

[Our Data, Episode 3: MIT Computational Law Report Team Discusses Collaboration and Measuring Law](#)

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[Our Data](#) is a podcast from the [Stanford CodeX Center for Legal Informatics](#), in conjunction with the [Stanford CodeX Blockchain Group](#) and [Tech4Good](#) initiatives.

In this episode, Dazza Greenwood and Bryan Wilson from the MIT Computational Law Report will be discussing the nature of our relationship with the law. How does law interact with other disciplines, such as business and technology? What happens when we start to think of the law as an algorithm, with measurable outputs? And, possibly most importantly, what does it mean to be a member of Team Human?

The [MIT Computational Law Report](#) is an agile, new media online publication that explores the ways that law and legal processes can be reimaged and engineered as computational systems. Led by Executive Producer Dazza Greenwood and Editor-In-Chief Bryan Wilson, the CLR aims to reimagine law as something more dynamic and adaptive, while cultivating open discussion at the intersection of law and computation.

[Dazza Greenwood](#) is a researcher at MIT Media Lab, the founder of [CIVICS.com](#) (a boutique provider of professional consultancy services for legal technologies, automated transactions, data management and technology strategy), and leader in the field of computational law.

[Bryan Wilson](#) is a Fellow at MIT Connection Science, and a former inaugural fellow with the ABA Center for Innovation. He has spoken widely on computational law in North America and Europe, and was listed as one of the 18 Millennials Changing the Face of Legal Tech by *LegalTech News*.

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[Opening]

Mike Schmitz [0:40]

Hey, this is Mike Schmitz. I'm the host of Our Data, a new podcast, presented by [the] Codex Blockchain Group and Tech4Good initiatives. And I'm here with Reuben Youngblom, our producer, co-host and jack of every trade. Today we have a great show. We'll get right into it. Want to introduce two of the leaders of the computational law movement from MIT with both the new project and thinking about it: Dazza Greenwood and Brian Wilson. Hey, welcome.

Dazza Greenwood

Hello.

Bryan Wilson

Hey, thanks for having us.

Reuben Youngblom

Hi guys.

Mike:

Absolutely, absolutely. We're thrilled. We're thrilled, and I see everybody has their... it's like New Year's, new cups, and new initiatives we're taking on. I'll ask you to introduce yourself, but the cups first. Dazza, tell us: what do you have there and what do you got for us today?

Reuben:

Describe it in great detail for the home audience

Dazza:

I have in my left hand, sir, the—god, I hope I pronounce this right—'Waikato Law School Faculty of Law' very handsome and efficient coffee mug. It is transparent so you can see your coffee as you drink it with a very functional rubber lid.

Mike:

All right

Dazza:

And it comes from the Dean of the law school, who Bryan and I met at Harvard's Case Law Access project, where he was kind of passing through and trying to see what's going on with

computational law and that sort of stuff in the US, and so we hope to collaborate with him. In my other hand, I have another very handsome and functional large vessel from ILTACON. And it's kind of bespangled with bright, nice colors and things like that. And it's got this nice little “open it, close it, open it, close it, open it and close it” top. I like to use this one for the sparkly water. Pretty much how we're doing the vessel management today at MIT Media Lab.

Mike:

Love it.

Reuben:

Life lessons from MIT.

Mike:

That's right. And Bryan, anything as exciting?

Bryan:

Well, I've been slow-playing my cup game since we've jumped on, but I've got my Relativity eDiscovery mug that I got some hot tea in, and then I've got a cup of water from a single-A baseball team here in the city.

Reuben:

Is that Dodgers? Okay, well, we'll talk about that later...

Mike:

Not getting into local jurisdictional issues, but yeah, not that right now

Dazza:

Pretty dodgy.

Reuben:

Yeah, I'm just gonna write down here... I only have one beverage vessel, so I'm doing something wrong.

Dazza:

A production note.

Reuben:

Well, this is a personal note. This is for me.

Mike:

Exactly.

Mike:

Just water. Just glass. That's all I got. So, Dazza, tell us: let's just jump into this because frankly, what you are doing at MIT is helping define at least the next decade (we won't go further than that) but you're jumping into stuff that folks have been grappling with for some time with a really exciting new project but also the thinking behind it. Well, I'm just going to ask you to tell us what you're doing, Dazza. Tell us: what is new, and what should we be paying attention to?

Dazza: [4:23]

Thank you. Those are kind words. And I know you're asking what we're doing at MIT, but I want to start by talking about an area of things that I'm doing that's actually in collaboration with you and your team at Codex and the Blockchain Group, and that's... we participate in the various global communities to have people that are thought leaders and innovators in the intersection of law and technology. And there's a regular meeting that your group hosts that is one of the best ways that we've found to stay in contact with the overall fabric of what's happening. And that's including your RegTrax project, and so many other great things that are coming out of CodeX. So one thing we do is participate in groups like that just to understand what's happening and to track it. But what's happening here in our lab, which is the human dynamics lab at MIT, run by Professor Sandy Pentland... we're doing a deep dive, now, into what we call computational law. So the law expressing itself as computer code or something that a machine can process, and it's really about reimagining law as a computational system. And as something that can be engineered or, more explicitly, can be measured, so that we can get better and more predictable legal results. So everything from contracts to regulatory frameworks and how to do compliance, [and] we're starting to look at wills and trusts. In Canada and other jurisdictions, people are starting to reform those so that they exist as electronic and network instruments, [we're also looking at] mortgages and on and on down the line. So we're trying to understand that and take an MIT engineering approach, and so some field building. So that's it at a high level.

Mike:

So you're the executive producer of the Computational Law Report, is that right? And this is one of many hats.

Dazza:

Yes, that's true. And the project now is to bring these different research and teaching and other threads of initiatives together. We decided to focus on a new publication, the MIT Computational Law Report, and we were very fortunate and pleased to get the first release of that out on the streets publicly on December 6th [2020].

Mike:

Fantastic.

Dazza:

And perhaps one of the best aspects of that initiative is the Editor In Chief, who's come all the way out from Legal Hacker and computational law exploits in the Midwest, to be with us at MIT. And in fact, he's here with us on the podcast.

Mike:

All right... Bryan!

Bryan:

That was a good transition.

Mike:

Smooth.

Bryan: [7:39]

Yeah. So I'm Bryan Wilson. I am the Editor in Chief of the MIT Computational Law Report. I'm also under Sandy's domain as part of the connection science group there. And I have done a few things in the last several years that kind of brought me up to this point. I was in the ABA Center for Innovations inaugural class of fellows. I was at a startup called Risk Genius, where we use AI and machine learning to break down and quantitatively evaluate the language of insurance policies. And I helped found Kansas City's Legal Hackers chapter about six years ago. So, a lot going on and a lot of things that have kind of just been around the space. And now it's really nice that we have this central place, this central group of players that we can regularly talk to and bounce ideas off of and produce content with. So we're really happy to have you guys as part of that network.

Mike:

No, it's great. The kind of dynamism in this network, it's something—people need to join and experience it because everybody has great ideas, but they're also out there executing. And the

collaborative environment is second to none. But Dazza, you didn't get a chance—how do you come into this from where your life story—how do you get here from where you were? Has this always been your thing? I doubt it, because computational law is a relatively new thing. How did you even get into the space and what drew you to this?

Dazza:

It is relatively new. But in a sense, you could say the law is an information intensive field. And it's been that way from the start. Some of the first written instruments—the Writ of Hammurabi, and all the way back—and oral, it's all about intelligently patterned information that can help guide us later. It's part of the fabric of civilization. And now, from the early days of network computing, we've had these little policies and procedures and terms and conditions and robot.txt files. And code itself, of course, has always reflected in supported rules. And so the way I got into this initially (when I was in college) was from running political groups. So I was very interested in the state legislature and I was an intern in the state house. And when I got out I ended up running a political action committee, and my claim to fame back then in the late 80s was using technology in order to get the job done better. So databases or even just doing something with a page layout in order to create a poster and then [getting] it out. To be able to do that on the same day that something was happening was actually a strategic advantage. You know, street by street, neighborhood by neighborhood, and using databases to begin to understand [things like] “I've got 10 volunteers that are ready to knock on doors—what do I do with the voters list?” And so, wrangling data and making it work before it was common was what I did. And, and I've always just loved technology, I took a lot of computer science courses in undergrad (although as a liberal arts major), and I just find it fascinating. We used to have something called bitnet before the internet, and we spent a lot of time in our computer science lab just typing about fundamentally nothing with people like in Berlin and around the world. A lot about the weather and like, “what are you studying?” and that kind of stuff, but the fact that you could type and in real time be in communication with people was fascinating, and that still hasn't gotten old. But then fast forward... I ended up going to law school based more on scratching a political itch that I had on matters of governance and public service, and the web hit when I was about midway through law school in '93, and it absolutely blew me away. And so I just started making websites within weeks of seeing the mosaic browser for the first time, and made some websites for law schools and libraries and anyone that would let me make them for them. And it transitioned more into a blend of law and technology. I practiced law for the Governor of Massachusetts as the Technology Council after law school. That was very interesting—it would be a fortune 50 company if it was private, so we had a lot of desktops, we had a lot of networks, we had a lot of everything. So I really cut my teeth as in-house counsel for a few years there, did some policy work. We did electronic signature legislation and ended up doing a lot of prototypes. They gave me an unusual amount of latitude as an attorney to actually work in IT and to work with a technologist to construct some PKI prototypes for banks could file

their reports with the Division of Banking electronically instead of by fax, which was how we did it. We did a lot with motor vehicles, we were the first state to ever accept credit cards online. So people could renew their license plates and pay parking tickets. And that was very legal as well, [one ought to understand] what the rules needed to be, and how to mold this technology was seminal. And then, anyway, when I got the law out of my system, I just wanted to do technology full time. So I've been running a consulting company called civics.com since '99. And that's my major thing, but to be able to think big thoughts and to be able to understand and work with technology, people don't really pay for that. For a gig or deliverable, it's more of a deadlines and more urgent priorities and milestones, so I kind of have one foot here at MIT as a researcher. And so I'm able to work in the lab here in an additional role, and be able to tinker with technology, but also think bigger thoughts and try to understand what it means and how it's moving forward. So that's sort of the road at a high level. I've been at MIT since '97, in sort of an adjunct capacity, but much heavier starting 2002. And then in 2011, I came back with Sandy's group. And I've been in Sandy Pentland's group that Bryan referenced ever since. And it's really been about computational law all the way through, but only the last few years did we settle on that word for it. And I do think that that's a good way to describe it.

Reuben:

Well, tie that back to actual computational law. So when you say that, it's such a strange pairing of words for a lot of people. So how do you... if you meet somebody that doesn't know what that is, or, say, if you're on a podcast where you don't necessarily know who the audience is, how do you explain what it is that your report focuses on? Are there real world analogies that can be drawn, or how do you concretize it in the minds of people who have never really heard those two words together before?

Dazza:

Number one, it's about measuring, and about using data, but by my measurement, I've talked way too much in a long monologue. And I also happen to know firsthand that Bryan Wilson has got a terrific riff on what this, and I want to politely yield the balance of my time to my distinguished colleague.

Reuben:

Excellent. All right, no pressure, Bryan

Mike:

I love it. The gentleman from Massachusetts yields the balance of his time.

Bryan:

There we go. So yeah, I think the notion of computational was a really interesting one, because law itself is a social science. And so we ought to be able to measure it as though it were more scientific. And I think what we've seen with all of the technology advances over the years is that they're often ahead of where the legal industry is. So it's often playing catch up. And one of the things that was really striking to me, and was one of my favorite things to read while we were getting this publication out, was the article that Sandy submitted to us where he describes law as just a legal algorithm. It's an algorithm that has people effectuating certain outcomes based on a set of conditions, and that's very much how people have been organized throughout the years. It's increasingly becoming something that exists more in this tech architecture, but it's really just an algorithm under this different name of justice. And I think one of the other things that has been really striking to me is all the computer science people I talk to who see this idea of governance, especially in the context of blockchain governance or anything like that, a lot of people see law and governance as being these very important pieces that are in the machinery of what it means to move technology forward in a meaningful way. And so I think it's going to play an increasingly large role. Like with AI, with the rise of big data, the ability to effectively govern that fundamentally changes from something that was a paper paradigm to something that's now a data paradigm. And so, trying to understand what that new paradigm looks like a little bit is really fun.

Mike:

Absolutely. I think one of the things that both you touched on is the way you described it as a very straightforward approach to problem solving and organizing ourselves in society. But the thing I was always struck with, both having been trained in the sciences but then switching over to law early in my career, [is that] the different mindset of lots of folks who practice those led to this false dichotomy. I think what you're pointing out is this use of data to be able to structure ways for people to interact and to have governance structures to help those organizations move forward in some way, right? And that the language, the culture, the way people think about it had led to this sense that there were two different realms, almost two different universes. And I think what you're talking about suggests something very different. Obviously, both lawyers and technologists over the years have learned to appreciate or at least understand there are different worlds outside of their own. But this is something which is almost proposing a new Esperanto, some language where people can understand and realize that what they're doing is related to these other things, and it's not [something different]. Can you talk about that, because it seems like, in some ways, this is not a radically new thing. But for a lot of lawyers who were not accustomed to coding, computing, computation, or likewise, technologists who don't think about anything but writing code, this kind of discussion might seem new and [they may not even be]

sure how it relates, [although clearly] it does. Can you talk about how you guys are approaching that?

Bryan:

Sure. So another element to this whole thing that I glossed over and didn't even mention was that this idea of bringing people together in these interdisciplinary efforts requires a lot of basic humanity, empathy, and understanding of all of the different places that people are coming from. People go to law school and spend a lot of time and money to get a degree to become a lawyer, and then you get out and you can talk with computer scientists and feel like you don't know anything. And same with computer scientists.

Mike:

Right.

Bryan: [21:00]

There's a need to recognize that everybody is pretty good at something. And we've got to figure out how we can connect those "little somethings" together so that we can collaborate together better as a whole. And so [we are] trying to really hone in on what that user experience is, [what] that user interface for law is, so that it's intuitive and accessible to everybody. So people who have the ability to contribute that legal piece, they can directly contribute that legal piece. The people who have the ability to contribute the computer science piece, they have their place in this overarching machinery (to use the same metaphor). We've got to figure out what the right place for the pieces are, what those places are, and I think then we can build something that's more robust than what we have now. And so I think, from my end, it's the user experience piece. Not sure if Dazza has anything to add there.

Dazza:

Yeah, I do. So, I'm glad that you said it's fundamentally about people, being a member of Team Human. So, a way that I've looked at this over the years, in particular from consultancy and a lot of different companies [and] government agencies in different places, is that there's kind of three different things going on with some of these big modern projects. One of them is called business, generally, like some business imperative: we're rolling out a new product, [or] it's government where we've got a program that we're doing or some service. Number two, there's a legal element to what's going on, contracts and regulatory regimes and liability and risk management, IP... there's a legal element infused in it. And there's a technology element of it: how we're doing it. And so to really understand these things, you have to think of it as these three ways at once and hold them in your mind. And to make it simple, I've had this acronym, BLT, like a BLT sandwich: the business, legal and technical layers. And so business people... you got your

business school, your CEOs and COOs, CFOs. [You have] law, your lawyers, compliance people, etc. Technology, you're a CIO. So law would be like the general counsel, the Counsel's Office, outside counsel, compliance, some risk management. And then technology, the CIO, the CTO, all the developers, the engineers. But so at the top level, if you think about it, to make a big new thing go at a company or a government, you got to get business sign off from the agency head or the CEO or the others. You have to get legal sign off, and technology people have to sign off—and then do it. But then this is helpful because you don't also have to go in and talk to the pastor or the philosopher or the shipping and receiving people. Other people may be involved but those three are actually seminal. It's an easy way to look at the connection between different people but also [look at] different views of the system, and then make sure that the legal part supports and reflects the other parts. So in my old work in the 90s, doing supply chain and procurement and other big government systems, even back then we had a concept of business rules. Now [there are] much more refined standards and protocols to define the specific workflows or approval chains and when you need to keep a record of something or when you have to put a certain conspicuous notice up, and this is all driven, in bigger systems, by these on standardized on so-called business rules. [They're called] business rules, but a lot of that is legal, encoded in the system that the technologists are doing. So this combination of law expressing itself as code, and being expressed through a standard interface to drive software, is not too new in some areas. Where we have to do a better job now is finding ways to generalize it so that the practice of law and the understanding of the legal fact pattern is much more conversant with the business and the technology environments within which those facts exist.

Mike: [25:52]

Well, and you're suggesting that nobody can view the other discipline or part of this—in your case, this three legged stool—as supplemental. [In this] BLT, everybody has to understand that this is part of that of what they do. Even if you can't code as a lawyer, what you're doing has a fundamental technology component. Even if you don't understand constitutional law and everything, you need to, as a technologist, understand that legal regimes are a key part of what you're building. So that's what...

Dazza:

Yeah, and be able to issue-spot it. So some of this is education. Some of it is expectations: when people talk at meetings, there's a lot of people talking past one another. I think we need to have a culture where the technologists are comfortable asking questions and where we [as lawyers] can explain things well, so they could spot a privacy issue or a constitutional issue or contract issue easily in their code and know when to ask questions about it. When I write up rules for big systems now, I actually put the business section first: all the business stuff, who's paying for what, who's in charge, business practices, who's in and who's out. Then the legal part in the

middle, so all the liability is like 80% of that usually. And the IP, and everything else. And then the technology stuff, like what are the standards and the interfaces. And what are we supporting? What are the use cases? How do you onboard and offboard? [All of this is] in one document with one single glossary, so that people can— and then I try to make sure it's 10th or 12th grade lead reading level when I use the Microsoft Word little reviewers so that anyone could read any other section and see the interdependencies between them. There's a lot of cross referencing in there, so that none of it is beyond anybody and those seem to be sustainable systems. The other thing is, think about these big contracts that we write when we're out there practicing. You write a contract for a deal, and the business people, maybe some of them scan it or know the key deal points. Technology people may not read it at all, most of them

Mike:

Right.

Dazza:

And then within a month or a year or two years, you get this drift, like continental drift, where the systems keep evolving, the business practice has evolved, and it bears less than less relationship to the contract. It's not allowing the contract—there's a lot of wisdom and business judgment embedded in the contract terms. We need to find better ways to integrate that holistically as part of the business and the technology of the ventures and in the products and programs that we're part of.

Reuben:

So the picture you're painting here, I think both [Dazza] and Bryan, is really fantastic. It's a very interdisciplinary way of approaching this. And as I'm hearing what you're saying, it seems very output driven. You talked about expressing code as law, you've talked about, “this is a way of structuring things.” But what I think is really interesting is that one of the first things that both Dazza and Bryan mentioned when you were tearing into your initial definition of computational law is ‘measurement’. And so, I'm having a hard time—oh, Dazza is giving me the thumbs up. I'm having a hard time figuring out for myself where that fits in. So can you talk a little bit about where the measurement angle (which is apparently very critical) fits in?

Bryan:

Yeah, so I can take that one. So, the way that we do law is kind of interesting because if we were engineering the law, we would have to specify what the outcomes were that we wanted from the beginning. We kind of have to have a dialogue about, “okay, how do we think we'll get there? How can we build something of a framework that achieves a stated outcome?” So, you have goals for a system, you have measurement criteria for how the system will perform, you do

testing, you adopt and revise your standards in order to get better performance, and then you audit it periodically.

Reuben:

And so this is following Sandy's framework that you laid out in your—

Bryan:

Yeah. And so they've done this with a system for roads in Sweden where they figured out how to route traffic better to reduce congestion by having these different legal instruments for the toll roads, so that people were avoiding the areas that get really clogged up. And what they were able to do was, they were able to come up with something that was a lot more friendly to the people of the city who were trying to get places efficiently. But it was also something that they were able to continually go back and improve. And so I think, looking at how we do law, I think we need a little bit more of that, right? So I think, instead of having discussions that are filled with anecdotes and analogies and maybe one person's story, what if we had a bunch of data that was feeding in to tell us whether or not this was effective. [What if] we looked at what that data said, and looked at how people were feeling, and then kind of periodically revisited it.

Dazza:

Yeah. And just to expand on that a little bit, or to actually just go a little deeper.... So a lot of data is definitely good. But to distinguish what Bryan was saying from how some of you might be thinking about it—it's not just data, like a big pile of data that we used and we analyzed or did data science on, and got some insight that we should change the traffic laws, for example, and maybe make this a one-way street and [add] more parking over there—but continuous feeds of data. And so the nature of this application is that there are sensors on the roadways, as opposed to network traffic or other stuff in other fields. And then the rules [aren't] just “now, until further notice, it's 55 miles an hour here and the HOV lane is over there”, but they are adaptive, based on some ranges and thresholds. And [they're also based on] other parameters within a system so that you can get some adaptation and squeeze traffic a little bit, or increase the toll. And then, to go one level higher—and this is where it connects to RegTrax, I think, and how to regulate in the modern economy—is now you can start to answer questions like, “what was the purpose of this regulation?” and “are we getting further or closer to achieving the purpose by looking at the data?”, and you can actually change those parameters. You can amend the rule. You could repeal the rule if it's totally not working and try something different. But [we think] the idea of being able to measure the performance and the outcomes of law itself in public law and certainly contract law (and in other areas of law) is fundamental to one of the best capabilities and benefits [that are] available to computational law, and it should make for better, more predictable legal

results, which are hard to predict right now. And people are confused and this is not good enough.

Mike: [33:19]

No, it's just such a radically different approach than the way a lot of folks have been trained in the law to look at it, which is to say ... [take] the anecdote, for example. We would never admit to [relying on an] anecdote, but it is [analogous to] 'that one case that defines the law for all other types of [law] within that framework', instead of getting a good, real-world database measurement of how these things are moving. And kind of placing the normative value question first ("we want to have safe streets"), and then taking measurement to figure out what the parameters are to make it a safe street. Is 15 miles an hour safe? I don't know. Let's look at the data. Versus "here's a case and we're going to litigate it all the way up to the high court". It's such a different approach. I think it's one of those things that almost requires re-learning how to think about the law for lawyers (and I'm speaking as a lawyer). But it's also very liberating because you get to try to look at what's going on in the real world with so much change. We need to understand things that are much bigger, much more dynamic, [and] much more complex than anything that's offered [via] the kind of the approach that we've had to analyze this.

Dazza:

And if I could just highlight one other thing based on what you just said, Michael. So you can take a goal, like safety and then see, "well, 15 miles an hour, okay, now we're a lot more safe. 10 miles an hour, one mile an hour, okay, we're really safe now." But there's always multiple goals, right?

Mike:

Yes.

Dazza:

And so, one of the really cool things that has enthused me enough to have to learn data science and math-y stuff, which I was not part of my wheelhouse before, and which is difficult for me... But what makes it worth it is the idea that we can actually begin to identify multiple, even somewhat competing objectives. And then we can measurably start to figure out what the balances between them [look like], or what we would call (in one kind of realm in data science and management science) an optimization of the system. [So] you can start to rate and do different weights against different goals, and then tune the system in order to find that more optimal balance. And by balance, I don't mean 50/50 or a perfect state of equilibrium. There's always a dynamic tension. Now it becomes very cool. Now we're in the sim of life itself, through regulation and law.

Reuben:

You're essentially describing the scientific method for law where we just never leave the analysis component, right? That's really what it's extremely reminiscent of.

Bryan:

Yeah, and looking forward, too—looking at the notion of a smart city and looking at the human computer interfaces like Alexa and all these new technologies that are coming out and becoming more popular (the ring doorbell, for example)—the way that we have to think about regulating things can't, like Michael said, work with an analogy. You're not going to be able to regulate a smart city through an analogy, you're going to have to have something that takes into account the unique considerations of something that produces all of these pieces of data so many times a second. And I think that it does require (in these specific contexts) a new way of thinking. And so one of the things that we're really hoping to do is challenge people to start thinking about what those new ways of thinking are, [and] start testing “what does it look like?” [and] “can we do it?” And then having a comprehensive discussion about “what makes sense? What doesn't make sense?”

Dazza:

Indeed, and I just realized I should highlight (if I didn't): some people might be confused about my last comment, because I didn't give any actual examples. So in addition to safety, you could imagine also saying another goal is speed: “how fast do people want to get to work?” Another goal is “how many people can we get to work?” Another goal is economic development: in this part of the roadway, we actually want to have small businesses, [and] we have more off ramps here and we make it easier. We also want to promote energy-efficient vehicles, so HOVs, etc. So those are examples of what I meant by multiple objectives that you can balance between.

Mike:

So given that, but also given your words of wisdom, Dazza, about everybody [wanting] to be that Renaissance woman or man who knows everything about everything... but it's increasingly impossible (if it ever was) to understand data science, law, philosophy, all sorts of different disciplines. And most folks don't even have the time, much less the capacity. But they're mindful of how rapidly the technologies are not just impacting but changing our world. So you mentioned Alexa, you mentioned Ring, you've mentioned all these things. And then you mentioned the unmentionable—all the algorithms—which most people [find] hard to even define what one is (much less what they do). Our best data scientists and folks will say, “we've actually figured out how to create neural networks where there's a black box and we set it up, but we're not exactly sure what goes on inside.” So all these raise questions for those who are not in the know, [and] are not the small percentage of folks who are in that data science and algo-writing mode. So how

do we make sure that this is in the public's broad interest? How do we make sure that what's going on, which can be much more sophisticated, much more nuanced, much more... It can be data informing our approach to these things. How can that data be provided to folks in a way that allows for real governance on real participation, real input, and it's not just something that big data companies or big governments [control]. There are governments who deploy this kind of thing [and] are essentially in control of something that should be the public's. In other words, when data and technology seems to be getting far, far ahead of the capacity and understanding of governance, how do we deal with this? And it's not a minor question.

Dazza: [40:37]

Yeah. I think that this is the big question of our time and our generation. But here's a couple of thoughts on it. One of them is... the idea of the goal of having the philosopher king that knows everything about everything isn't [a] realistic, or even (I don't think) a desirable goal. The best goal is the realistic one [that considers] how people are and what are people really up for. And people [tend to] segment into different types of [groups] with different sorts of aptitudes and different kinds of skills and talents. So I think one of the things is just to get a real premium on kindness and connection, and the ability to have a sense of humility. And [the ability to] ask people, and have people be able to answer simply and respectfully, what the F they're talking about, when they bring up some deep thing. It's not just, "well, go to law school and talk to me then." Be able to see a few things about the essence of what agency law is and why it would matter that, under the circumstances, this person might be a fiduciary, so that they understand something. Then, same with technologists. Be able to communicate a little bit better [so] that what we can do isn't [to] be the king—we can be the collaborator. And be one who is—as Bryan loves to talk about—Team Human. But I really do think there's a lot to that. Finding ways that we can be on these multi-disciplinary, interdisciplinary—what we say at the [MIT] Media Lab is “anti-disciplinary”—teams, where we learn how to communicate and we learn how to learn what's relevant, at least for us, in order to interact well on these modern projects. So I think that's one part of it. And I think you raised a few other good things in your question there, too, about the almost looming sense of this Death Star technology of concentrated data that's rising on the horizon. I think those raise some deeper societal questions, for sure, that we're going to have to deal with on a broader social contact level.

Bryan:

Yeah. And to that end, the black box issue is one that we've got to begin grappling with right away. I think somebody was telling me that there was an algorithm for trying to predict which mugshot was the one of the person who committed the crime, [and they] ran a bunch of images through and what [the algorithm] came up with was effectively: the person who's wearing the orange jumpsuit committed the crime. So it's like, okay, well, that's completely divorced of any

context. So is there a way we can make it so that the technology is working for the people in a way that is more like an Iron Man suit than R2-D2 and C-3PO? And one example of this that I've seen: I was working under the Chief Innovation Officer in Kansas City while I was in law school, and we got to work on coming up with ways to regulate Airbnb and Uber and some of the sharing economy applications. And one of the things that I got to see firsthand was that you can use some of this data as a way to more effectively—more efficiently—ensure that that level of trust is there between members of a community, members of a society, people using Airbnb, and the host themselves. That data can be put to work to the benefit of everybody else. So, for example, Airbnb will do certain taxes if you're a host, and take care of all of that for you. And so it's like, okay, well, now we're getting into this notion of “data can be used in this computational format as a way to effectuate some legal process.” And so the direction forward might be something like a data tax or a data audit, where the data is going from the people who are using it through some sort of process where it can be [determined], “Okay, is this good outcome? Is this a bad outcome? Is the outcome of everybody who wears orange getting convicted of a crime that they didn't commit [ideal], or is that something that actually we're okay with?” And so I think that can offer one direction.

Mike: [45:18]

Well, and that gets back to your Team Human idea, where you're only one part of the team and you don't play every position—it doesn't even make sense, and you certainly can't. In the case you just talked about, there are a lot of folks [who] didn't even think about the potential to have this data used for creating a new attack or something like that. But the data scientist knows it, does it, and is thinking about it. So it's like, literally even just being in the same room and, like you said, Dazza, communicating in a way that everybody can kind of understand [is key]. And then you know your own problems, [and] somebody else may have some solutions, but it's the conversation within this shared community and language that allows for the identification of those and trying to create some of these new ways of approaching it.

Dazza:

Yeah. So imagine, just to kind of kick it back into a legal context: we've got some new public program that's going to be fundamentally algorithmically driven, whether it's a tax thing, or maybe public benefits... like, here's the algorithm [we're] going to use to figure out eligibility for some benefit or whatever. And so you could imagine, in the sort of future along the lines of what Bryan was getting at a large scale ([you could] predict 10 years in the future), that the government, if it's a federal agency, would publish a notice of proposed rulemaking or something else or a federal register. And they could describe the algorithm, they could include a reference implementation, they could put the math out, and then they could have a period of public comment. They could even point to a GitHub repo with a reference implementation, so

that you could say, “Okay, if I was a mother, [and I] was 40 years old, and I have four children, two of whom were like this, at this income, would I be eligible?” And you can start to model it and understand it and provide comments back about places where there may be bias or it may be inefficient or what have you. So by exposing this in ways that gives people time to think about it, and to look at it from different angles... that's one institutional approach that you could imagine. Transparency is very important, but also responsiveness and time for people to digest. Especially when technology is new. Remember in the 80s, we had these computer societies like Berkeley, Mac computer society, Boston Computer Society... Boston Computer Society had like 35,000 people in it, because nobody knew what a desktop computer was. PCs were new and we would get together and we were like, “Oh, well, you can do this and you can put new memory in it, you can do this with an application.” We would talk about it. There were record society for vinyl records where people would go over to each other’s houses and play records and look at it and change the needle and talk about it. There were telephone societies when telephones started becoming more popular, and people would call and they would look and talk about it and what a switchboard was. It takes people a while to digest something new, and we need to actually be very aware of that and build that into our thinking and into our priorities until people are familiar enough with new technologies and new ways of behaving and ways of interacting so that we can start to apply our legal principles and in our values appropriately.

Mike:

Well, you touched on something which I think could [offer], from a process perspective, [a] really profound shift in how people engage with government and governance: going from a paper, one-time, one-meeting notice and comment to something which is real time [and] dynamic. The ability to interact with the proposed algorithm, to tweak it, to look at crowd-sourcing and crowd-commenting, those kind of things deal with a lot of the fundamental challenges that folks who are in government [and] trying to do things in the public interest face, which is that it's the opposite of dynamic. It's the opposite of real, participatory approaches. So it offers a lot in the way of an engaging, democratic structure that hasn't really been tried yet. So I think there's a lot of things even outside of technology [that can help]. Posing the opportunities in different ways can get them to imagine how it could help what they're trying to do on the ground. You don't have to be super into the new code. You don't have to be a blockchain aficionado to say, “Oh, I see the opportunity here. I see how this can really help move forward with the objectives of what we're trying to do on affordable housing, on climate change, and whatever else.” So you all are pushing this hard, and we are super excited to see it. What kind of things should we expect? Because we're going to go on and come back to this conversation in the future. But in the short term, what can we expect to hear out of your shop? What things should we be looking for? What should listeners be on the lookout for coming up, whether it's your publications, your events, or anything else?

Dazza:

Yeah so there's a few things coming up... Bryan, do you have the announcements page?

Bryan:

I do! I was going to see if you had it, but...

Dazza:

...Weakness in my recollections is the first thing that came up.

Bryan: [51:36]

So we've got the the first release of the Computational Law Report out now, available at law.mit.edu. We are doing a workshop which will probably be completed by the time this podcast runs. But information about that will be available on law.mit.edu as well.

Mike:

What's the workshop?

Dazza:

It's the annual MIT IAP computational law course (or workshops, we go back and forth). And it's a short course that goes 2-3 days this year, where we get small group of people together in person and online and have some very good speakers to spark ideas about different applications of computational law, and then we do little group exercises and have a good discussion and a little bit of hacking along the way.

Bryan:

And we're really excited this year because we'll have... I don't know if you guys are familiar with community.lawyer, but we're going to be modeling a way that you can write a no-code solution that takes information from one Excel spreadsheet and effectuate some legal process, and then writes information to another Excel spreadsheet. So it's kind of going across a spectrum of what computational law can be in something that is approachable to everybody. And so we're really excited about getting that out there because we hope it can be the first taste of what people can actually do with doing stuff like this on their own.

Dazza:

And just as a little context: community.lawyer is, as Bryan said, no-code, it's pulldown menus, that kind of thing. It's basically a veneer or an interface over an open source project called docassemble, which is kind of like document assembly for a contract or whatever. But it also

allows you to do conditional logic and has all these great interfaces and API's so you can connect it with other processes. We think it's a great—well, first of all, it's great in practice, but it's also a great learning tool.

Mike:

Yeah, and easy. Our whole thing, let's face it, is how to make all of this stuff easier. So we can actually go from conceptualization and implementation to getting this stuff happening.

Bryan:

I heard, I forget who it was, but it was some UI UX person doing a lecture, and they were talking about how the only acceptable user interfaces now on mobile are the ones that you don't need instructions for. And if we take some version of that and apply it to the way that we're thinking about law and the way that we're thinking about computation, we definitely have an accessibility problem. And so we're really trying to focus on that piece a little bit.

Back to the upcoming events, this workshop—

Reuben:

This workshop, assuming that it's not too late and it hasn't happened already: it's very possible to participate online. And then the signup is also on law.mit.edu. And I think it's free, is that...?

Bryan:

Yep, it's free. We'll actually have all the lectures recorded and will have resources and materials so that you can check it out.

Reuben:

And there are archives, I think, of the last couple years, at least the last two years online.

Dazza:

Yep, every year. And we make a GitHub repo for each course so that it doesn't get lost in the shuffle, and we can build on things, and they're still there, and there's version control. And we decided to put an end-of-the-month cap on it to give people more time to think about projects and enter provocative questions that speakers have provided. So I think we've done January 24, 2020 in the afternoon. So if you hear about this after the course days are over on January 7/8/9, you can still potentially dive in and at least fill out the form and apply, and you can still potentially have time to think about things and do a project yourself or with a group in your own city and then present it in time for the 24th.

Reuben:

Okay, and then worst-case scenario is the archives, so.

Dazza:

Exactly.

Reuben:

Perfect. So, sorry, Bryan, I interrupted you.

Bryan:

No, you're totally fine. We're also working with Jameson [Dempsey] at Legal Hackers to do the Computational Law + festival, kind of getting that going. And making it so that if you come up with something as a note of this hackathon that you want to submit as either a lecture or a data science project or some blockchain governance scheme... we're going to be trying to work so that we can highlight some of the some of the efforts coming out of there. And then in April, we will be out visiting you guys at FutureLaw.

Mike:

All right—looking forward to it.

Bryan:

So, very excited about that.

Dazza:

We're getting people together, highlighting some of the work we've been doing over the last few years (and really heavy over the last year) on automated and autonomous legal entities, like corporations and LLCs. And we're trying to put together a bit of a summit with people on projects from around the world doing this, and then some discussion and maybe a little bit of workshopping. So we're going to try to squeeze all of that into a couple of prodigious hours at FutureLaw at Stanford's CodeX center—one of the best events of the year.

Mike:

Well, we're going to have to have a follow up... we in fact, were thinking we wanted to dive into that, but we dove so much into the the high level and nitty gritty of what we're talking about with computational law we didn't get to it. But we'll look to that... we'd love to get you back on the pod and talk about that, in particular, because I really do feel like that's one of those emerging

ideas which is soon to become reality and could have a huge impact on legal practice, on organization across the board. And so that's super exciting. I mean, it will we will look to that—

Bryan:

Yeah, that would be great.

Reuben:

The last thing—so when you're on your website, there is a note about a Computational Law Gala. Is that the same thing as the Computational Law + Fest, or is that something else? It looks like there's still kind of sparse details about—

Dazza:

Well, it's accurate that there are sparse details.

Bryan:

The event that we did where we did the first release of the publication, we have been referring to it as a “soft launch” because we didn't hit the press machine button to get all the feelers out to everybody and get people talking about it. And we wanted to just get some preliminary feedback so that we could know how to guide it, craft it a little bit better, a little bit differently, maybe, so that it is as optimized as it can be. The Gala is really going to serve as the “hard launch”. And the date for it is still up in the air, but that will be sometime probably at the end of February [or] beginning of March. And we'll just kind of have—I don't know that we've settled on much of a definition for it, but we're just going to...

Dazza:

I'm thinking about it as a debutante ball for the publication.

Mike:

Virtual black tie?

Bryan:

Yes!

Mike:

BYO-Data?

Dazza:

Yeah. I like it.

Bryan:

Any and all of those sounds lovely.

Dazza:

Block tie.

Mike:

Block tie. Oh, that's nice. Ouch, yes. Okay, so how do listeners or anybody else get in touch with you to find out more?

Dazza:

[singing] law.mit.edu

You just remember that little lyric there and tap your little fingers to the ultimate enjoyment of computational law. And so all of the things that we talked about are available at that URL. And there's more stuff coming. But perhaps the best thing coming up is you, dear listener, dear podcast listener, you can submit your ideas, your articles, your data science projects, your rich media that relates to computational law. Something that you've invented, or something that you're participating in, or even your ideas about what other people are doing that shed new light or raise new questions. Submit those, and you could be part of the authors and the contributors to this publication. And you can find that form at law.mit.edu. And you can also come and read. The readers are also real participants, we're forming better ways to have more of a public forum. So to encourage discussion that obviously, as we can tell from social media and politics and everything else, is something that's going to require a real balance. I know that's part of what you've been working on with RegTrax as well. But I'd say the best thing that's coming up is the extension and the expansion and adding more vibrancy to the community and the content in the innovation under the umbrella of this publication.

Bryan: [01:01:48]

Yeah, and just to do a couple quick little ones: if you want to hop on our about page at law.mit.edu, there you can find an email, which is just contact@computationallaw.org if you'd like to email us. We also have a link to our telegram channel there.

Mike:

We'll link to it in the show notes.

Bryan:

So yes, so it'll be in the show notes. Which is much, much easier to get to than typing in that terrible, terrible little string of letters.

Mike:

Outstanding. Dazza, Brian... fantastic work. We're super excited to hear about it. We're even more excited to dive into it. I'm sure our listeners will agree there's a lot to look forward to. It's a great way to kick off 2020; first of many conversations, like we've said. Reuben, any final thoughts?

Reuben:

Yeah, thank you both. This was incredibly illuminating. I will say, Dazza, I did promise you that I would let you talk about a dog on the podcast.

Mike:

Okay, okay... final word.

Dazza:

So ordinarily, I like to talk about Jonathan Askin's dog. But today I'm going to do a hat tip to a little darling named Hazel, a Labradoodle in Waban, Massachusetts, who I am the honorary uncle of. And a little bit later today, we're going to go out, we're going to take a walk, and I think we're going to frolic under the skies of New England.

Reuben:

That is... Never been jealous of a dog before, but here we go.

Mike:

What a way to end. Love it. Love it.

Bryan:

Crypto Doggies!

Mike:

Thank you. Thank you both.

Reuben:

If we can get a short video of the frolicking, that will also be in the show notes.

Mike:

Yeah, no, no, no doubt, no doubt. Thanks. Thanks again. Thanks.

Bryan:

Thanks so much for having us, this was a lot of fun.

Dazza:

Really good luck on the podcast and we can't wait to keep kind of hearing your media and collaborating with you. This is the good stuff.

Mike:

Absolutely. Absolutely. Likewise. All right, on behalf of Reuben and Mike Schmitz, this is Our Data. And we'll look forward to joining you next time. Goodnight, bye and later.

Reuben:

Thank you.

[Closing]

Transcribed by <https://otter.ai>

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