

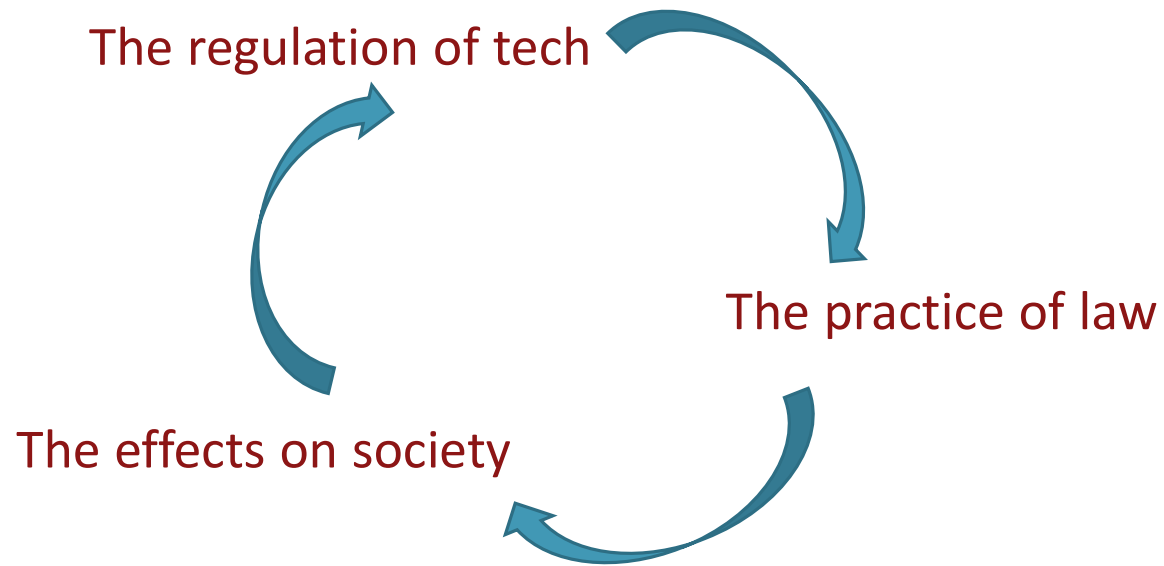
# How Evolving Paradigms Reflect Technology's Role in Law

ARTIFICIAL INTELLIGENCE AND LEGAL METHODS:  
NAVIGATING THE NEW FRONTIER, *October 5–6, 2024*

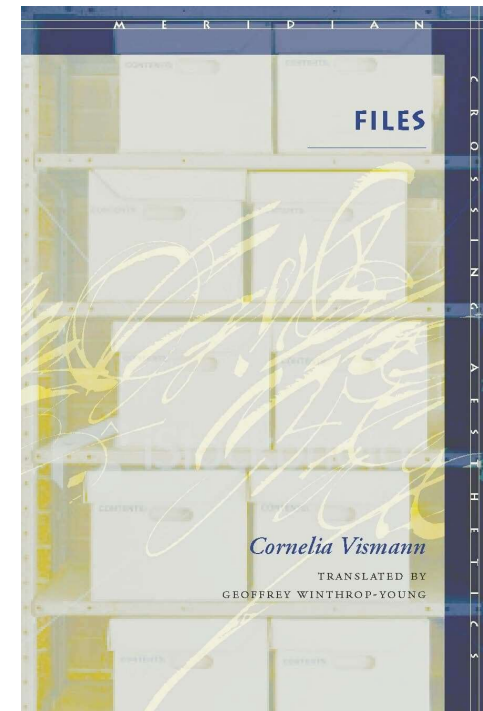
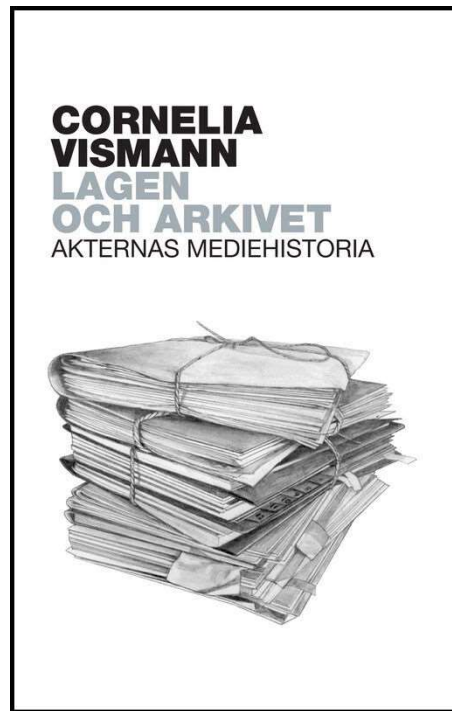
Johan Fredrikzon

fredrikz@stanford.edu

# The old problem of influence...



# Vismann: Law as technology



# 20<sup>th</sup> century crises in legal “legibility”

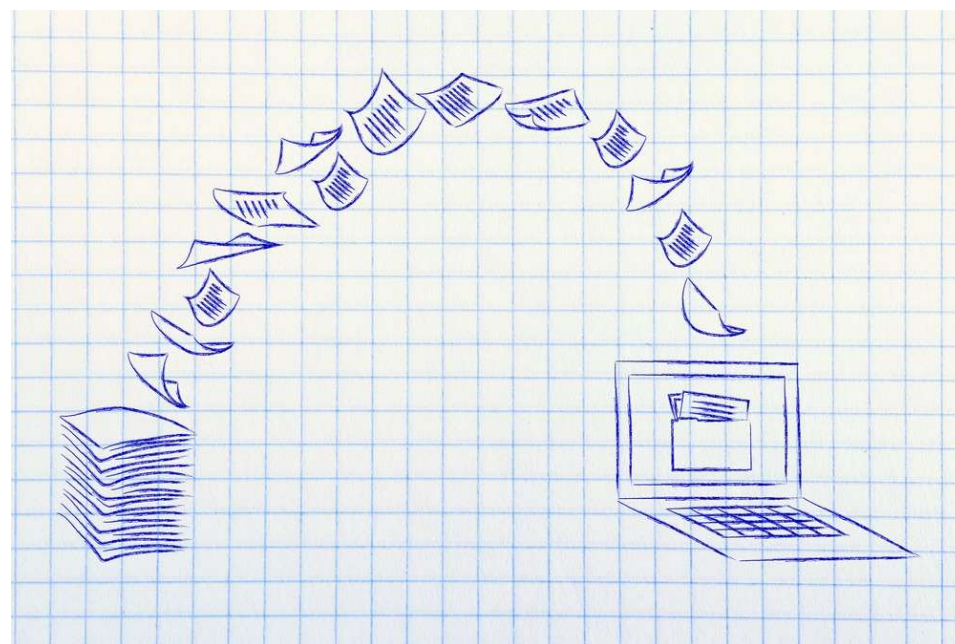
tingar som nu nämnts gällande vad satsat på föreskrivet.

8 § Allmän handling eller allmän upptagning för automatisk databehandling, som ej skall hållas hemlig, skall på begäran genast eller så snart ske kan utan avgift tillhandahållas den som för läsning eller avskrivning på stället önskar taga del därav, varvid upptagning skall tillhandahållas i läsbar form; han äge ock mot fastställd avgift erhålla avskrift av handlingen eller utskrift av upptagningen. Skyldighet att tillhandahålla handling eller upptagning på stället skall dock ej föreligga, om betydande hinder därför möter eller, såvitt avser upptagning, om dess innehåll finnes i läsbar form hos myndigheten. Myndighet vare ej skyldig att för utlämnande framställa kopia av karta, ritning eller bild, om svårighet därför möter och handlingen kan tillhandahållas på stället.

Handling eller upptagning för automatisk databehandling, som endast till viss del skall hållas hemlig, skall utan hinder därav tillhandahållas på stället, om det kan ske på sådant sätt att vad i den delen beröres icke uppenbaras. Kan det ej ske, äge den som vill taga del av handlingen eller upptagningen erhålla avskrift eller utskrift av densamma med uteslutande av den del som är hemlig.

9 § Framställning om utlämnande av allmän handling eller upptagning

SOU 1972:47 (Swedish data act)

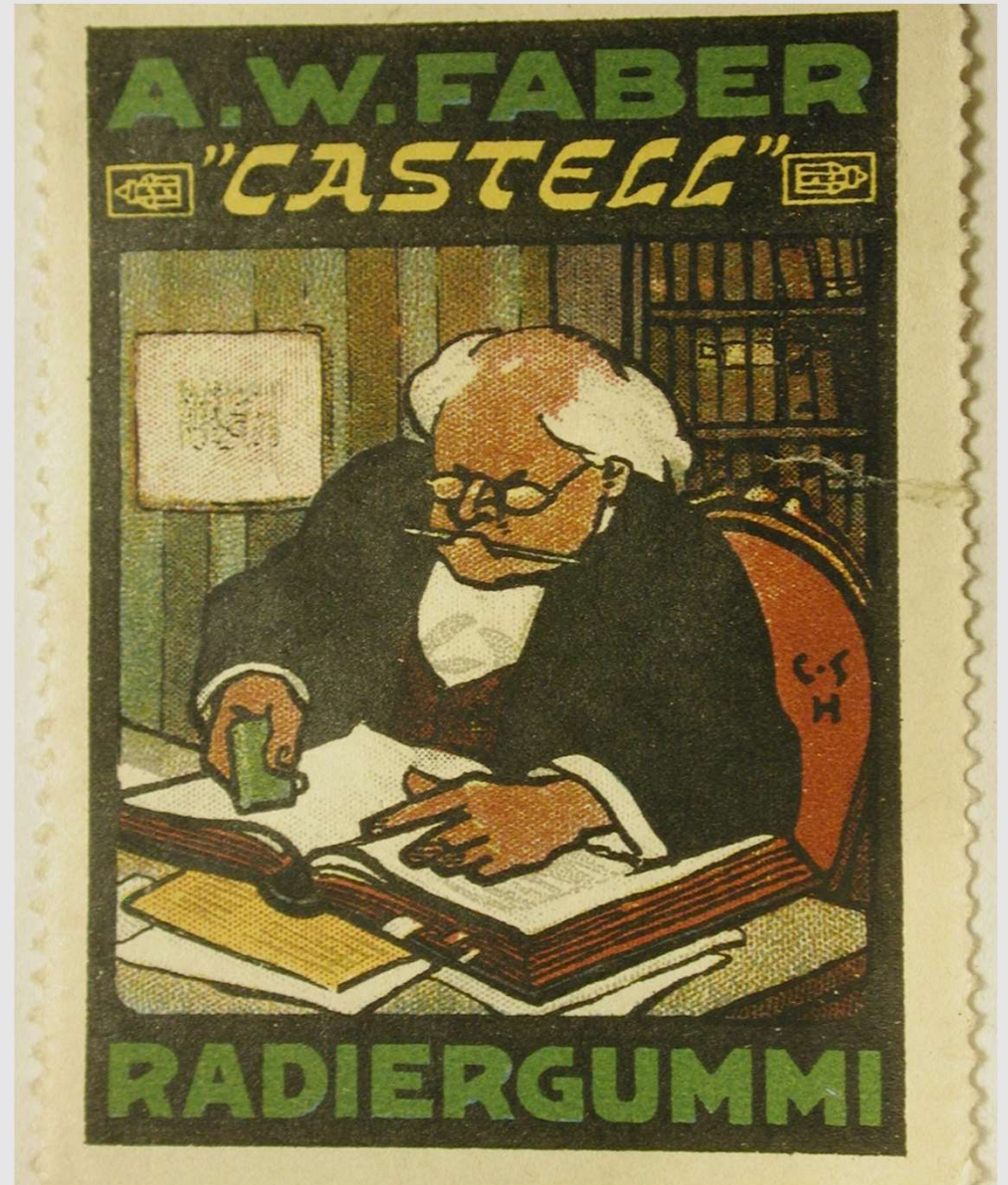


Wormbs, N. (2010), "Det digitala imperativet", Andersson, J & Snickars, P. (red.) *Efter The Pirate Bay*. Stockholm: Mediehistoriskt arkiv 19, s. 140–150.

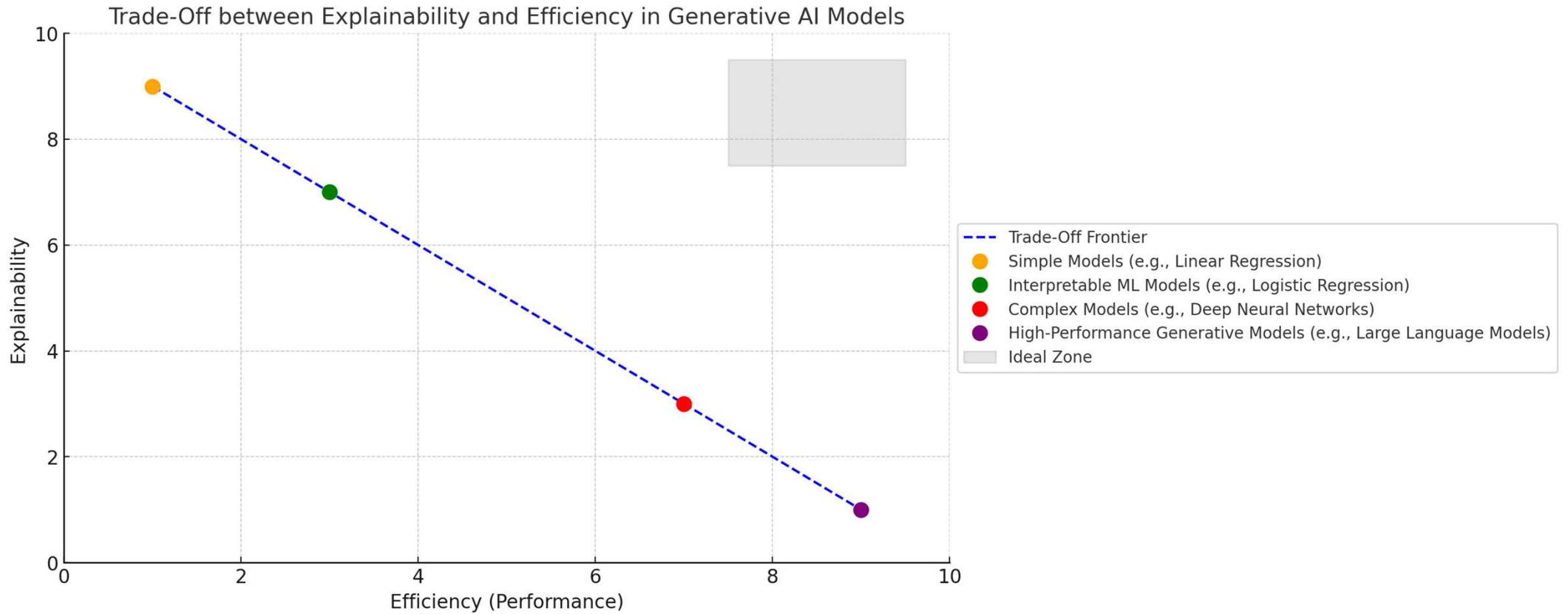
# Three paradigms of legal AI

	Approach	Role of tech.	Role of law
1970–2000	Expert system Rule-based logic Case-based	Formal assistant “legal engineering” Precision	Authority Trust in legal logic
2000–2010	Ontologies Knowledge Mgmt Info. retrieval	Semantic organization Increase accessibility Control of Information	Infrastructure for democracy Public transparency
2010–	Data-driven Predictive analytics Machine learning	“Partner” in decision Offset complexity Autonomous	Mgmt of uncertainty & risk Reactive <i>and</i> Predictive Privatization of standards

# The lost trace

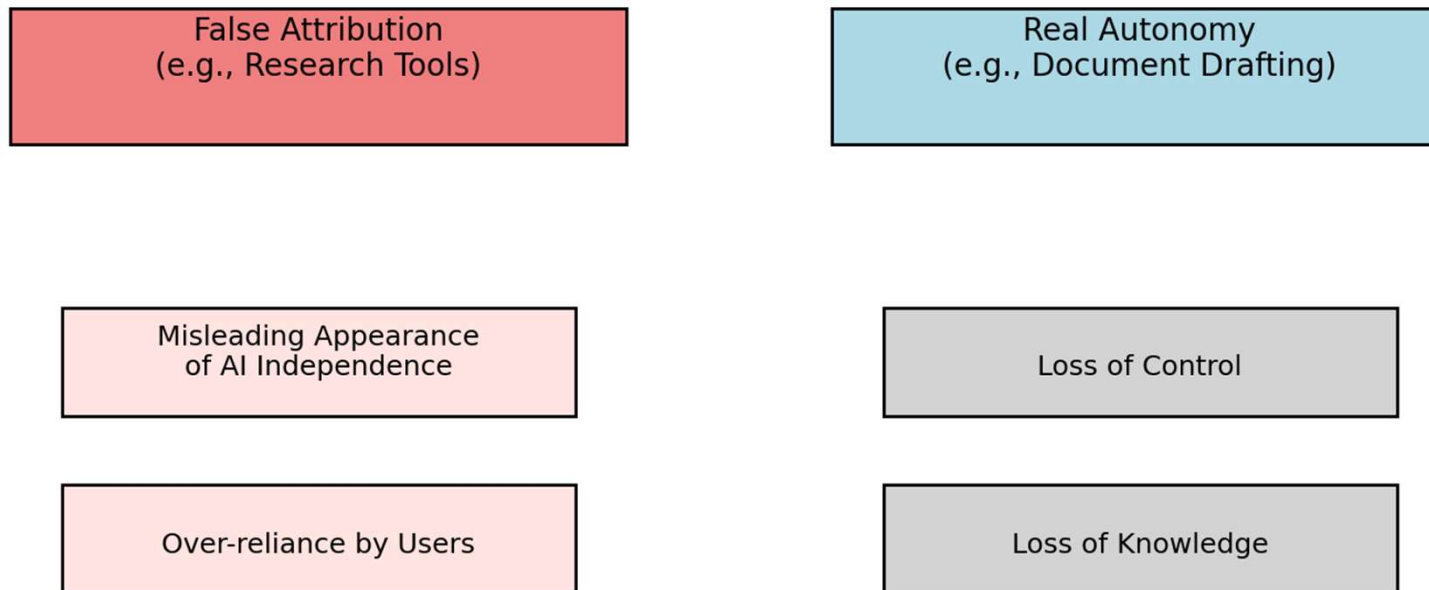


# Explainability

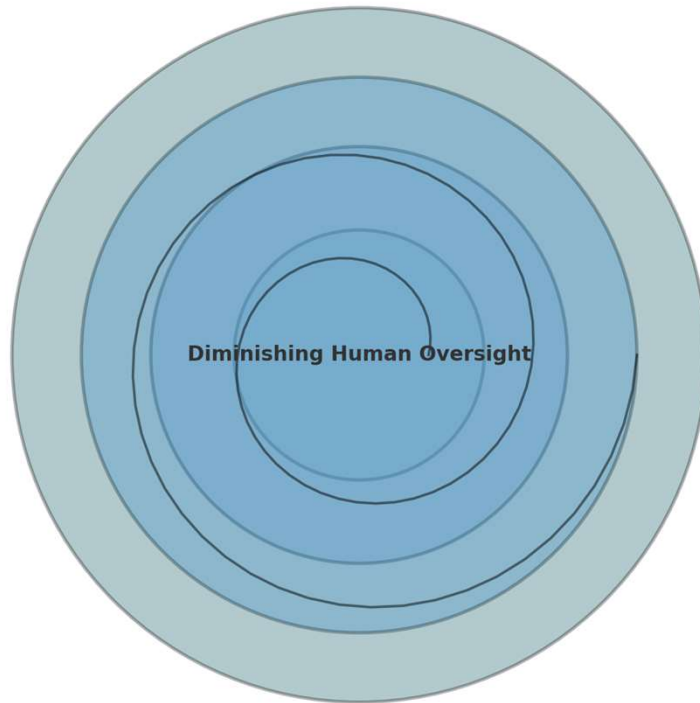


# Autonomy

## Perceived vs Actual autonomy



# Complexity



At what point does human oversight become impossible?

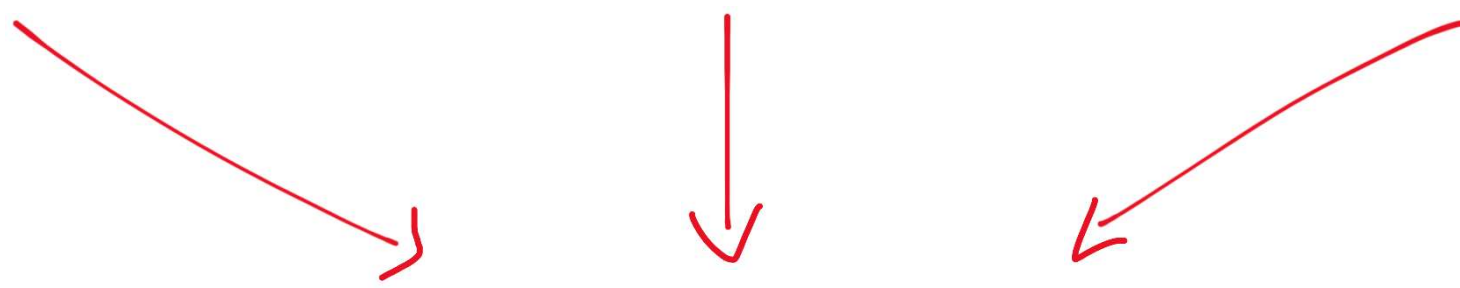
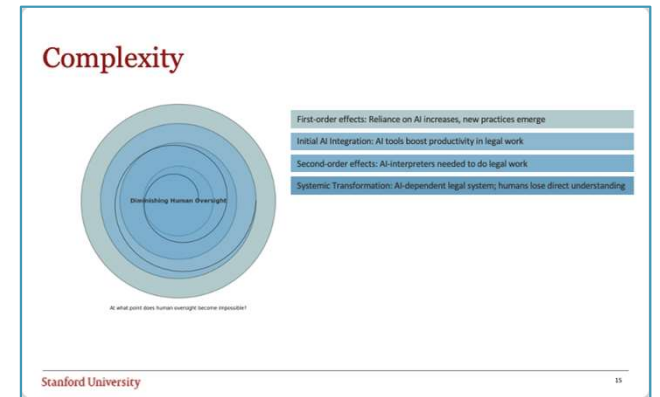
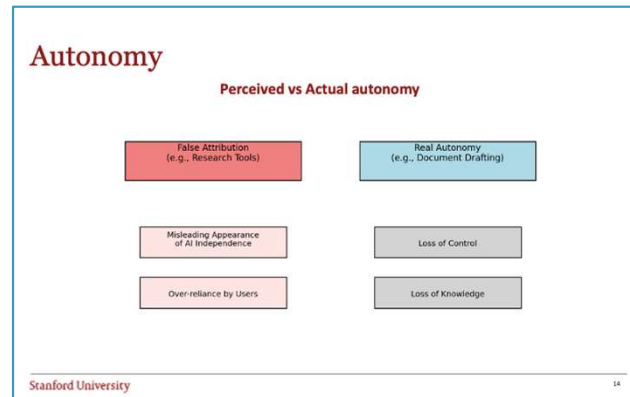
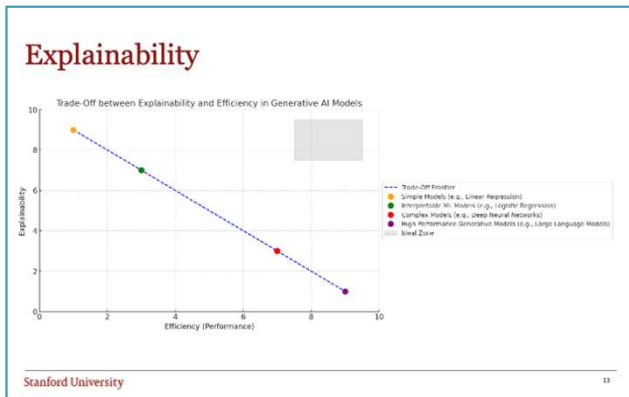
First-order effects: Reliance on AI increases, new practices emerge

Initial AI Integration: AI tools boost productivity in legal work

Second-order effects: AI-interpreters needed to do legal work

Systemic Transformation: AI-dependent legal system; humans lose direct understanding

# Accountability



Crisis of  
Accountability

# How are we doing?

1. Reason with cases (both real and hypothetical) and analogies;
2. Reason with rules;
3. Combine several modes of reasoning;
4. Handle ill-defined and open-textured concepts;
5. Formulate arguments and explanations;
6. Handle exceptions to and conflicts among items of knowledge, like rules;
7. Accommodate changes in the base of legal knowledge, particularly legal concepts, and handle non-monotonicity, that is, changes in which previous truths no longer hold as more becomes known;<sup>24</sup>
8. Model common sense knowledge;
9. Model knowledge of intent and belief;
10. Perform some aspects of natural language understanding.

Rissland, "Artificial Intelligence and Law: Stepping Stones to a Model of Legal Reasoning"  
*The Yale Law Journal*, Jun., 1990, Vol. 99, No. 8 (Jun., 1990), pp. 1957-1981

# The question of science

The next step forward in the long path of man's progress must be from jurisprudence (which is mere speculation about law) to *jurimetrics*<sup>77</sup>—which is the scientific investigation of legal problems. In the field of social control (which is law) we must at least begin to use the same approach and the same methods that have enabled us to progress toward greater knowledge and control in every other field. The greatest problem facing mankind at this midpoint of the twentieth century is the inadequacy of socio-legal methods inherited from primitive ancestors to control a society which, in all other aspects, is based upon the powerful techniques of a sophisticated science. **The inescapable fact is that jurisprudence bears the same relation to a modern science of jurimetrics as astrology does to astronomy, alchemy to chemistry, or phrenology to psychology. It is based upon speculation, supposition and superstition; it is concerned with meaningless questions; and, after more than two thousand years, jurisprudence has not yet offered a useful answer to any question or a workable technique for attacking any problem.**

Loevinger, L ( 1949 ) "Jurimetrics: The Next Step Forward", 33 ( 5 ) *Minnesota Law Review* 455

Quoted in: Wahlgren, Peter. "The Quest for Scientific Methods: Sociology of Law, Jurimetrics and Legal Informatics." *Combining the Legal and the Social in Sociology of Law: An Homage to Reza Banakar*. Ed. Håkan Hydén, Roger Cotterrell, David Nelken and Ulrike Schultz. Oxford: Hart Publishing, 2023. 227–238.

# What must change? technology/practice/concepts

”The deep structure of modern law has been built on the affordances of the printing press: on the linearity and sequential processing demands of written text, which evokes the need for interpretation, reflection and contestation.

The study and practice of law have thus been focused on establishing the meaning of legal norms and their applicability to relevant human interactions, while establishing the meaning of human action in the light of the applicable legal norms.

Data-driven agency builds on an entirely different grammar, its building blocks are information and behaviour, not meaning and action.”

Mireille Hildebrandt, ”Law as Information in the Era of Data-Driven Agency”,  
*The Modern Law Review*, Volume 79, January 2016 No. 1.

# Turing vs. Arendt

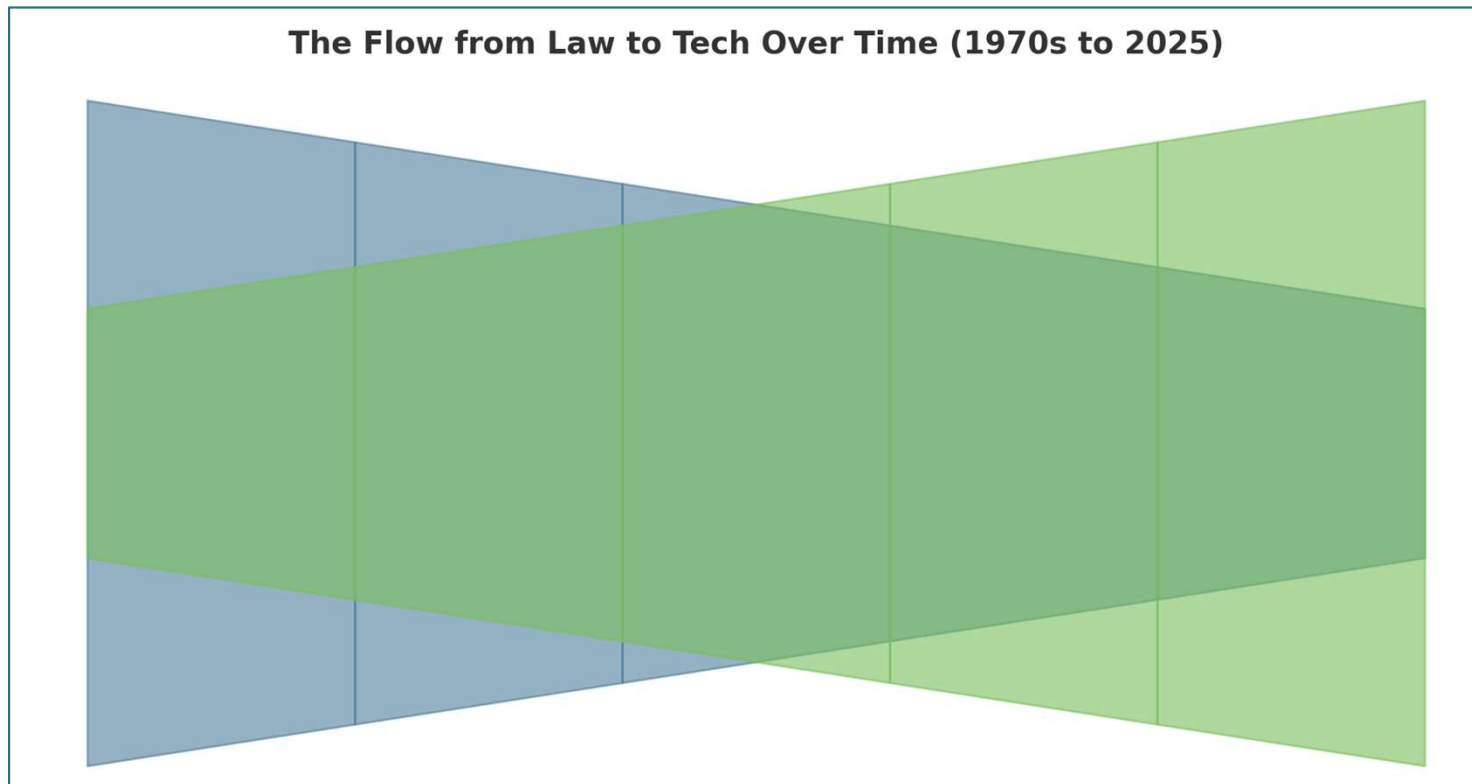
“The original question, 'Can machines think?' I believe to be too meaningless to deserve discussion. Nevertheless I believe that at the end of the century the use of words and general educated opinion will have altered so much that one will be able to speak of machines thinking without expecting to be contradicted.”

A.M.Turing, “Computing machinery and intelligence”, *Mind*, Volume LIX, Issue 236, October 1950, Pages 433–460

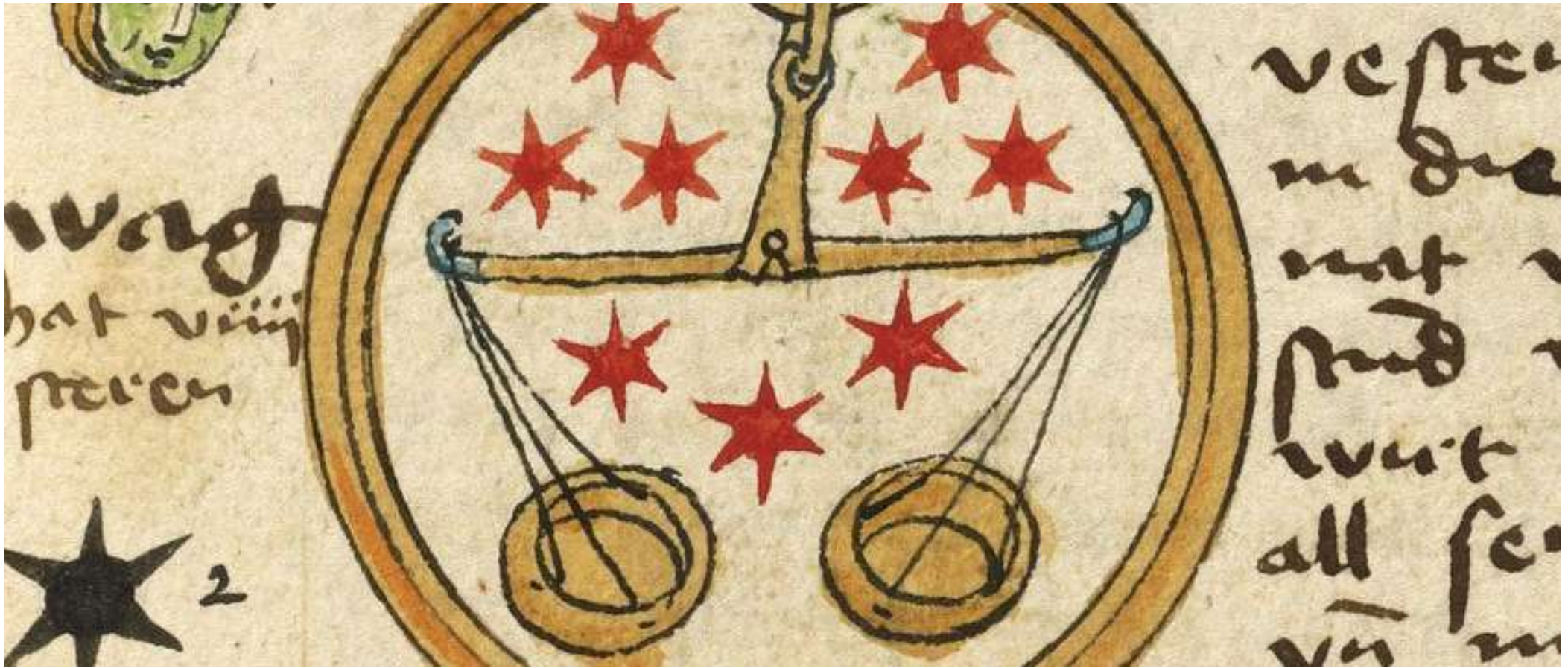
“The problem with modern theories of behaviorism is not that they are wrong but that they could become true.”

H. Arendt, *The Human Condition*, 1958: 322.

# Law as tech. Tech as law.



# Ways ahead: Saving accountability



# Thank you.

Johan Fredrikzon

[fredrikz@stanford.edu](mailto:fredrikz@stanford.edu)