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MIKE LIVERMORE: Welcome to the *Free Range Podcast.* I'm your host Mike Livermore. Today's episode is sponsored by the Program on Law, Communities, and the Environment at the University of Virginia, School of Law. With me today is Lee Fennell, a law professor at the University of Chicago and the author of the book *Slices and Lumps, Division and Aggregation in Law And Life,* among many other works. Hi, Lee. Thanks for joining me today.

LEE FENNELL: Well, thanks for having me.

MIKE LIVERMORE: So you have brought interests in several areas of law, but one focus of yours in recent years has been on questions related to kind of broadly how the law puts things together and pulls them aparts-- pulls them apart in various ways. You have a recent book on the topic, *Slices and Lumps.* You have a current paper that we'll spend some time talking about today. But just kind of as background, what got you interested in this question of aggregation, how the law aggregates or not the stuff in the world?

LEE FENNELL: Yeah. So I came to this from property law and especially from thinking about problems of land assembly that are sometimes resolved through eminent domain, sometimes in other ways, where it really becomes important to have a particular configuration or a particular amount or a particular chunk of something, of land often, in order to be able to do some particular thing with it.

And so I sort of started from that point and began thinking about how many things like that exist in all kinds of domains and how often it is that we are only able to get value out of resources or we're only able to get value out of some kind of conditions or events or actions if we put enough together in usable chunks.

So there's a couple of different ways that this ends up being important. One is just that we often need to aggregate things to have something of value. And a simple example I often use for this-- it's not unique to me. Everyone uses this example, but is the example of a bridge that is not really a bridge. It doesn't really work as a bridge unless you have the entire bridge to get across some chasm that you're trying to cross.

Otherwise, it's just kind of a useless bit of urban art or something if there's no way to actually get all the way across. And you also don't get anything extra from the bridge after you get across if you just kind of keep on adding more bridge segments across dry land. So kind of thinking about what you need and how important it is to get exactly that amount is aspect.

And sometimes, though, we have a little bit of the opposite problem, where we end up getting something in a chunk that's bigger than we want and we have to figure out how to divide it up. And so we're seeing some technologies for doing that. Some of them are in the sharing economy, some in other domains, but perhaps you don't need an entire car. You would like to have part of a car to use in order to get kind of a subset of the transportation services that it can provide. And so finding ways to divide up resources also becomes really important to getting the most out of them.

MIKE LIVERMORE: Yeah. It's really interesting. And so do you-- in terms of-- once you start to think this way, it's all over the place. And one kind of question is just, how do we get the aggregation rules or the rules that affect aggregation or the aggregation practices or norms that we have in society? I mean, our judges, our legislators actually, do you think, thinking of the problem this way, or private parties for that matter, or is it-- do we just kind of end up with a set of practices or rules around aggregation by happenstance basically as legislators, judges, and private individuals are kind of going about their affairs without this in mind?

LEE FENNELL: Right. So my own view on this is that we need to have a much bigger emphasis on the problem of configuration generally and that we need to have large investments by government and policy makers and academics and private entities as well in configuration entrepreneurship, finding ways to make configuration work better. So I don't by any means think that the way we have things currently optimizes along this dimension at all.

And I think there's lots of missed opportunities, lots of places where failing to attend to configuration has left us in some kind of a suboptimal state. So my basic thought is that we need to do a lot more to get the most out of resources by recognizing how often things are lumpy, how often things may be come in lumps that are not useful.

Now that said, I do think there's places in the law where we do see sensitivity to this issue and recognition of it in various ways. And so one of those, of course, is in what brought me into this, is in the context of property and eminent domain. And in some of the case law surrounding that, you'll see the Supreme Court, for example, kind of recognizing that there may be some kind of all or nothing aspect to things or that it may be the kind of thing where it requires doing something on a broad basis and not kind of parcel by parcel.

And sometimes those kinds of rationales and getting kind of leveraged in ways that aren't actually socially valuable because it means sort of too much deference to the planning process or something like that, but there is something in that idea that we can sometimes see coming through in judicial opinions where there's recognition that we need a certain amount of something in order to be able to carry out some-- reach some social goal.

MIKE LIVERMORE: And so just to kind of maybe play out an example in the environmental context or some of the ways that this applies in the environmental context, so some environmental problems are clearly about aggregation or lumpiness, like classic environmental problems. So maybe an example would be like a common pool resource, like a forest that everybody has access to or a fishery or something like that.

So that's an aggregation. And it leads to some well-known sustainability problems. People are going to over exploit the resource basically. Now we could divide the resource up in various ways, say, the forest we could divide it and parcel it out into private property, but that can leave us with other problems. We can have a bunch of individual landowners and maybe the uphill landowner, like logs first in a way that leads to erosion, which is harmful for the downhill landowner or kind of whatever. There's what we would call externalities between the properties.

And so I guess I'm curious just as someone who thinks a lot about this, do you think in any given context that there actually is a kind of ideal way to aggregate or split up the resource or the rights that people have so that people's we kind of get an idealized version of everybody's behavior and everyone's incentives are kind of lined up with social welfare, or do you think that really that's not realistic and it's a matter of balancing trade-offs of different kinds as we divide up and aggregate things up?

LEE FENNELL: Yeah. So it's a big question and an important one. And I think that one thing I've tried to do in my work is look at some of the dimensions of problems that maybe call for different kinds of aggregation solutions. So one type of aggregation issue that comes up a lot in environmental contexts might be something like we need some kind of minimum scale of habitat in order to be able to have something that's sustainable or we need some kind of, as you were suggesting, some kind of minimum population density of a particular species or something in order for it to be viable.

Also, we might have something like a migratory pathway, where we need to put together all the pieces of some kind of migration corridor. One of the examples I use is the path of the pronghorn that goes through part of Wyoming to let these little antelope-like creatures called pronghorns be able to get from one place to another, notwithstanding their sensitivity about not liking to jump over fences.

So if we need something that's linear, we really need to have all the pieces of it. There might be more than one viable path for some things like highways that are human-created. But if we have some kind of a traditional migratory pathway, it may not be really possible to shift that or it may be very difficult to change from what has been kind of the traditional pathway. So I think problems are different if we have a set of elements that we absolutely have to put together every one of those pieces in order to have something that's going to be valuable. That presents a different sort of problem than one in which we simply need enough of something but it can be configured in a variety of different ways.

So if we need a big enough parcel of land or a big enough habitat patch but there's a few different ways so that we don't have a set where we absolutely have to have every piece, it presents a different set of problems. The holdout kind of problem if we have people who are separately controlling segments and we need, absolutely need all those segments can be very difficult. If we have multiple sets that we can put together, then that loosens up a bit.

It sometimes can create other kinds of problems like free rider problems because now not everyone is essential to making something valuable happen. So I think kind of thinking about the kind of problem that it is is useful. And the thing that I've tried to shift to in my thinking around environmental problems and other kinds of problems is instead of thinking about it in terms of aggregating the resources themselves or the raw materials, even though that may be really important, is kind of thinking about aggregating the cooperation of the people who control those resources.

And sometimes that's a slightly different matter because people may have legal rights over them or they may have de facto rights over them, a practical ability to impact the resource. In some of the contexts, like the question of maybe overfishing or overdrawing from a common pool resource, it might be that the commoners, they don't have any individual property rights in the resource but they have the practical ability to overdraw it. And what we're trying to kind of assemble together is their forbearance of getting them to all cooperate on a plan of not pushing us over a cliff of some kind.

So I think that one thing I've tried to do more and more is think about how there are different sorts of subsets of these aggregation and division problems and trying to see what kinds of collective action problems they present for us. Some of the collective action problems are harder to solve than others and some of them just simply have different dimensions than others in terms of, is this something that's modeled more like a prisoner's dilemma kind of a tragedy of the common scenario or is it something else where we might have different prospects for being able to solve it?

MIKE LIVERMORE: Yeah. It's really interesting. And this is a very interesting move because it takes property law, some of the ideas around property law at least and it really, really, really expands them out to be about, as you note, collective action or coordination problems generally, which is kind of like everything in some sense we can think of this way. And so one of the ways that I personally kind of separate out property law or property ideas from other domains because, like we could say, a legislature broadly is a way of addressing collective action problems.

Now that's interesting, and maybe that's a good way of a good way of thinking about it, is as aggregation, as aggregating preferences or aggregating information or aggregating political power in some way. So that is quite an interesting thing. But one of the ways that I also think that's related to property is kind of ownership. Property is a lot about ownership, who owns what and what does that mean to own things and so on.

And so I wonder if you think that's still a useful concept to be thinking about in this context. and maybe we just own more stuff. Like there's land, pretty traditional. Labor, pretty traditional. If you have a license, maybe we should think of that as owning in a way, leases, you have your bank account.

Does it have to do with exclusive use, alienability, the right to sell or trade? Is it power more broadly? You talked about the practical ability to affect the resource. Do we own our votes? Does a politician own a political office or administrative official? Or do we just do away with this notion of ownership? And it's really just about thinking about what people can and can't do in some sense and then coordinating them in various ways.

LEE FENNELL: Yeah. I think that we still can use the idea of ownership. I think it's still an important concept when we're trying to think about aggregation problems. So I don't think that we can discard it altogether or say that everything is just kind of undifferentiated entitlements or something like that. But I do think that the idea of ownership should become more flexible and we should change how we think about property and what the concept of property is meant to encompass so that it's not just about some form of absolute ownership or some kind of perpetual ownership, that it encompasses lots of other different kinds of arrangements.

There's lots of settings in which having something like a fee simple over land is both not enough and too much at the same time in many kinds of settings. So a lot of times, it's sort of more than someone might need for what they're trying to get out of the resource. And one thing I've been doing recently is thinking more about how we can frame resources in terms of the services that they provide to us. And this is an idea that is very big, of course, in the environmental context with ecosystem services, but it's more broadly true that we value resources because of what they can do for us.

So if we think about what services somebody is trying to get from a particular resource, they may not need to have kind of rights that are anchored to a particular place on the Earth and that are perpetual. They might need something else. But at the same time, kind of having that full control might not secure to them everything that they need if they don't also control some of the other surrounding conditions that determine whether they're able to use the resource in the way that they want.

I was just at a conference recently that had all kinds of really interesting research. I'm always trying to look for kind of real world examples. And I'll probably get the details of this one wrong, but one of the presentations there involved a setting where-- I think it was sort of in an Arctic region where there had been a change in the way that what kinds of poisons were allowed for poisoning wolves and it ended up changing the viability of this grazing land for pastoral people there who were trying to graze reindeer, I think.

And it ended up that they then needed to move where they were grazing in order to avoid the wolves that now were not being controlled in this way that had now been banned. And they ended up actually, I think, seeking this area of land to graze on that was really on the property of some mining, that was some industry, where they were able to then kind of get de facto rights to be there.

And even though they had actual rights, like land rights, to the place that no longer was useful to them, this was like kind of a good example to me of what they had kind of land rights over no longer was useful for the purpose they needed it. What they then migrated to-- they didn't have any land rights over but they were able to use it in a way that was useful to them. So kind of an example where we think about property in a more fluid way and think about what it is that we actually need to own in order to get the services that we want, which is kind of a long winded way of getting at your question.

The other thing I'll say about-- because you mentioned legislatures-- is that I think in lots of contexts, we have kind of a second order aggregation problem that lies behind our ability to put together resources in a particular way. And so we might first have to put together enough science or enough knowledge, or enough votes, or enough whatever in order to be able to get to the place that we can both perceive what the problem is, see how to solve it, and have some mechanisms that would enable us to actually put together the resources themselves.

So I think that sometimes we have these nested problems. And if we think about the question of lumpiness or needing a certain amount of something-- like voting is obviously a setting that's like that where it's like getting almost enough votes is not going to do it.

MIKE LIVERMORE: Now it's really interesting. And in a way, it's almost like, well, wait a second. Now that we are thinking about it this way, does that actually make a whole heck of a lot of sense? Like there's no difference between-- well, let's say at least sometimes in legislatures, there's no difference between a nearly unanimous vote and whatever number gets you over the relevant threshold, 50% plus 1 or some supermajority threshold. And that's a little weird in a way because the nearly unanimous legislation has a lot more popular support than the one that is 50% plus 1. But that's just the way-- that's just the way it works, right?

LEE FENNELL: Yes, exactly.

MIKE LIVERMORE: So one of the-- yeah, so just returning to the stream of benefits idea, so you say in this paper that we're talking about this property laws thought about controlling access to things often but it's really about generating and delivering streams of benefits to people. So the grazing example is a really good one. Why do you care about having this particular piece of land? Because you want to graze with it. And if you can't graze on it, then it doesn't really have much value to you anymore.

So as I was thinking about that, really that's a very broad in the sense that a lot of law is about generating and delivering streams of benefits to people. So when the government offers public schools for kids, that generates a stream of benefits for people, or the military generates a stream of benefits in terms of protection or kind of whatever.

I'm just curious, in your mind, how do you separate out property law from all of the other things that we might do through law? Or regulation delivers a stream of benefits to people. Or do you think actually these boundaries are not really that useful to police and we should just be thinking much more across these different legal domains and we should just-- we should be using different tools or different kind of mental models rather than the traditional legal categories?

LEE FENNELL: Yeah. So I think that the reason I'm especially interested in property as kind of a separate domain here is that we have this concept of ownership and we have this particular way that the law uses property and property ideas to try to get services from certain kinds of resources. So in other contexts, we're already kind of aware that that's what we're up to.

In property, I think it's maybe a little bit less accepted because one of the sort of traditional ways that property arranges the world is that by granting some owner, naming someone as owner and granting them some kind of dominion over a resource, the idea is that they're kind of in charge of that service provision of that resource and that it's up to them to kind of go out into the marketplace and get whatever inputs they need to get it to yield services for them, and that they then get those services that they then are in charge of those.

And the law in that context has a very specific set of jobs to do. It's solving particular kinds of collective action problems to make that model work. And the jobs that the law does traditionally involve things like keeping other people out of the domain so that there can be the ability to get services in this way.

And so my feeling is that the law is now needing to solve lots of additional kinds of collective action problems in order to enable resources to stream benefits to people. And so the traditional model, I think, no longer captures what law's job should be in this context, but it's of interest to me because that's our starting point. And thinking about the way that the model has traditionally worked and where it falls short, I think really ends up being important in thinking about what does the frontier look like in terms of changing our understanding of ownership?

And because we already have a model of ownership that's pretty rigid and kind of anachronistic, in my view, we think about what are kind of the ways that we can move from that into something that is more focused on configuration, more focused on service provision? The kinds of moves that are available to us, I think, are partly defined by the way in which these kinds of rights and interests are currently framed.

So I'm in favor of shifting the way that we think about it, but I think that we are moving from a baseline that's very different when we're thinking about property rights than if we were in some other domain where we were talking about some other kind of policy decision that's understood to be the domain of a collective body.

MIKE LIVERMORE: Yeah. One of the arresting images that I got out of the book, it's kind of relevant to this, is on the one hand, you talk about the kind of traditional the farmer on the farm and going to market and picking up fertilizer or buying labor, where we interact in these very typically stereotyped ways and the effects on each other are fairly limited. And there's really good reasons to reject that.

And this image that I kind of was stuck in my mind as I was reading is that there's really what's going on is there's a vast and complex machine with many interrelated dependencies and it's kind of whirling away. And I, quote unquote, "own" some small part of that machine, but the value of that ownership is completely dependent on what's going on in other parts of the machine.

And just to make that concrete, I live in the town of Charlottesville. My house, its value is entirely dependent on the roads and bridges that lead here, on the electricity system operating, on sewers that are functioning, on what other local economic actors are doing. If the University of Virginia picked up and left that would have a huge consequence for the value of what I own.

So I guess-- so then the question is-- so that's a very arresting image. And then what does this mean for how we think specifically about property? What is it about this shift from the farmer and the handful of stereotyped relationships to owning a little component of a vast and complex machine that requires this major shift in how we think about property law?

LEE FENNELL: Yeah. So I think-- absolutely like the way that you described the way the value of your property is dependent on so much that surrounds it. And this is something that I've really thought a lot about and focused on a lot in my writing, is the fact that so much of what you-- sort of your investment or what you have with your property is just a function of other people's decisions. So I think recognizing that fact ends up being really important.

And it's not as if it's gone kind of unrecognized. We know that in the home ownership context that we have very, very alert homeowners politically in terms of wanting to control what happens around them. And this is sort of Bill Fischel's home voter hypothesis that homeowners end up taking political action in ways that are designed to reflect the fact that they have a large kind of undiversified investment in their property that does not lie under their control, under their individual control anyway, and that they then have this desire to kind of impact what's happening around the property in all kinds of ways.

And some of these impulses are maybe kind of functional and good because it makes them good citizens and care about what's going on but some of the other aspects of it are really negative and problematic because it may lead to kind of risk-averse behavior that is very exclusionary and so on.

So when we think about how can property thread the needle of giving people some kind of resource that they have some special relationship with while recognizing that they're part of this larger value production machine, that is, I think, the challenge. And to be able to do it, I think it requires altering what we understand to be the default ownership packages that people have and the way in which they are-- the way in which they understand their relationship with all of the other pieces of the sort of matrix that they are a part of.

So there's no longer this model, like as you're saying, sort of stereotypical model of the farmer kind of owning a standalone value production factory that's confined largely to the parcel where we just kind of worry about keeping people out and kind of maybe managing spillovers around the edges. Instead, it's kind of a question of how do we approach the problem of managing resources when we have people's ownership stakes that are kind of at a much smaller scale than where all the action is really happening.

And this is true for both environmental issues and also for just sort of urban landscapes where everybody's piece of a particular metropolitan area, for example, is going to be very impacted by what else happens around it. So I guess just to think about how traditional ownership fits in here, it has the potential to block the ability for there to be sort of positive returns generated from the ability to kind of aggregate together resources in different ways and to get different services from them.

If every owner kind of has a veto over their own little piece of the urban landscape or their own little bit of nature, then it can provide an impediment to being able to put things together in various ways. And so kind of thinking about how to alter our understanding of ownership so that when people are becoming owners, we sort of fit what their ownership means to the problems that are the most important ones that we face today, which have to do with configuration and the ability to make things reconfigurable.

So the challenge is, how can we make a form of property that gets some of the good stuff that we like from ownership, like giving people incentives to invest and those kinds of things, while at the same time having it follow a more flexible model or a model that is more reconfigurable at its core?

And so some of the ways to try to think about doing that may be alter what we understand people to own, whether we understand them to own something in perpetuity, whether we understand them to own something that is just sort of very firmly tethered to a particular geospatial location, or whether we understand them to instead own some kind of a claim on a stream of benefits and we think about how that claim might cash out in ways that would be consistent with letting the configurations evolve in ways that would provide more value.

MIKE LIVERMORE: Yeah, this is really super interesting because one of the things that-- the terms that you're using there is change how people understand these things. So property is a legal phenomenon, of course, but it is really also a cultural phenomenon as well. And so in a way, that's a really interesting thing to think about the interaction of law and culture to generate outcomes. And of course, culture is going to affect law, and law is going to affect culture around these things.

I mean, eminent domain being a great example. Like the law can change or can become clearer or less clear. And then there can be a cultural shift. Part of the limit on eminent domain isn't legal. It's cultural. It's political, what can a municipality or any relevant entity kind of get away with.

So just in thinking about that kind of property as a, at least partially cultural phenomenon, you talk about so if we live in this dynamic world, there's high levels of independence and things are always changing. It's good to be able to change things up in terms of how we configure our properties, say, we need to have mechanisms for ongoing orchestration and adaptive reconfiguration.

And that sounds very sensible. There's a big premium on being adaptable in a dynamic environment, but there is a component of property-- and you've thought a lot about this. I'm just curious what your thoughts are-- both as a legal phenomenon but certainly as a cultural phenomenon where there's a very big premium on stability and continuity and reliance interests and the like.

The theory is I invest in my house because I know what it means to own my house. I can have-- I believe that it will-- that that understanding will be stable over time and it's not going to change. And so therefore, I kind of make long-term decisions. I can plant the tree that will bear the fruit in 30 years because I know that the relationship that I have or whoever the property owner has to that tree will be kind of the same and will be stable over time. So yeah, so how do you think about in the environment that we have now, which is very dynamic and very interrelated, this balance between the kind of opposing values of stability and adaptation?

LEE FENNELL: Yeah, it's a great question. I think that when we think about property culturally, there is this kind of fundamental contradiction that is continually playing out. And it's that, on the one hand, people have this sense that what they own is somehow theirs in some kind of absolute way. They have a lot of dominion over the thing that they own. And at the same time, that's not really a realistic way for people to hold property. And that is also recognized in the way that property cashes out in our everyday lives.

So people in order to get those kind of stability benefits that you're discussing are, of course, doing things like resorting to either covenants or zoning or some kind of land use controls to try to stabilize what happens around them, recognizing that their own dominion over their parcel is not really enough to deliver those kinds of benefits.

Once we start to have that be part of the model of ownership, then, of course, it becomes impossible to also have that complete dominion over your individual parcel while at the same time you're trying to control everything that happens around outside of your parcel and your neighbors are kind of trying to do that same thing.

So we have a model of property that is kind of this home is your castle and absolute dominion and all this kind of rhetoric that we hear. But at the same time, the reality is that people are very constrained in what they can do on their own property currently. It's not as if like it's completely open-ended and you can just do whatever you want. Most places are going to have zoning regulations. Many people live in private communities that have even stricter kinds of controls on what they can do with their property and they're constrained to using their property in very, very defined ways.

At the same time, there's this idea, yes, it's your property. You can own it forever. Your family can be on the land forever, but then we, of course, have eminent domain that comes in and is like this brute force solution to the fact that allowing people to have a veto over their piece of the world forever is not always going to be a feasible alternative. And so again, we have this kind of contradiction that there's this understanding that the property is absolute, that it's always yours. You can always say no, that you don't have to sell it. But then there is this kind of response of eminent domain that can come in and take it away altogether.

So we're kind of toggling between these different visions of property and what it means and there's this kind of fissure between the kind of absolute understanding of ownership that's part of our culture and then the reality of how property is. It's also part of the way the world is and a familiar part of the world. And so what I think would be the right direction forward is to kind of try to close that gap between expectation and reality or between the different impulses between absolute control over what you own and the desire to control what other people own.

So I think what's needed is a way of changing the understanding of property so that when people go into ownership, they're opting into something, or at least they have the alternative of opting into something that is not as absolute and that is understood at the outset to be opting into something that is more reconfigurable or where there can be changes and that their ownership bundle is simply adapted to be something that's a more realistic form.

And then it could potentially, I think, actually end up being more stable in some ways because it would be in line with what the initial expectations are. And if we think about stability not in terms of standing on the same exact footprint of land forever but in terms of stability in the services that you're trying to get from the property, then I think there's room to set up institutions that can deliver that very stably.

So one example I talk about often is in many, many countries, there is an alternative approach to eminent domain land redevelopment sort of alternatives where there would be the ability to basically allow everyone in a particular area that's being developed-- and this is usually under the name of like land readjustment-- that you would allow everybody who's in a particular area to remain in that area.

But perhaps if people are currently, let's say, in single family residences in an area where it's experiencing growth and it makes sense for there to be higher density, that they wouldn't have a veto claim over their particular parcel, their particular footprint or lot, they would have a claim to continue residing in that area and occupying land that is at least as valuable as the land they currently have or occupying a property unit that's at least as valuable as what they currently have that would leave room for changing around exactly how that area is configured, putting in some mixed use and some park land and some higher density, and then having there be an option to return. And so you still have the capacity to have the continuity of that area that people might be seeking but not necessarily on the exact same physical footprint.

I think there's a lot of heterogeneity, I will say, in what people are seeking from land, so I'm not suggesting that there aren't people out there who do seek the service of having access to the exact same physical land, but I think a lot of times what people are wanting, the kinds of stability they're wanting have to do with their position spatially relative to everything else that's important to them around them and that maybe it's less about the exact metes and bounds of their particular lot.

MIKE LIVERMORE: Yes, it's really interesting and it puts me in mind of the idea that there are lots of different cultures of property. So as you mentioned, that's the arrangement that you were describing exists in other parts of the world. And even within the US, people have different views of what property means and what it should mean and so on. And I'm just wondering, is kind of just occurring to me and I'd be curious what your thoughts are, if-- so we have a big urban rural political divide in the country, obviously.

And there's lots of different dimensions to that and folks talk about it in different ways, religiosity and race and many, many things get mapped onto this particular divide. But one that really strikes me as almost like fundamental in the description of the divide is ideas about property, that in an urban environment a lot of people are not land owners, a lot of people are renters, so they are exactly signing up for a stream of benefits.

Landowners are in-- they're in condos. They're in other co-ops. They're in different kinds of ownership arrangements. Even like your car, you might be more inclined to rent a car than to own a car and you have a parking space but just have a parking space somewhere. You don't own the underlying land. Whereas out in a rural environment, you're much more likely to have the good old-fashioned property. Like you own your chunk of land. There's inputs. There's outputs. You interact with your neighbors in some pretty stereotyped ways.

And then at the suburban interface is just kind of a spectrum that runs from the city to the rural environment depending on the exact configuration. So yeah, so I'm just curious what you think about that, how the environments that people grow up in might affect how they think about property. And then does that tell us anything about contemporary politics and anything that we could do to try to bridge some of these gaps?

LEE FENNELL: Yeah. I think you're quite right that there are differences rural, urban, different kinds of regional differences and so on that may affect what people are using their property for, how they're thinking about their property, and even what would be the right kind of solutions to think about. I do think there's a lot of interdependence that is out there even outside of urban areas when we start to think about some of the environmental examples as well.

So I think that the need for adaptability and sort of dynamic responses and flexibility is there in many different settings. But the form that would be most useful, I think, in moving from our current understanding of property to something that's more dynamic might vary depending on what kind of context we're in. So certainly, there can be more dynamic solutions in rural areas that account for things like migration and sort of coexistence of different species and those kinds of things that could be consistent with a continued ownership of the particular land parcel.

There's a lot of innovation or at least some innovation going on around these kinds of ideas. One of the examples that I've become interested in, other environmentalists as well are interested in, is this idea that the Nature Conservancy has been doing called bird returns that is a very short-term micro land leasing sort of idea whereby they use all these kinds of techniques of monitoring to try to figure out exactly where birds are going to be migrating in a given year or a given season.

And then they do some kind of a reverse auction to find out what farmers would be willing to flood their fields rather than, I guess, forgo growing crops for a period of time in order to flood their fields and have it be like a wetlands area that can be part of the migratory path for birds.

And sort of finding out where they can most affordably put in wetlands along the migratory path has been something that kind of brings this dynamism in an area where we might think about land ownership as still having very much this sense of owning the land and the land itself being very important. But at the same time, it's not inconsistent with having some kind of dynamic structure that's overlaid on that that would enable kind of a dynamic response to something like a species migration.

So that's an example where that's not a government policy. That's something that's a private kind of entrepreneurial effort. And so thinking-- one of the things I'm very interested in is to what extent can we do entrepreneurial efforts that just work with our existing understandings of property in some contexts and just add on to that different ways in which we are kind of lowering the transaction costs or finding a way to come up with different solutions.

I think that there are contexts where private solutions may work. There may also be areas where we can kind of give them an added boost by having the law involved, not necessarily in a coercive capacity, but in a capacity of being a focal point, in a capacity of setting standards, a capacity of creating clearinghouses for different kinds of interactions that would allow for there to be voluntary sort of transactions around making property operate more dynamically even when we're talking about areas that are outside of urban centers.

MIKE LIVERMORE: Yeah, there's an interesting relationship between coercion and voluntary transactions in the property context because in a sense, I think traditionally we would think that the goal of property law is to set things up to enable lots of different kinds of voluntary transactions that are mutually beneficial. But the structure of property itself is in a sense a coercive. It involves the coercive act of government like, again, traditionally trespass. Someone comes on your property, you call up the government. You can get them removed.

So that is interesting. And so in the example that you use in the wetlands, the government could act in the role of the Nature Conservancy there. It could come up with the funds, through the course of use of its power of taxation, of course. But it could come up with the funds in a way that's much more effective than the Nature Conservancy.

But then it would pay people for these services and maybe creating a market where people could bid in or whatever much more voluntary than, say, a regime that's been much in the news recently, which is our standard wetlands protection regime, which was recently the subject of a major Supreme Court decision, dialing it back substantially, which is very much a property law style thing in a way. It's very closely related to property where we're basically saying, there's a whole host of activities that you might want to engage in your property that would be harmful to wetlands that we're just going to say that you can't do. And you don't opt in, you don't opt out, you don't bid. There's none of that. There's not really compensation. It's just these are the rules.

So yeah, so I'm just curious, is that part of the attraction of property too as a solution or what you refer to in the paper as property moves, like creating focal points or creating a clearinghouse? These are property moves as opposed to what we might say regulatory moves of saying, this is what you can and can't do.

LEE FENNELL: Right. I for sure don't want to say that there aren't places where regulation and coercion are needed. I think there are. But I also think that there is often a lot of potential to do more with law than that and to do it in ways that would allow people to opt into things. And finding ways that we can do that non-coercively is going to be better politically, I think, for just thinking about it strategically, but it may also end up helping us get to a better place with how property operates generally.

So one of the challenges, I guess, when we think about property moves is what are our default property packages like, and are they set up in ways that make it even feasible to have these kinds of voluntary interactions? Is it going to be something that can actually work at scale and can deliver the kinds of benefits that we need? I think we don't fully the answer to that, but there is a lot of room for looking at what we might be able to-- what we might be able to achieve by having the government in a role of supporting entrepreneurship through a bunch of different kinds of initiatives that let that provide ways for people to put together their current holdings in different ways.

The more that we're able to do this and have a more fluid understanding of property, the easier I think it becomes to get to a place where maybe we start to change what the default property packages seem like, how they actually operate initially, or what people are buying when they buy a piece of property in the first place. So I guess I'm going to say that part of what we're facing currently is a transition problem in that we have expectations around property that are very old and they're like suited to different kinds of problems and we're trying to solve now.

So it's partly about how do we transition from that to something that's more flexible. And so I think that's an aspect of the problem. And then there's an aspect of the problem of like, what would be the right way for property work if we were able to kind of get to a place of starting anew? Like what would that be like?

And I'm a fan of property. I think that property rights continue to have an important role, but I think that what they would look like if we were developing a system from the ground up now under conditions where our biggest issues are urban issues and environmental issues that are so incredibly interdependent, that we would have a different understanding of what would be our baseline property rights. So I think there's partly an issue of how do we move from what we have to something different, and then what would be the sustainable model sort of going further out in the future of how we interact with resources generally?

MIKE LIVERMORE: Yeah. It used to be super-- very different from traditional legal scholarship. But if you could find a science fiction co-author and work with the science fiction co-author and offer you, what would a society that was built on fundamentally different notions of property and property rights but faced similar kinds of problems to the one that we face now, what would that look like? I mean, it would be-- I don't know where you would place it but it would be-- I think it would be a fascinating thing.

LEE FENNELL: Absolutely.

MIKE LIVERMORE: And what would be-- like say we were imagining from the ground up. What would that world look like? Or say you were a consultant on a new city that was going to be developed out in the middle of the ocean or something, what are the big changes that-- would we just do away with fee simple altogether? Would property look much more contractual? I mean, the thing about contracts that's different from property, of course, is property runs with something.

So like I can do a cool thing with property whereas I can have an easement and allow my neighbor to walk across my property. I could do that through a contractual arrangement as well where no property changes hands but then whatever, if my neighbor somehow that right turns out to be super valuable and then I impede them and I cause all kinds of loss, their right would go against me and I could be bankrupt or something like that, whereas it would run with the land if it was an easement, of course.

So that's cool. We probably wouldn't want to do away with that altogether. But what are the things that you would-- if we were developing from the ground up or if we imagined that this is a point that we'd like to get to, what are some of the big differences from the current structure that we have?

LEE FENNELL: Yeah. So I think the two big differences that I've thought about are sort of changing the perpetual nature of property ownership and changing its geographic fixity to particular points on Earth. Those are, I think, the two things that introduce a lot of rigidities into property and make it very hard to change things around. So I think those are what I would be looking at if we were developing a new system.

And I've written about this a little bit. I have this paper called *Fee Simple Obsolete* that kind of talks about those ideas a bit. And there, I am kind of thinking about like, what if we had maybe some kind of blank slate somewhere, we had like a place that people were opting into and acquiring property initially, what would they be acquiring? If we had something where people were opting in to some kind of shorter cycle before there could be some kind of readjustment move or something like that, that would be sort of one way of doing it.

We could also have things I think set up in a way that's very much based on using options. So we could have something where people's property rights are understood from the outset to be kind of callable in the way that a financial instrument would be callable if certain conditions hold. If there's certain kinds of population changes, if there's certain kinds of other triggering conditions that then call for there to be some kind of change in the way that the property is configured that there would then be some kind of strike price at which it could be reacquired from people.

And so kind of having that structure set up, I think, would be a very different way of understanding property but it would in some ways be a more honest way because it wouldn't just be like you are the absolute owner of your property until you're not because we have eminent domain that comes in. It would be instead we have some kind of a way in which maybe there'd be different sectors of the city that would be on different staggered timelines for potential redevelopment and the folks that are holding property under this system could work together.

In some cases, it might be that they could come up with their own solutions that would keep some kind of triggering condition from happening that would result in their property being called and having there be some kind of reconfiguration move. So I've thought about-- the ideas I've come up with in this domain are not like ready to be implemented out of the box or something like that, but the concept would be something like you'd have a set of options on a group of continuous properties that would be of a scale that would enable some kind of a redevelopment of that area under certain kinds of triggering conditions without having to put the entire thing within the envelope of a single owner.

The other way that we can make property operate a little bit more flexibly is to kind of take seriously the idea of the single owner. Like if we have a single owner who owns tons of stuff, then, of course, they can just rearrange stuff within their holdings and do things more efficiently but there's a lot of disadvantages to having property ownership be that concentrated or having ownership occur at that kind of scale.

So I think a challenge is to try to have ownership continue to have their property rights still recognized at some kind of a scale that would allow for lots of individual ownership but that would not allow that understanding of individual ownership to get in the way of being able to reconfigure things at scale.

MIKE LIVERMORE: Yeah. It's really interesting. I mean, in a way, the call option is what the government holds through eminent domain. But maybe you could allow a private owner periodically. Once every 50 years or something, you could have an auction if some price was exceeded or something like that. Yeah, no it's a really interesting idea.

Since we're talking utopian register, there are kind of new domains in property that are-- well, that are arguably in the property ish area, things like NFTs, people's rights to buy or sell their genetic information, privacy data. These are areas that are-- they're new and they're contested who owns what under what conditions and so on. So do you think that there's anything interesting happening in these domains or are they just getting sucked into the vortex of how we always have thought about these things, or are they just sideshows to the main event?

LEE FENNELL: Yeah. So some of these are areas that I don't know a ton about but I think my interest would be like in thinking about them would be like to what extent is aggregation a factor? And I think certainly with respect to some of the privacy and data use things, like aggregation is the whole game. I mean, that's what provides value. And so thinking about what should be the right regime for ownership within something where the aggregation is what gives the value, I think some of those problems may have structures that are in some ways similar to some of the more terrestrial-based kinds of examples that I've thought about.

Of course, obviously once we start to move to kind of intangibles, there may be other things that-- there may be resources that are non-rival. There may be all kinds of different ways that they operate. But I do think that it still works to ask the question of how much is the value of function of aggregation, and how much does that-- how much does that impact the way that we need to think about the way that rights are configured?

I will say also, though, that in that context and also just in real property context, there often will be competing aggregations and we'll be like, we don't which one is more valuable-- from first principles, we have to kind of have some way of assessing that. So in the real property context, it might be that you have an aggregation that is a wonderful close knit neighborhood and you have another aggregation that would be putting through a highway. And those are maybe incompatible aggregations. There may be ways to bring them into alignment but there may not.

And so thinking about do we need every piece of this? And I think going back to the idea of services is helpful in that context. Like what services are we trying to get from these resources and how do we try to compare them? And at least putting them both into the language of aggregation is, I think, a helpful move because then at least we understand a bit about what's at stake. So as we think about new areas, kind of thinking about what are the competing aggregations that are at stake in those areas as well and are they incompatible with each other? Are they ones that can somehow be served simultaneously? What kinds of services are we trying to get societally or individually from those kinds of resources?

MIKE LIVERMORE: Yeah, right. That makes a lot of sense. So maybe the last thing I wanted to touch on is a quote in the paper, a property looks less like a space cleared by law and more like an agenda set by law. The content of that agenda is politically mediated and its distributive implications show through in the collective action problems that society does and does not choose to solve.

And so I just thought we might talk for a little bit about this question about distribution and inequality. And obviously, that's a long-standing critique of property. Just in general is the system of property is that it's a way for the rich to perpetuate their unequal standing. And so I guess my question is, are there property moves here that could help if we think of inequality as a kind of aggregation problem, the aggregation of wealth and political power?

Or are we just outside the domain of property and this is a problem that we have to address through other means, regulatory or direct legislation or the like or-- so yeah, so that's the question. Are there property moves to be made here or is this just outside the bounds of what we think property system can helpfully address?

LEE FENNELL: Yeah. I do think that there are potential property moves that we can make in addressing inequality. I think that it is important to look at the distributive implications of the way that property is set up. And so one thing that I've thought a bit about and I have another little essay that kind of gets into the inequality aspect of this a bit more.

But one of the issues is, again, going back to the idea of property creating services. For people in order for those services to be created, it's never the case that the individual owned object or piece of land is enough to create everything that people need. And so one phenomenon that, of course, we see in many people have commented on is that the government will collectively provide all kinds of compliments to particular property holdings.

So standard example is providing highways that make it possible to live in these far-flung suburbs that make the highways make the suburbs more valuable. And so the political processes that deliver certain public goods to activate the service flows of particular people's property and maybe to not activate the service flows of other property.

So I think the move here is kind of to recognize the degree to which we have the services being provided by property being a function of these kinds of political and essentially distributive decisions and finding ways to kind of interrogate that and make it possible to see alternative ways of configuring property or alternative ways of having public goods operate as complements.

So there might be a different set of complements that would be more valuable if we were sort of focusing on denser environments. It might be that having sort of public transit kinds of complements would become more important or having public parks as complements become more important if people are in smaller units that don't have their own backyards. If people have their own backyards, then the complements that they may seek don't involve public parks and might involve more highways and those kinds of infrastructure.

So I'm not certain that I have real solutions beyond kind of trying to lay it bare that the ways in which property complements are developed hugely impact the value of people's property holdings and that all those things have distributive implications.

MIKE LIVERMORE:	Yeah. It's super interesting. And that lens is super helpful. And I think it likely has something to say about many, many, many different contexts, many of which are often framed in environmental justice terms these days. And we might think of as environmental justice and property as very different and distinct areas of law and distinct ways of looking at the world but maybe there's more overlap there than we might recognize.
LEE FENNELL:	I think that's right.
MIKE LIVERMORE:	So Lee, yeah, great. This has been a really interesting conversation. Thanks for taking the time to chat with me today. And thanks for all your wonderful work in this space. It's super thought-provoking and, yeah, it's been a great chat.
LEE FENNELL:	Well, thank you for having me on the show. It's been really fun to get to talk about my work and, yeah, and hear your ideas about it. Thanks so much.
MIKE LIVERMORE:	And listeners, if you enjoy this episode, let us know. You can give us a like, a rating, subscribe to the podcast, and follow us on social media. It'd be great to hear from you. Till next time.

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