

MIKE LIVERMORE: Yeah. So I think that this is part of the diffusion side of environmental law, but it's certainly the case in climate change that the reality is that greenhouse gases are a global pollutant. And so a ton of greenhouse gases emitted in California will have as much effect in California as a ton of greenhouse gases emitted in Germany will have in California. And so we're stuck in this together, but there is this element of our psychology that seems to be very oriented towards our own groups and less oriented towards worrying about other groups.

And climate change, one of the-- I'd be curious if you have any thoughts on this, is I think one of the tricky things politically about climate change is that it encourages people to take a global mindset, a more-- people in their literature refer to as a more cosmopolitan worldview to think about international institutions, to think about the global environment, a global public good, what our responsibilities are to people around the world.

And that seems-- that mindset is very much anathema to a nationalistic let's focus on our group and not worry about the other groups orientation. And we've seen a growth in nationalism in the last, however many years, that strikes me as very difficult to deal with climate change if we're moving in a more nationalistic direction.

ARDEN ROWELL: Yeah. I mean, yes. It's definitely-- I mean, first, if we are indeed moving in a more nationalistic direction, which, as you point out, there's indicators of, it does create real challenges to-- further challenges to dealing with climate change.

And I guess the only thing I would add there is to say from a technical perspective, where the rubber meets the road on this in current climate policy is in the calculation of the social cost of carbon, which is-- and other greenhouse gases, which is the way that federal agencies account for the likely harms that are caused by each unit of greenhouse gas emissions.

And basically, agencies have to figure out whether or not they're going to calculate that based on how much harm there is to the entire world or maybe just the US or maybe something in the middle. And there's been a flip flopping of executive policy on this in recent years. Under Obama, agencies used global estimates. Under Trump, they were encouraged to use a domestic estimate. And now under Biden, they're back to a global estimate.

I think that, what should they be using, is a very difficult question. I think that my very strong preference that they use a global estimate. Although, I think that, in some cases, that creates some legal challenges with statutes that were drafted to address national interests.

But what I guess I could add on the psychological side, on the in-group out-group side of things, is to say except in unusual circumstances, people tend to attach some value to reducing harm to folks in out-groups, even if they don't attach as much value as they do to protecting people that they think of as inside of their group. And so this matches up to what research has been done on whether Americans care about the rest of the world existing or value anything about the rest of the world outside of US borders.

And it's pretty clear that even if you take a very nationalistic approach to valuing something like climate change impacts, it's not going to make sense to only come up with a valuation estimate that looks at only things that fall within the political borders of the United States. Even a very nationalistic approach is going to have to take a broader estimate than that. And there would be further support for that when we look to these in-group out-group studies.

MIKE LIVERMORE: So even the most in-group people care at least a little bit about folks in the out-group.

ARDEN ROWELL: Except in unusual circumstances. And so I guess the best counterargument would be that there are some studies that find that when you have groups that are in direct competition, that people actually prefer to harm out-groups. When you think about the interconnectedness of the environments and ecosystems and economies, et cetera, the plausibility of that in the climate change context seems really remote to me. But I guess--

MIKE LIVERMORE: Yeah. I don't know. I mean, I like to think-- well, let's just say I certainly like to believe that that's true. Who knows? There may be folks out there that are more than happy to see others harmed by climate change if it helps their relative status. I don't think that's the thing we should be basing public policy on, but it may be some people's sentiment.

Well, thanks so much for this really wonderful and insightful book. It's really broadened my way of thinking about environmental law. And I hope it was-- I suspect it was fun to write. And it was a fun conversation today, so thanks for joining me.

ARDEN ROWELL: Thanks so much, Mike. It was great, fun to write and even more fun to chat with you.

[MUSIC PLAYING]