



European
University
Institute

DEPARTMENT
OF LAW

Ethics, Law, and Simulation

Thinking about social simulation in the world

Marco Almada



Background

- Researcher at the Department of Law, European University Institute (Florence, Italy)
- Law & computing, esp. AI
- Before:
 - BSc, MS in computing @ Unicamp, Brazil
 - Design of social simulations





Outline

Today's goal is to **think together** about how these questions impact social simulation practices.

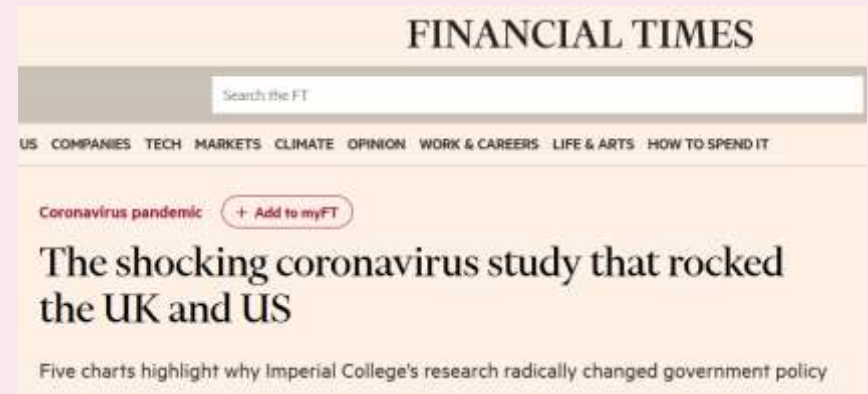
1. **Why** think about ethics and law when discussing social simulation?
2. **When** can we do something about ethical and legal issues?
3. **How** can we approach these issues in practice?

(See final slides for image credits!)



The importance of ethics and law

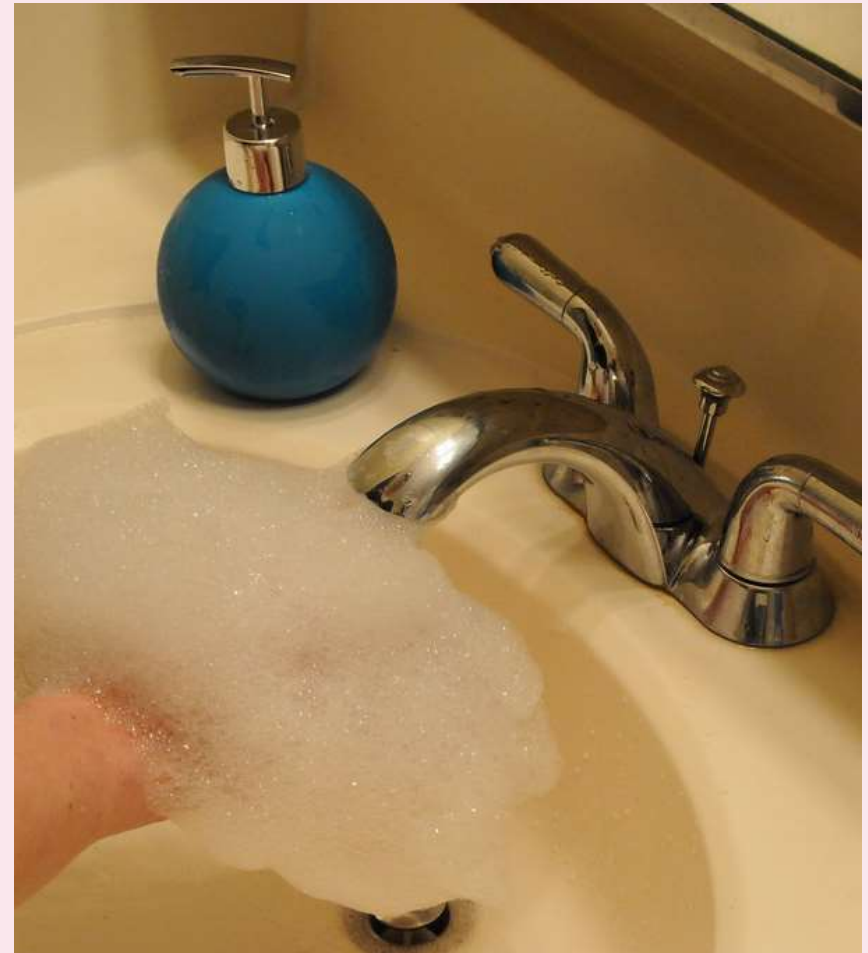
- **Short answer:** simulations matter in the real world
 - As inputs for how we think about simulated phenomena
 - As sources of **legitimacy** for arguments and policy decisions about social issues
- Example: the role of Covid-19 simulations in public policy and public opinion





Failure modes in simulation ethics

- Lack of ethical concern (Lehrer 1965)
- Reasonable disagreement and conflicts of values
- Ethics-washing (Bietti 2020)
 - Vague wording in place of critical analysis
 - Avoiding regulation





Social simulation and the law



- Social simulations are not frequently discussed by law
- Simulation designers and users are subject to laws
 - Research funding
 - Data protection
 - Intellectual property
 - Etc.



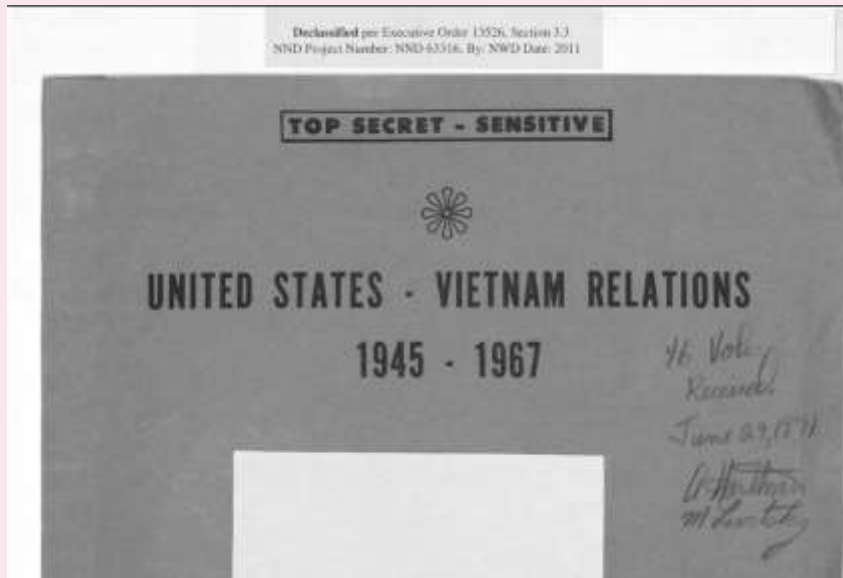
Distinguishing law and ethics

- Binding force of legal rules
- Differences between law and ethics
 - Creation mechanisms
 - Content-independence
 - Enforcement mechanisms
- There's no *either/or* choice between ethics and law





What can be done?

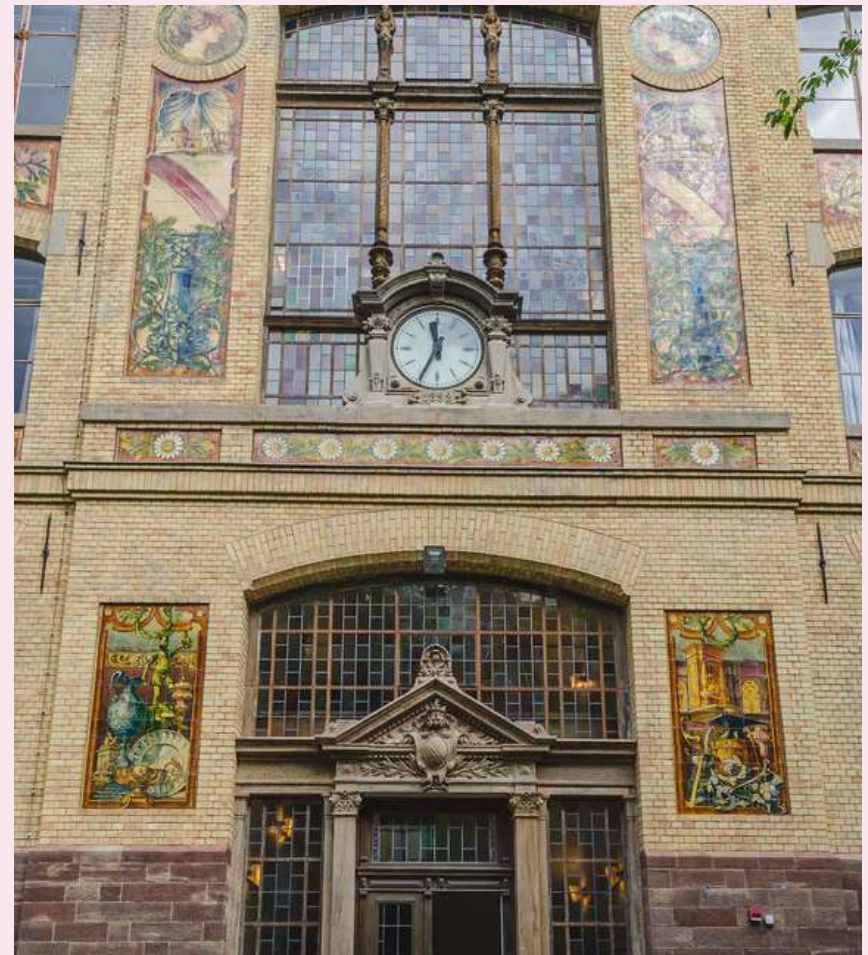


- What sorts of **issues** appear in simulation research and operation?
- What **can** practitioners do?
- What **should** practitioners do?



Moments for action

- We now examine three places where this might be possible
 - At the moment of simulation design
 - At the moment of educating simulationists
 - At the moment of using and drawing inferences from simulations





Ethics and law by design



- Compliance with existing legal rules (e.g. Article 25 GDPR)
- Leverages specialist knowledge
- Reduces the burden upon the recipients of simulation



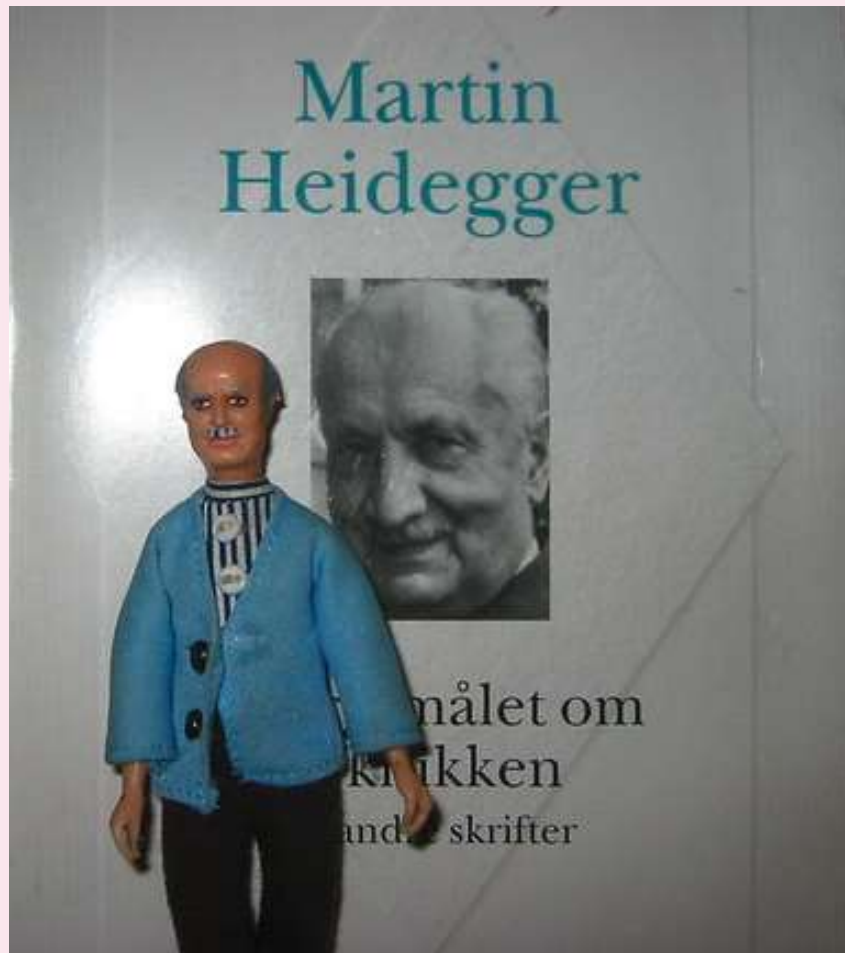
Limits to enforcement by design

- Not all requirements can be encoded (Koops and Leenes 2014)
- Value conflicts and legitimacy to solve them
- When are values relevant? (Sutcliffe *et al.* 2021)





Education for ethical and legal thinking



- Teaching ethics
 - Research ethics
 - Professional ethics
- The limits of ethics education
 - Humanities will not save us (e.g Schwitzgebel 2014)
 - Does not mean that we cannot learn from the discipline of ethics



Open questions in the training of social simulationists

1. What **contents** can help with the design of ethically and legally responsible simulations?
2. How do we **introduce** these contents in the curricula?
3. How should simulationists **use this knowledge in practice**? How can training prepare them for that?



After the simulation is released

- Changes to code
 - Adapting to new knowledge and conditions
 - Not always possible
- Other avenues for action
 - Shaping interpretation (see Kolkman 2020)
 - Critical analysis
 - Intellectual property?





Designing ethical and lawful simulations

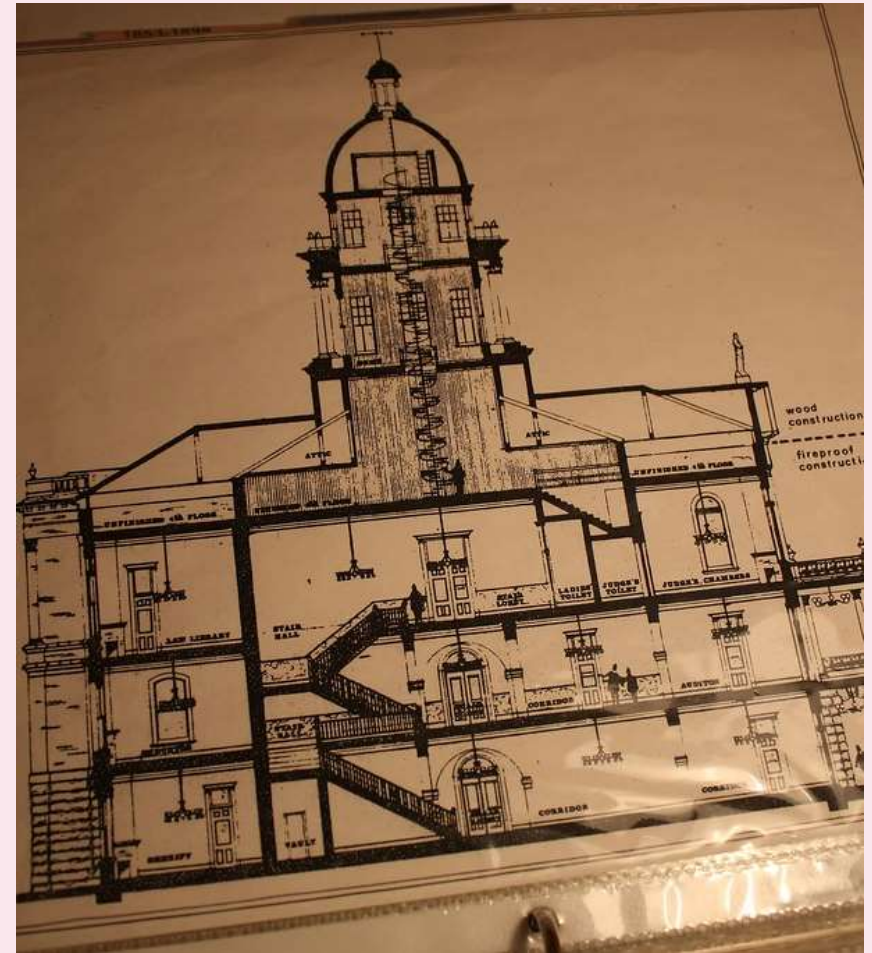


- As we discussed, design approaches will not exhaust all ethical and legal issues
- However, even partial solutions can bring benefits
 - Addressing the low-hanging fruit
 - Mapping the “known unknowns”
 - Drawing red lines
 - Adding flexibility



Design methods for ethical and lawful simulation

- Various *X by design* approaches have been proposed
- In the design phase, simulations might benefit from existing software engineering approaches (Almada and Attux 2018)
 - Value-sensitive design (Cenci and Cawthorne 2020)
 - Stakeholder involvement (Costanza-Chock 2020)





Critiquing social simulations

- Timing for critique
 - Before deployment
 - After initial consequences
- How much analysis is needed?
 - Current applications
 - Limits in foreseeing future use





Simulation critique and specialized knowledge



- Proper critique requires various forms of knowledge
 - External critiques often lack understanding of the technical constraints and of the practices
 - Ethical and legal issues also require different forms of specialized knowledge
- Division of labour:
Fostering communication between specialists



Ethics and law beyond the specialists

- Domain-area experts are not the only people who matter
 - General impacts of the use of simulation
 - Reference to simulation provides scientific backing to arguments (see Hong and Page 2004)





Casting a wider net



- Need for listening to a broad range of voices
 - At design: participatory design and related approaches
 - At training: general education
 - At critique: attending to non-expert questions
- Feasibility?



Where do we go from here?

- Current methods and approaches face some challenges in dealing with the social impacts of computing
 - Extending techniques to attend to the unique challenges of simulation
 - Need for new approaches and tools
- How to communicate what is unique about social simulation?
- How not to reinvent the wheel? Recipes and best practices and the need to hear from practitioners



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Thank you!

Contact: Marco.Almada@eui.eu

Twitter: [@MarcoAlmada](https://twitter.com/MarcoAlmada)