



FROM TEXT-DRIVEN LAW TO DATA- AND CODE-DRIVEN REGULATION

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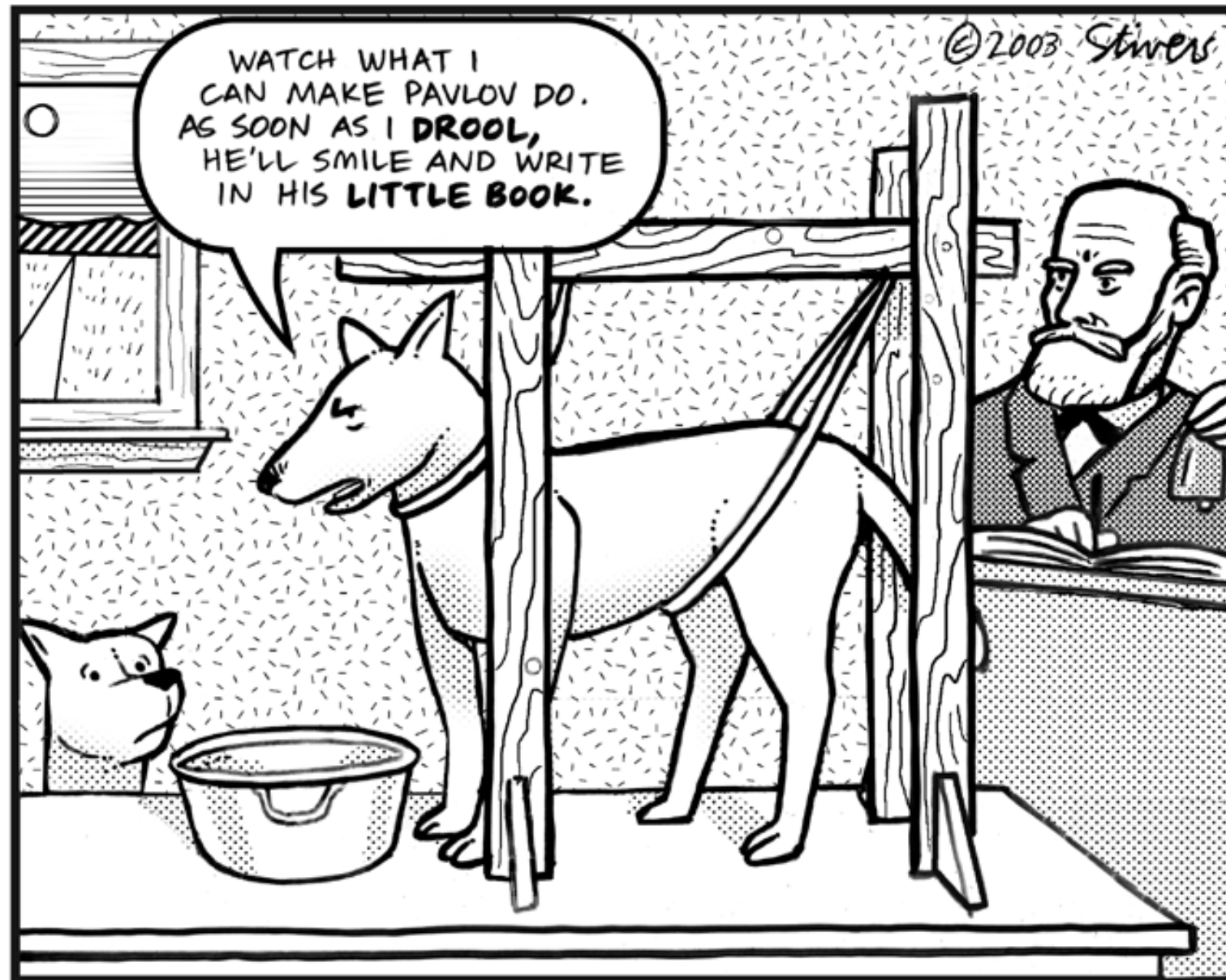
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**“Go ahead and think that
I’m not really thinking. I thought
you would think that.”**



Deep Learning: Alchemy or Science?

Deep learning has led to rapid progress in open problems of artificial intelligence—recognizing images, playing Go, driving cars, automating translation between languages—and has triggered a new gold rush in the tech sector. But some scientists raise worries about slippage in scientific





story

Sweden: Rogue algorithm stops welfare payments for up to 70,000 unemployed

- “Officials at the Swedish Public Employment Service (*Arbetsförmedlingen*) started looking into the system after they noticed it was failing to generate letters to welfare claimants that had been expected. When they finished their review last year they found major shortcomings, with between 10% and 15% of the computer’s decisions likely to have been incorrect, [SVT reported](#).
- It is unclear whether it will be possible to identify and correct the erroneous decisions, and when exactly the problem started.”

- The government brought in the computer system to automate the process of checking that people receiving a certain type of unemployment benefit keep up their obligations – and issuing warnings or withholding their payments if they don't. This was supposed to increase efficiency, but since last Autumn the system has been switched off and human bureaucrats brought back in to sort out the mess.
- The news comes just three weeks after the employment service announced it was laying off up to 4,500 of its 13,500 employees. The service cited a budget cut of SEK 800 million (€75 million) between 2018 and 2019. Mikael Sjöberg, Director General, was quoted in a [release](#) saying: "The renewal of the authority and the digitization we have carried out has laid a good foundation for continuing to deliver at a high level".

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COVER STORY

Some law schools offer tech programs to help students find jobs, but does it work?

BY STEPHANIE FRANCIS WARD AND JASON TASHEA

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- “Rather than spend seven hours labeling almost 2,000 trial exhibits by hand, Daniel Sanders thought it would be more efficient to set aside two hours and write a program to automate the task.
- But his supervisor at the plaintiffs firm he clerked for in law school was apprehensive about relying on such an unfamiliar process. The exchange, Sanders says, sums up much of his experience as a young lawyer trying to build a career in tech law. Sanders, a 2017 graduate of the Illinois Institute of Technology’s Chicago-Kent College of Law, spent three months applying for positions in privacy law and data security with scant responses and no offers.”

COUNTING AS A HUMAN BEING IN THE ERA OF COMPUTATIONAL LAW

(COHUBICOL)

SAY CUBICLE
THINK WITTGENSTEIN'S CUBE

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HOME

COMPUTATIONAL LAW

LEGAL PROTECTION

EVENTS

PRESS

RESEARCH OUTCOME

INNOVATION OF LEGAL METHOD

'It would be nice if all of the data which sociologists require could be enumerated because then we could run them through IBM machines and draw charts as the economists do. However, not everything that can be counted counts, and not everything that counts can be counted'.

William Cameron, *Informal Sociology*, 1963, p. 13

What's next?

- 1. Legal protection under text-driven law**
- 2. Legal protection under code-driven regulation**
- 3. Legal protection under data-driven regulation**
- 4. A new hermeneutics (from close reading to distant reading and back)?**

1. Legal Protection Under Text-Driven Law

1. Law and regulation (internal legal perspective)

- Law: legislation and case law
- Regulation: rules and policies based on discretionary competences

2. Law and regulation (internal & external perspective)

- Law: standards for human interaction (force of law, legal certainty, contestability)
- Regulation: cybernetic approach of remote control (influencing behaviour)

1. Legal Protection Under Text-Driven Law

Legality and legalism

1. Legality:

- Checks and balances: internal division of sovereignty, democracy
- Legal certainty based on written text assumes argumentation
- Positive law is crucial, but open to interpretation and contestation

2. Legalism:

- Rigid following of rules (whether of legislator or inferred from case law)
- Decision of what cases are similar in terms of a rule remains hidden
- Aligned with legal positivism (decisionism & normativism)

1. Legal Protection Under Text-Driven Law

Written and unwritten law

- **Affordances of the printing press:**
 - Externalisation (as with written text)
 - Distantiation author – reader – meaning
 - Proliferation of text (contradictory)
 - Favours sequential processing of information
 - Transformation of contestability (in oral society norms are 'under the skin')

2. Legal protection under code-driven regulation

Role of discretion under the legality principle

- Discretion is not absence of legal norms
 - Recognition of adaptive character of human judgement
 - Legality principle requires 'street level bureaucrats' to have power to decide
 - While remaining accountable within the decisional space of lawful action
-
- **Algorithmic decision-making displaces that power to system developer**
 - **Scalability is not always a feature, it may be a bug**

2. Legal protection under code-driven regulation

Type of administration, under the Rule of Law

- Code-driven decision-making is public administration
- It is not law, but implies regulation (policy, discretion, judgement)
- Being under the Rule of Law means requiring justification in legal terms

2. Legal protection under code-driven regulation

Decision-trees, predictable, automation of errors

- Explanation may be difficult due to complexity of decision tree
- But decisions are – in principle - predictable
- Errors of fact or interpretation are not must multiplied but automate

3. Legal protection under data-driven regulation

Need for justification under legality principle

- Much ado about explainability
- But legality principle requires justification

3. Legal protection under data-driven regulation

Interpretation-accuracy trade-off mantra = pseudo science (depends)

- The more data the more spurious correlations
- If cannot check what drives the output, never sure if correct in real world

3. Legal protection under data-driven regulation

Need for explanation, if under art. 22 GDPR (UK?)

- E.g. smart regulation (self-executing)
- But also decisions based on output of data-driven systems
- If such output is input for code-driven regulation
- EDPB (formerly Art. 29 WP): outside scope if person taking the decision
 - Understands why the decision was taken
 - Has the competence to take another decision

4. A new legal hermeneutics?

From close reading to distant reading

- **Lawyers are used to close-reading both statutory and case law**
- **Automated regulation will transform this**
 - **ML entails distant reading**
 - **Code-driven regulation entails prior interpretation**

A NEW LEGAL HERMENEUTICS

After developing the vocabularies and grammars of law and computer science, we will investigate the types of normativity that will evolve with the integration of data-driven and code-driven grammars into the text-driven grammar of modern positive law.

This will be the starting point for a process of building **new theories of interpretation** that should enable an informed understanding of the output of computational legal systems, based on the capability to **probe, test and contest** such output. This is part of the final years of the project.

