

Urban Digital Twins and the shaping of problems, publics, and institutions: Discussing conceptions of digital constitutionalism

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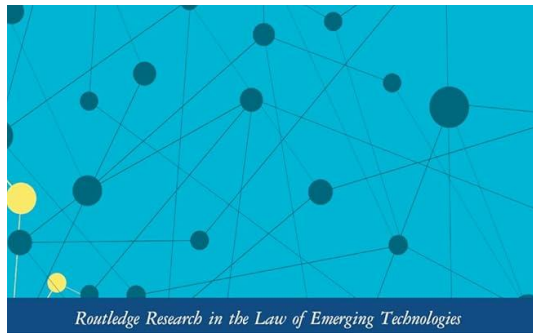
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“How to address the ethical challenges of AI?”



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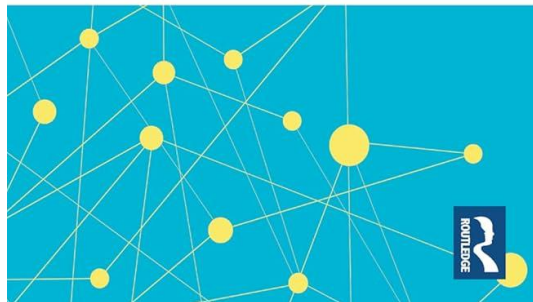
Digital constitutionalism in legal scholarship



DIGITAL CONSTITUTIONALISM

THE ROLE OF INTERNET BILLS OF RIGHTS

Edoardo Celeste

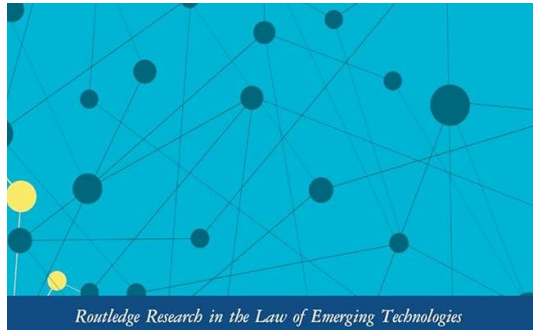


Understand how constitutional norms are being rearticulated in response to the spread of digital technologies

Transplant constitutional values into digital infrastructures → Better regulate digital actors and platforms

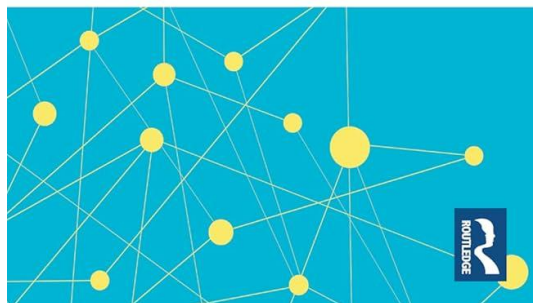


Digital constitutionalism in legal scholarship



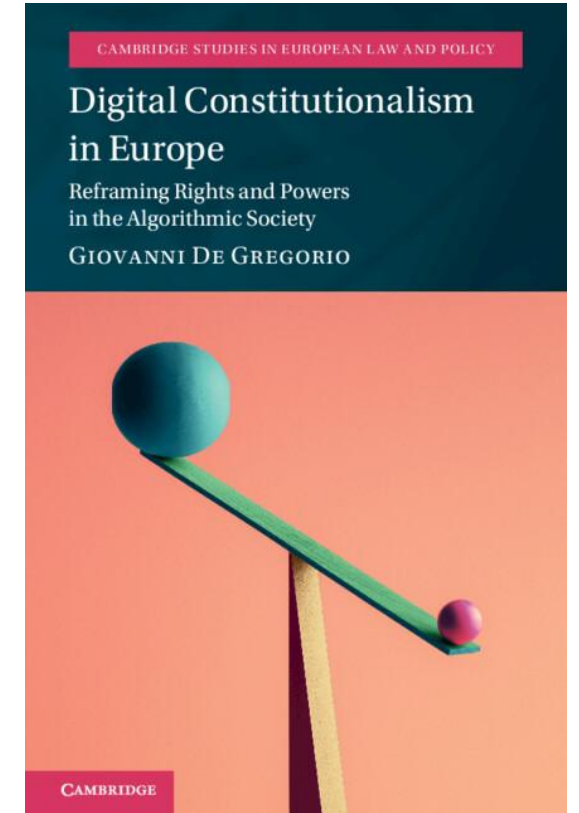
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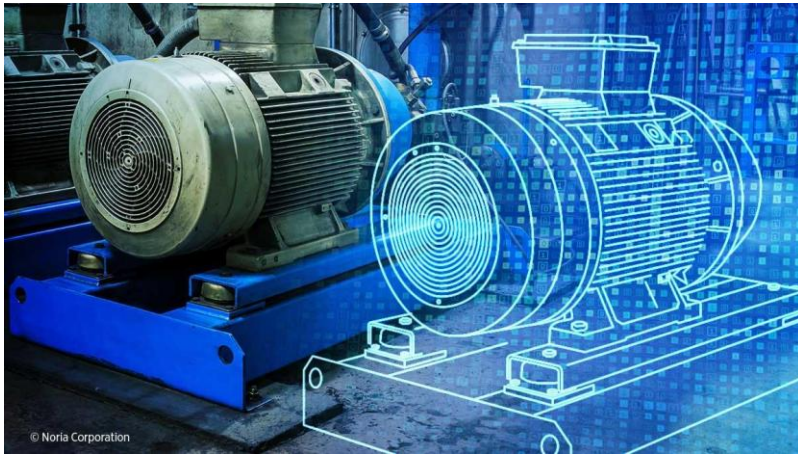


Focus on legal texts (esp. Internet Bills of Rights): best ways to adapt them so that they can safeguard a constitutional order (e.g., level, degree of constraint, etc.)

The constitutional order to preserve often know in advance: set of principles and values that should guide the development and regulation of digital technologies

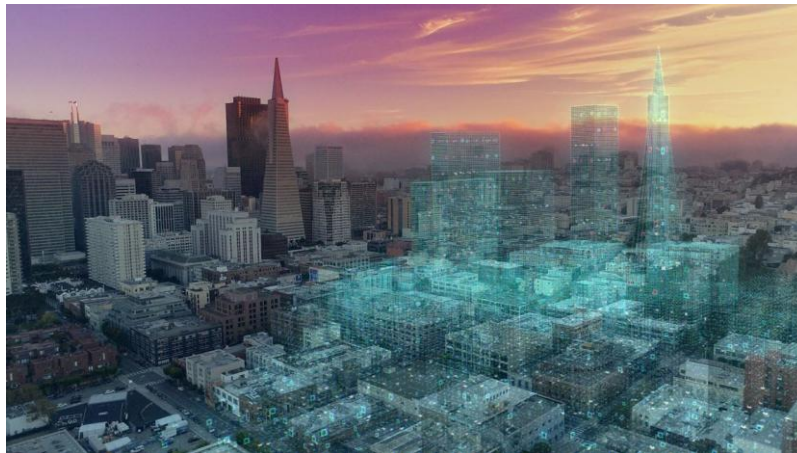


Urban Digital Twins



► Visualizing and interacting with the city

- › Connect data and actors to generate knowledge (e.g., monitoring air pollution)
- › Act as virtual test beds (e.g., testing new mobility plans before implementing them)
- › Provide interfaces to engage stakeholders and citizens (e.g., consulting on building permits)



Namur – Fostering environmental sustainability



Namur3D (Jambes)

“One of the key issues in moving away from new construction is to renovate existing buildings. **We had to show people** that their buildings, their homes, had a very low energy efficiency. (...)The problem is, you have this intention, but how do you reach everyone? How do you raise awareness, how do you visualize it? As a teacher by training, **I'm obsessed with pedagogy.**”



Namur3D (Erpent)

“So the policy was simple to implement. You had to **put a tool in place to reach everyone** and say, "Here's what you need to do, here's the condition of your home, here's what you need to do to insulate it. And here's what you can do to get renewable energy".

Allowing for 'better' decision-making



“I had also thought of it in terms of urban planning, saying "we're going to build new constructions and we're going to look to see if they're in the way". **It's an objective decision-making tool for politicians that is magnificent.**”



Namur3D (implantation d'un projet urbanistique et portée d'ombre)

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Leverage in negotiating with private stakeholders

"Showing things in a transparent, non-arbitrary manner (...) **helps holding our political line loud and clear**"

Namur puzzles



- ▶ Public mastery over the infrastructure
 - › Who owns the data? Who owns the capacity to maintain and update the infrastructure?
 - › 'Capture' by private companies

- ▶ Ethical issues: Privacy and Public interest

Namur puzzles



- ▶ ‘Too political’ of a technology?

Rennes – Turning the city into an ‘ecosystem’ of data and innovations



“It's a somewhat atypical project, since we're going to demonstrate that we can **build a sustainable city with a sandbox, a playground, and grey matter**. The sandbox is the digital platform, which enables cities to be designed digitally, the playground is Rennes, and then the grey matter will be provided by innovators from the digital world who will come and develop innovations to make the city more sustainable and, of course, we mustn't forget the citizens, as the objective of the platform is for citizens to take hold of these innovations and contribute to making the city more sustainable and livable.” (Official presentation discourse, May 2017)

“Visualization allows for collaboration”

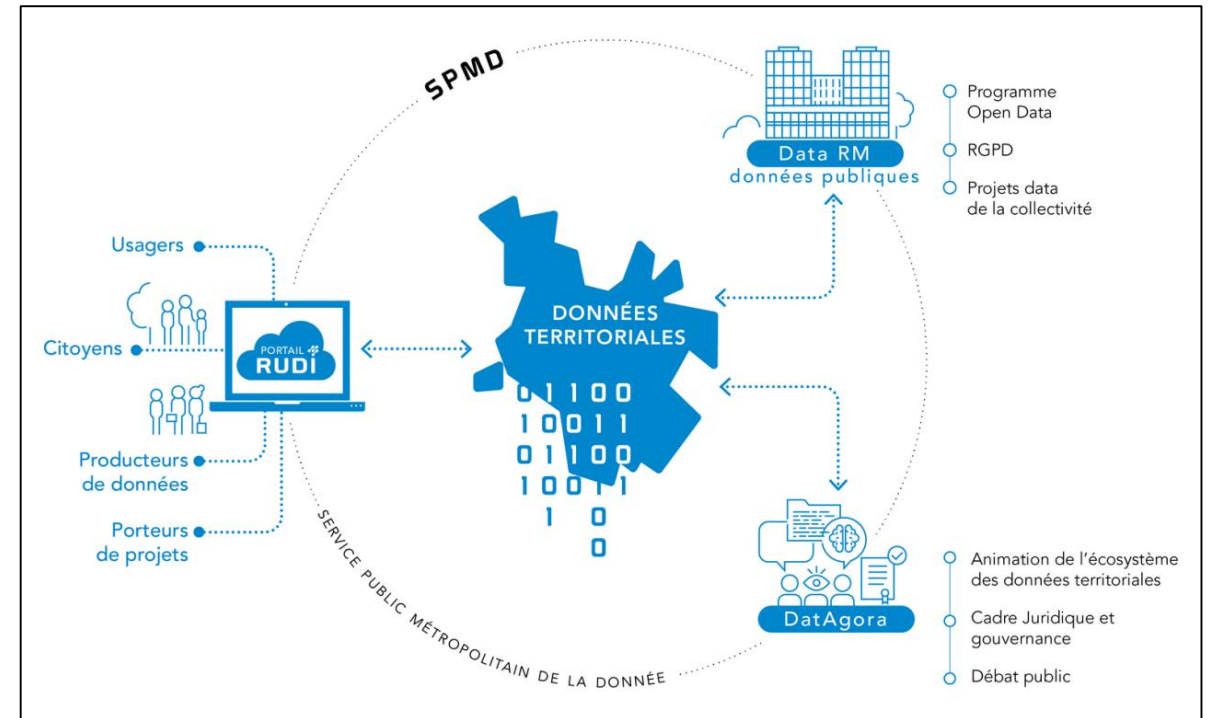


“The platform will enable all city stakeholders to remotely share data that will allow them to simulate and better observe urban phenomena ... **foundation that all stakeholders of the city can access to simulate, plan, and manage the city in a transversal and collaborative way”**

“Ecosystem” rationale



- ▶ Different (evolving) uses of DUT:
 - › Enrich decision-making
 - › Co-create with citizens and entrepreneurs
 - › Coordinate the action of private entities in ‘managing’ the city
 - › Act as an interactive platform for innovation-making
- ▶ Public bodies have to ensure a ‘coordinated approach’
 - › Centralization and sharing of data
 - › Caring for ‘public’ data
 - › ‘Law for Digital Republic’, data made open and circulated



Rennes puzzles



- Public mastery over data collection, management, and use

What is at play here?



- ▶ Digital visualization tied to ideas of objective representations made circulable and actionable (speaking truth to educate, nudge, collaborate)
 - › ‘Twinning’ selectively highlight certain public problems, influence inclusion/exclusion of certain actors and the design of urban policies... based on certain interests, values and visions of good and desirable governance (Knopf et al. 2025)
- ▶ Constitution of objects, subjects, problems, and institutions deemed legitimate to represent and make decisions
- ▶ Situations of ‘state trials’ (Muniesa and Linhardt 2011)
 - › What is a ‘good’ public problem, a ‘good’ citizen, a ‘good’ institution emerge as the technology is deployed and uses are developed
 - › Coming together of what a ‘good’ governance is
 - › Messy process, full off ethical and democratic puzzles that cannot be reduced to legal ones nor solved by legal provisions
- ▶ The answer to « what is this all about? » is at least partly context-dependent...
 - › Reinforcing power asymmetries, technocratic modes of governance, exclusion mechanisms, privatization of urban governance
 - › Struggles to care for open, public data; reinforcing public authorities *vis-à-vis* private companies; very little but still existing openings for participation; ongoing learning process and adaptations.

UDTs and Internet Bills of Right – Two sides of the same coin?

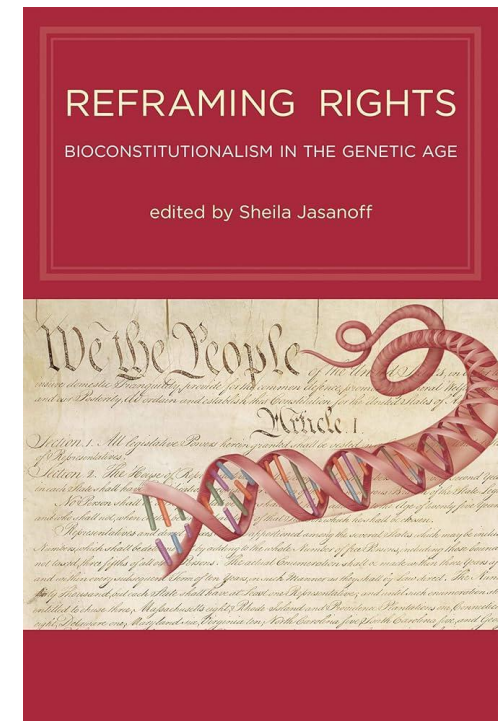


- ▶ Developers and users of urban digital twins are also engaged in a (messy) process of constituting what governance is, based on how they think it ought to be
- ▶ No legal vacuum, but legal texts are one component of this process of constitution
 - › ‘Constitution’ unfolds not only through law-making but also through the mutual influence between digital platforms and so-conceived desirable governance practices.

What should a thing called 'Digital Constitutionalism' be about?



- ▶ Rights, subjectivities and modes of governance are shaped and enacted both through laws and norms and through scientific and technological developments (bio // digital)
- ▶ Focusing on legal texts risks failing to grasp processes of constitution unfolding at other scales (e.g., the 'mundane' operations of governing a city through a twin)
 - › Constitutionalism should less be about imposing current ideas about regulation and rights on the digital sphere, than about accounting for the reordering being initiated by digital technologies
- ▶ Need both legal provisions and nurturing situated spaces for collective exploration and deliberation of the ethical and democratic issues that emerge where and when digital technologies and notions of desirable governance mutually influence each other
- ▶ How much 'global' can/must constitutionalism be?



Thank you!

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