AI & BIOETHICS

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Artificial Intelligence

Machine Learning

Robotics

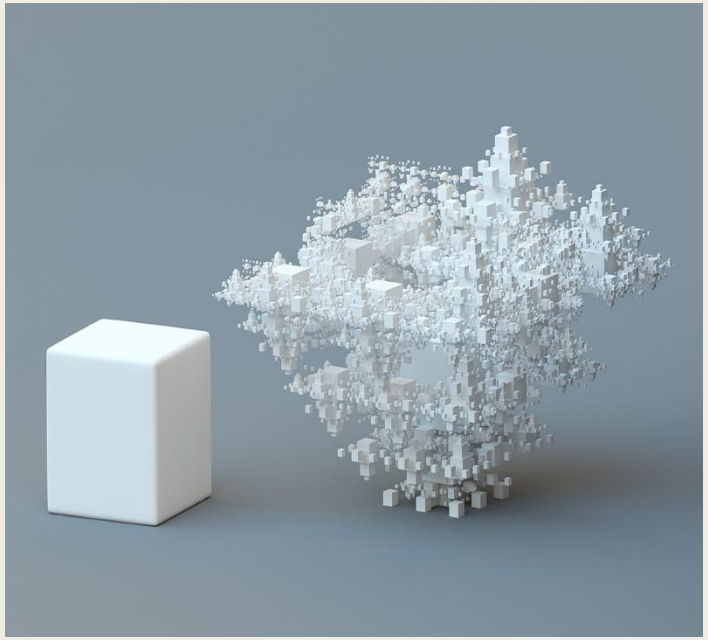
Benefits

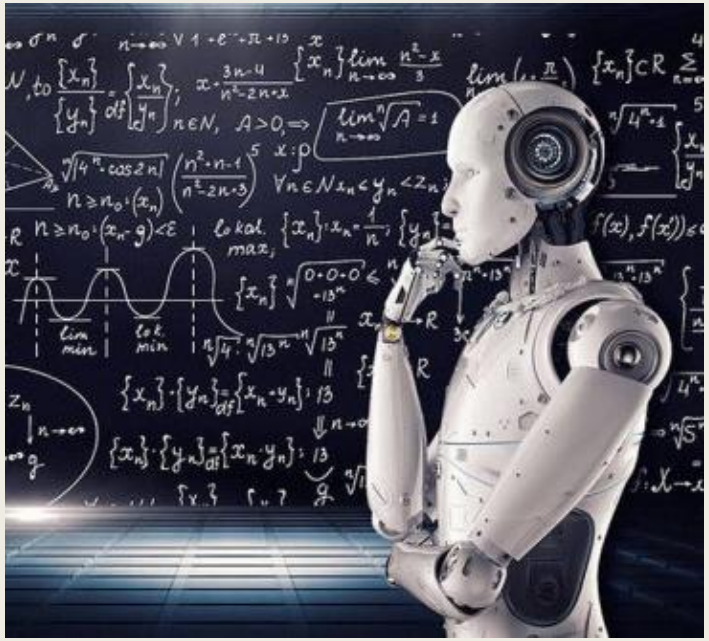
- Accelerated drug discovery and experimental dosages
- More targeted approach to diagnosis and treatment
- Predictive models for prognostic assessment and personalisation of therapy
- Real-world data to analyse public health

Challenge #1: Speed

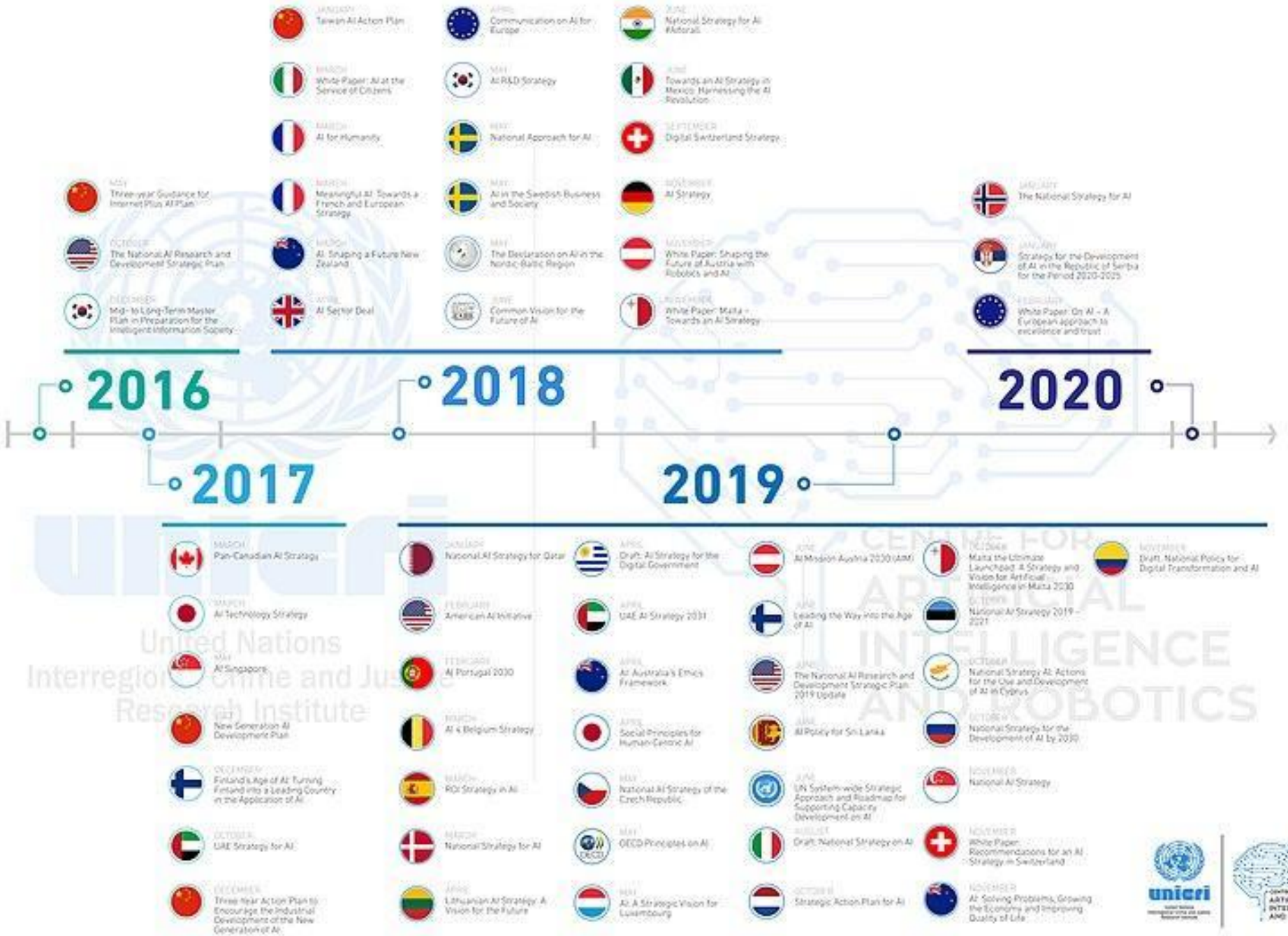
Challenge #2: Autonomy

Challenge #3: Opacity





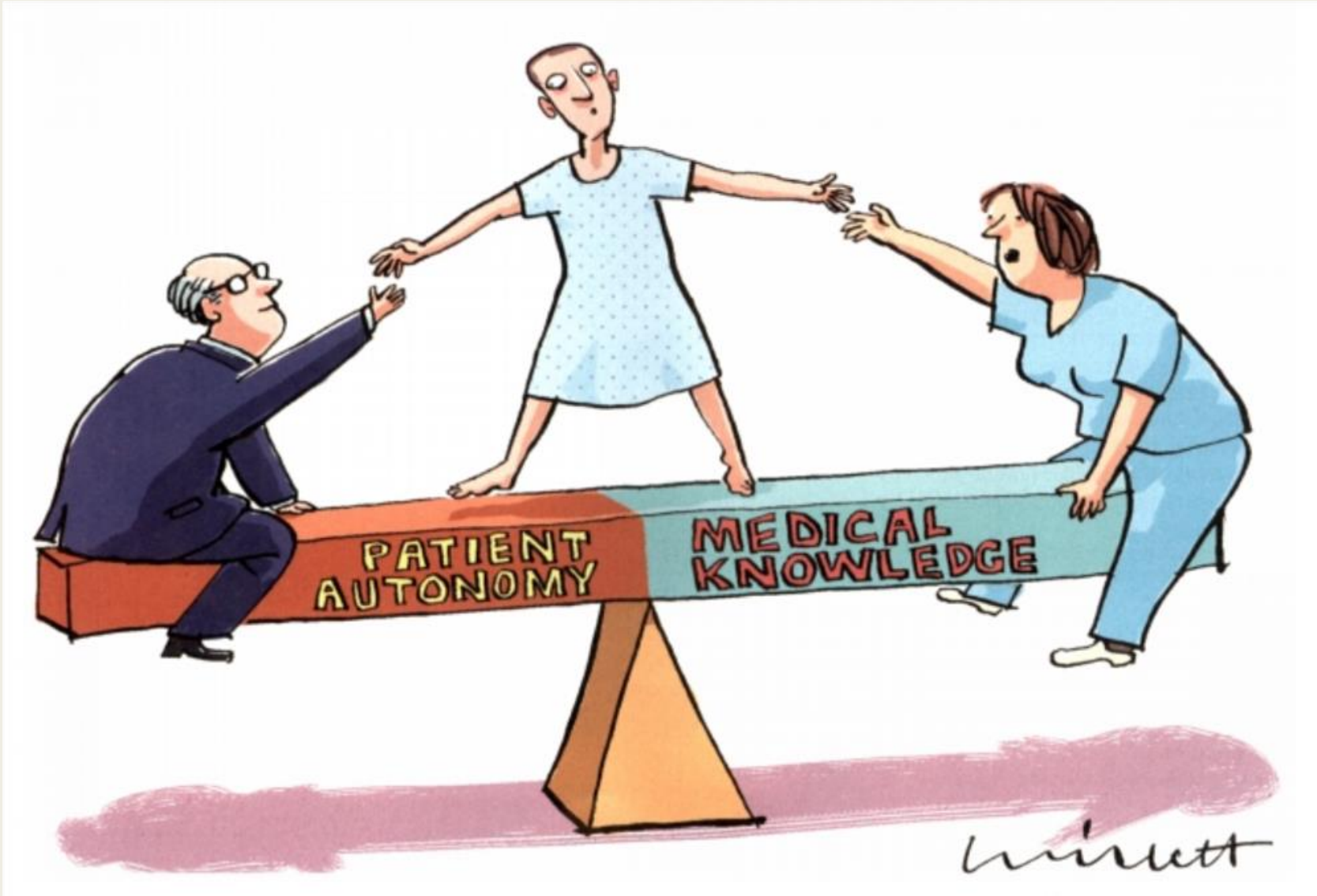
1. A robot may not **injure a human being** or, through inaction, allow a human being to come to harm.
2. A robot must **obey the orders given it** by human beings except where such orders would conflict with the First Law.
3. A robot must **protect its own existence** as long as such protection does not conflict with the First or Second Law.


2016
2017
2018
2019
2020
Taiwan AI Action Plan
Communication on AI for Europe
National Strategy for AI #AIforAll
White Paper: AI at the Service of Citizens
AI R&D Strategy
Towards an AI Strategy in Mexico: Harnessing the AI Revolution
AI for Humanity
National Approach for AI
Digital Switzerland Strategy
Three-year Guidance for Internet Plus AI Plan
Meaningful AI: Towards a French and European Strategy
AI in the Swedish Business and Society
AI Strategy
The National AI Research and Development Strategic Plan
AI: Shaping a Future New Zealand
The Declaration on AI in the Nordic-Baltic Region
White Paper: Shaping the Future of Austria with Robotics and AI
Mid- to Long-Term Master Plan in Preparation for the Intelligent Information Society
AI Sector Deal
Common Vision for the Future of AI
White Paper: Malta - Towards an AI Strategy
The National Strategy for AI
Strategy for the Development of AI in the Republic of Serbia for the Period 2020-2025
White Paper: On AI - A European approach to excellence and trust
Pan-Canadian AI Strategy
AI Technology Strategy
AI Singapore
New Generation AI Development Plan
Finland's Age of AI: Turning Finland into a Leading Country in the Application of AI
UAE Strategy for AI
Three Year Action Plan to Encourage the Industrial Development of the New Generation of AI
National AI Strategy for Qatar
American AI Initiative
AI Portugal 2030
AI 4 Belgium Strategy
ROI Strategy in AI
National Strategy for AI
Lithuanian AI Strategy: A Vision for the Future
Draft: AI Strategy for the Digital Government
UAE AI Strategy 2031
AI: Australia's Ethics Framework
Social Principles for Human-Centric AI
National AI Strategy of the Czech Republic
OECD Principles on AI
AI: A Strategic Vision for Luxembourg
AI Mission Austria 2030 (AIM)
Leading the Way into the Age of AI
The National AI Research and Development Strategic Plan 2019 Update
AI Policy for Sri Lanka
UN System-wide Strategic Approach and Roadmap for Supporting Capacity Development on AI
Draft National Strategy on AI
Strategic Action Plan for AI
Malta the Ultimate Launchpad: A Strategy and Vision for Artificial Intelligence in Malta 2030
National AI Strategy 2019 - 2021
National Strategy AI: Actions for the Use and Development of AI in Cyprus
National Strategy for the Development of AI by 2030
National AI Strategy
White Paper: Recommendations for an AI Strategy in Switzerland
AI: Solving Problems, Growing the Economy and Improving Quality of Life
Draft: National Policy for Digital Transformation and AI

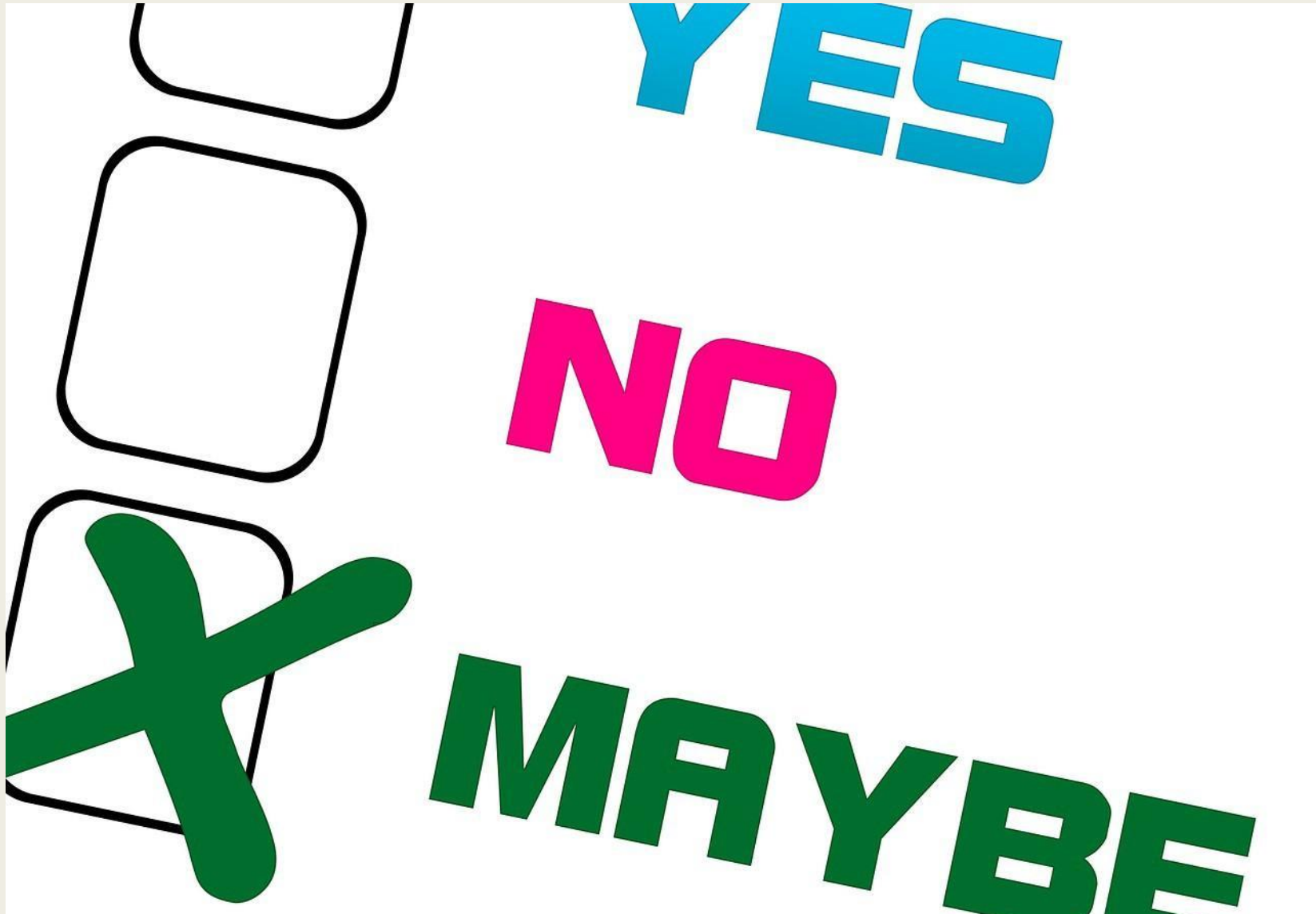
Overlapping Ethical Principles

1. Human control — Patient Autonomy?
2. Transparency — Informed Consent?
3. ~~Safety~~ — Product Liability
4. ~~Accountability~~ — Civil & Criminal Law
5. ~~Non-discrimination~~ — Human Rights
6. ~~Privacy~~ — Data Protection Laws

Patient Autonomy



Informed Consent



Why (Not) Regulate?

- Address market failures
- In support of social or other policies

But…

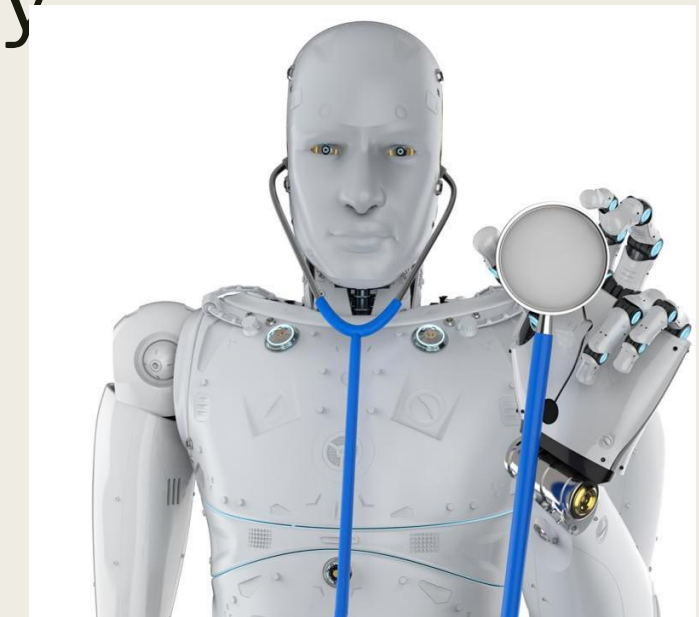
- Constrain innovation
- Lose competitive advantage
- US vs Europe vs China

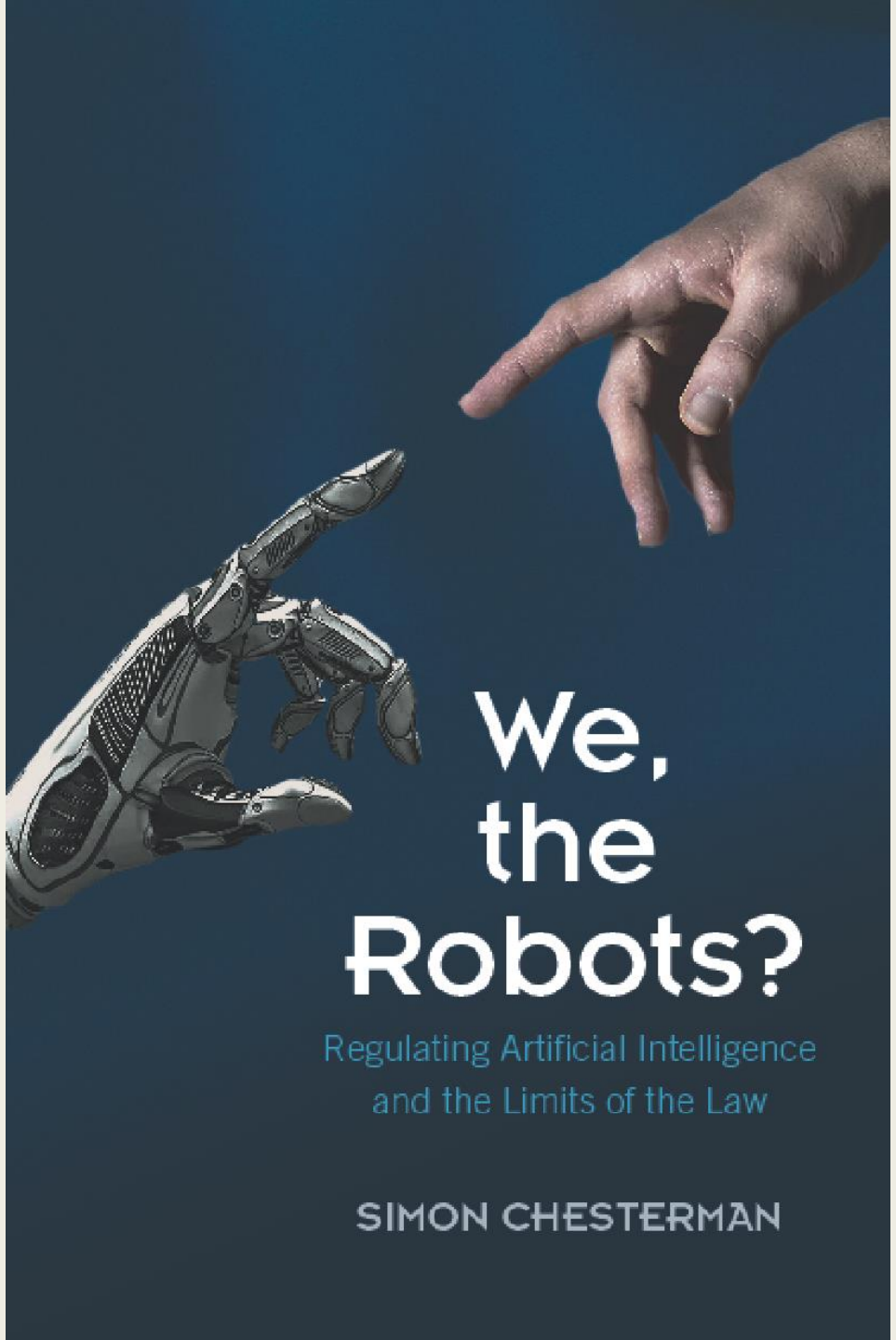
When to Regulate?

- Collingridge Dilemma:
  - *When control is possible, not enough is known to warrant slowing development.*
  - *By the time those consequences are apparent, control has become costly and slow.*
- Precautionary Principle
- ‘Masterly Inactivity’

How to Regulate

- Managed risks
- Red lines
- Process legitimacy




We, the Robots?
Regulating Artificial Intelligence and the Limits of the Law
SIMON CHESTERMAN