COPENHAGEN LEGAL TECH LAB — PODCAST

EPISODE 06 – Trustworthy A.I.

In this episode, Léonard Van Rompaey, Industrial postdoc at the University of Copenhagen, Faculty of law and at CO:PLAY, and David Restrepo Amariles, Associate Professor at HEC Paris, discuss the topic of Artificial Intelligence focusing on the concept of "Algorithmic Society" and how we can approach the emerging issues of this technology.

00:00:00 Intro music

00:00:07,040
Léonard Van Rompaey
Hello and welcome to the Copenhagen Legal Tech Lab podcast, where we address innovation and the law from three angles: people, technology, and business.
Today we're here at the Law Innovation and Vulnerability Conference, at the Faculty of Law at the University of Copenhagen, together with Associate Professor David Restrepo Amariles coming from HEC Paris Business School, SMART Law Hub and author of Algorithmic Decision Systems in the Handbook of The Law of Algorithms. Welcome, David.

00:00:46,399
David Restrepo Amariles
Thank you very much, Léonard. It's a very big pleasure to be here with you today.

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Léonard Van Rompaey
It is shared. It is shared.
So, to get straight on this topic because we've been having today lots of conversation at the law, innovation and Vulnerability Conference about A.I. and the regulation of algorithms and so on. And there is a concept that you have been working a lot recently, which is the algorithmic society. So, can you tell us what is the algorithmic society?

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David Restrepo Amariles
Yeah. That's a great question to start this podcast.

Well, you know we live in a society governed increasingly by a whole set of machines and data and software way more than we were before, but we know that, actually, algorithms took us to the moon. Right?
And now they are not only taking us to the moon, but actually, they are just giving us a kind of coke in a vending machine. They are actually doing credit assessment and credit lending. They are also flying planes, opening doors.
They are, sort of, playing a fundamental role in organising society to a certain extent.
And actually, we don't get to realise how much all this set of instructions embedded in computer software are just surrounding us all the time.
So, basically, the algorithmic society is in a society in where, basically the functioning of fundamental institutions, our political institutions, our economic institutions are infrastructured, are run by sets of algorithms running in data centres in servers in the world and making our life different from before and different in the sense that those algorithms are to certain extent invisible to our eyes.

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Léonard Van Rompaey
And I guess there's also a question of control also over these algorithms, right?
Because when it's human beings that make all those decisions that you were talking about until now, we have set ways of auditing the decisions they made and questioning those people. Why did you make that decision? What did you base it on?
So, I guess there's a problem. We develop the technology because we want to lose control. We want to put the machines in control because that's where we don't have to do. But then, like, how do we make sure the systems are still making the right choices?

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David Restrepo Amariles
Right. That's of course very important. The question of how do we regulate an algorithmic society has sort of different layers. Right?
An algorithmic society is a society where risks are distributed in a different way and are different in nature. Right?
When you go to a bank and you have a cashier helping you out and just doing manual paperwork to give you out your money and that person is unavailable, you can go to the next cashier.
But actually, if the system is down, no one can withdraw the money. So, we have a whole set of different risks that become more systemic and spread out. And that's this important consequence that we have to regulate.

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Léonard Van Rompaey

And at the same time, you have other types of risks that are disappearing like risks that would come from human hands during those same questions like, for example, corruption and embezzlement.

That maybe becomes a bit more difficult. So, we lower that risk to, right? It's not just a question of new risks appearing, is also we're gaining less risk on some other things.

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David Restrepo Amariles

You're raising a great point that it would say, a sort of a cultural variations, in the relevance of algorithmic systems across our societies. In societies, for instance, with high corruption rates, governments or companies actually prefer to have algorithms in control and lower sort of human oversight.

Whereas in societies where you have, let's say, more democratic controls and trust of of citizens over those institutions, the objective is how do we implement human oversight over those algorithms?

So, I think that's indeed a very important point. And just to get to two other things you mentioned about regulation in the algorithmic society, because of the nature of those systems, there is one fundamental change, one that we cannot wait for ex post control.

If you imagine a content ID, for instance, used by YouTube, taking down videos when they don't comply with copyright law. And you just wait until someone complains you might be taking down a lot of very videos that were actually legally uploaded.

So, one of the big challenges of algorithmic regulation is *ex-ante* regulation. And that comes to a certain extent, the scalability of regulation. How do we make regulation scalable, in a certain way algorithmic regulation, scalable for a algorithmic society?

Because if you just control algorithms at the second order level, meaning *ex-post*, you just exposed society to great risks during a long period of time.

So, this takes us to what some people call regulation by design, including constraints, behavioural constraints of algorithms by design, rather than controlling the outputs of those algorithms.

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Léonard Van Rompaey

Because controlling *ex post* right, so controlling after the action has been performed, that's what we do with human beings, isn't it?

And for instance, you know, you're a doctor and you make a bad diagnosis, and you haven't kept up with new knowledge in your field. And someone gets hurt. One of your patients gets hurt because of that decision. Then there's a host of consequences that can come and sanction that behaviour.
But of course, it doesn't really make sense to punish an algorithm. So, in that sense, I think that what you're what you're telling me. Another way to look at is that that's the only way we can do it. The only way we can actually enforce that control over the decision is by making sure it has happened before the system is even put in place.
But how do you control, that a robot is able to make the right diagnosis decisions in the first place?

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David Restrepo Amariles
Well, yeah. I mean, that's I would love to have the answer for that. I guess we have right now some experience in different areas.
For instance, in the financial sector, a sort of what we call stress-testing that's been widely used to test algorithms that are deployed in financial markets. So, this is sort of creating scenarios where you sort of test the algorithm before it is actually connected to a specific marketplace.
So, one of the possibilities is subjecting some of those algorithms to ex-ante tests, and defining, of course, very critical thresholds that would allow to sort of the next step.
But it actually creates an issue. Of course, if you have a human decision maker sort of having an error in judgement, you might just have that for the specific case in which that human is deciding. When you believe that you have incorporated a principal, let's say, of privacy by designing an algorithm, or human dignity, very controversial, and it is not operating well and it is also scaling the damage because it is doing it in a systematic way.

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Léonard Van Rompaey
So, it’s only after X amount of repeated error happens that some consequences eventually happen. Whereas when humans make a mistake, they're usually responsible straight after a said mistake.

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David Restrepo Amariles
Absolutely. Yeah, and there is it is very difficult to take things to the where they were before, So that's absolutely a consequence.

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Léonard Van Rompaey

And I think that's there's also something to be said about the concept of human centric AI and that that comes back to the notion you were saying about strength testing algorithms ex-ante.
So, before their fielded before they're sent off. I mean, like testing procedures is some fantastic requirements, is something pretty normal when we think about physical safety. You can't put a car, a new car on the market if you haven't extensively tested that your system that your car isn't going to break down in a certain number of scenarios over a certain number of kilometres.
So, this this this idea that systems need to be thoroughly tested for safety and now fundamental rights issues. That's not something that's new. But what's new is the nature of the technology and the relation that the technology has to what we can do with law, because to a certain extent there's limits to what law can achieve, and we've seen that very well.
For example, on the Internet, it's still incredibly difficult to age zone online content. It's been going for, like, 30 years, it's incredibly difficult to prevent minors from accessing online pornographic content, because the only way you can screen those people out is essentially by having you know, a little box that asks you: can you check in if you're over 18.
So, there's a lot of limits to what law can do, what regulation can do. But when we're trying to push forward the idea that AI needs to be centred around human values, it is to respect human dignity, non-discrimination, and the principles you mentioned. So, what is the limits and what are the abilities of regulation in achieving that objective?

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David Restrepo Amariles
That's a great question, Léonard and I think the first thing we have to be aware of is that AI systems generally optimised have an objective, to be optimised, that might not be human related. For instance, the supply of energy. So, the question is, how do you ensure that an algorithm controlling for the supply of energy or the pricing of energy it's human centric, and how can regulation actually play out there.
So, once we understand that AI Systems might not have objectives that are related, directly, I would say, to human values, then the question is, how do we introduce human values and how we test those algorithms for human values?
And that's where regulation is coming in. It's kicking in right now through standardisation through the AI Act in the European Union. But there are limits to that regulation. There are limits to that regulation because, as you were saying, although I consider myself how William Twining says a legal nationalist, so I believe in the strength of law to have an impact on society, not everyone believes that.
But how can actually we ensure that law has an impact and regulation has an impact in the way AI systems are designed. So, they incorporate human values. And I think the main point to understand our days is that this will come through operationalisation of technical standardisation. So, we're going to have a set of standards that will define, and we heard this today in the event

that there are technical standards to define, for instance, what is a valid consent in medical procedures. So, a lot of these operationalisation of human rights and human values will go through standardisation.
So, I think we have to keep an eye on that as people interested in law and values and the limits of regulation today is in our ability to transform human values and human rights into technical standards and to test for those values and standards in a way that makes sense and actually promotes human rights and human values.

00:14:21,299

Léonard Van Rompaey

Do I understand correctly that standards are norms that are made by the industry? They get together andthey say, to achieve that specific safety objective, you need your machine to be this and that way, is that Is that how standards work?

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David Restrepo Amariles

That's correct. So, standards have a fundamental role in operationalising the road to market for different products, and they are mostly led by industry.
But standards play a fundamental role in setting the concrete rules, actually that in many ways operationalised legislation and regulation.
So that's why I think that standards today, in many sectors but especially in the AI industry should be free. But if standards are key to maintaining to ensure human rights are implemented in AI systems, those standards should be free to the industry. Because we know today that a lot of organisations cannot pay to the documentation.

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Léonard Van Rompaey

Well, thank you so much for joining us today on this podcast and this conversation together with Professor David Restrepo Amariles.
We talked about a lot of cool stuff. Human centric AI and the Algorithmic Society and the limits of law. And maybe one final question for you, David. So, if in the end the only real rules that are applied in technology, the only real norms that are applied in technology are those standards, is there a place for us lawyers in this in this world? Can't we just get replaced by engineers, essentially operationalising the law instead of us?

00:16:29,120

David Restrepo Amariles

Great question, Léonard. And actually, we are as lawyers, the specialist of norms. That's our domain. That's our business. And actually, throughout history there have been competitors to lawyers, and there have been competitors to other people in other domains.

For instance, for accountants, there were two different types of accountants in Middle Ages, there were the ones using the abacus and those using Arab numbers.

And lawyers have had competitors before. Theologist have been competitors. Managers have been competitors. Economists have been competitors in regulating society.

So, it's not the first time we have competitors. We've been there.

So, we just have to remember that whatever regulates society is the business of lawyers, and therefore, I mean, the call is rather to get involved in this standardisation, and to understand how we can ensure that keep values of the law, like due process or the rule of law, are actually embedded in the new way, I think, regulation would work in the algorithmic society to end up with the concept we started.

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Léonard Van Rompaey

Thank you, Professor David Restrepo Amariles from HEC Paris Business School.

This was Léonard Van Rompaey, Postdoc at KU, Faculty of law.

Thank you for listening. And this was it. This is the Copenhagen Legal Tech Lab - Podcast.

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Thank you

00:18:14,539 - Outro

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