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Social Responsibility: Business, Research and Innovation 2

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2022/2023

Technical/admin issues

Learning outcomes and delivery

Learning outcomes:

- Have a general awareness of what the relationship of technology and society
- Understand the concept of
  - CSR (Corporate Social Responsibility)
  - pCSR (Political Corporate Social Responsibility)
  - STS (Science and Technology studies)
  - SCOT (The social construction of technology)
  - Sociotechnical imaginaries
  - RRI (Responsible Research and Innovation)
- The relationship of these concepts to the philosophy of science and sociology
- Understand the concept and methodology of social phenomenology
- Have sufficient knowledge of different conceptualizations of technology, of automobility, of research and innovation
- Have practice in theoretical argumentation, understanding complex sociotechnical problems and conceptualizations.

Completion

Students will have to (a) do a presentation; (b) write one academic blog post and (c) a final course paper.

- **Group presentation:** should reflect on a current theme analyzed from a critical technology/responsibility point of view (15 mins);
- **Academic blog:** should reflect some current sociotechnical challenge, addressed via learnings acquired in the course (250-500 words);
- **Final paper:** will address a specific question within the realm of STS and analyze it according to general academic practice, based on literature review and secondary research (but not independent primary research) (2500-3000 words).

Responsible Innovation

Session 1: Society, responsibility & technology

10:00-11:30

Introduction, general concept, theme, administrative issues

11:45:13:15

Business, Responsibility & Innovation

13:45-15:15

What is CSR/pCSR?

15:15:16:45

What is STS (Society and Technology Studies)?

Session 2: Responsibility & Technology: the case of automobility

10:00-11:30 *Recap*

11:50-13:20 *Sociotechnical systems*

13:20-14:00 Lunch

14:00-15:30 *Automobility*

15:45-16:45 *Automobility violence*

16:45-17:00 *Wrap-up*

Session 3: The future of technology and society

10:00-11:30

What is responsible research and innovation?

11:45:13:15

What would a post-car world look like?

13:45-15:15

The trouble of artificial intelligence

15:15:16:45

Biotech and biopolitics

Closing & summary

- "[Engineers] are the unacknowledged legislators of the world. By designing and constructing new structures, processes, and products, they are influencing how we live as much as any laws enacted by politicians. Would we ever think it appropriate for legislators to pass laws that could transform our lives without critically reflecting on and assessing those laws? Yet neither engineers nor politicians deliberate seriously on the role of engineering in transforming our world. Instead, they limit themselves to celebratory clichés about economic benefit, national defense, and innovation."

Carl Mitcham: The True Grand Challenge for Engineering: Self-Knowledge

- https://issues.org/perspectives-the-true-grand-challenge-for-engineering-self-knowledge/

Engineers as legislators

Go to **www.menti.com** and use the code **4408 2287**

Work in pairs

- Pls explain what this means via an example:
  - What would deliberating seriously the role of engineering in transforming our world in that specific case be?
  - How could we/they avoid celebratory clichés about economic benefit, national defense, and innovation?

1. Recap

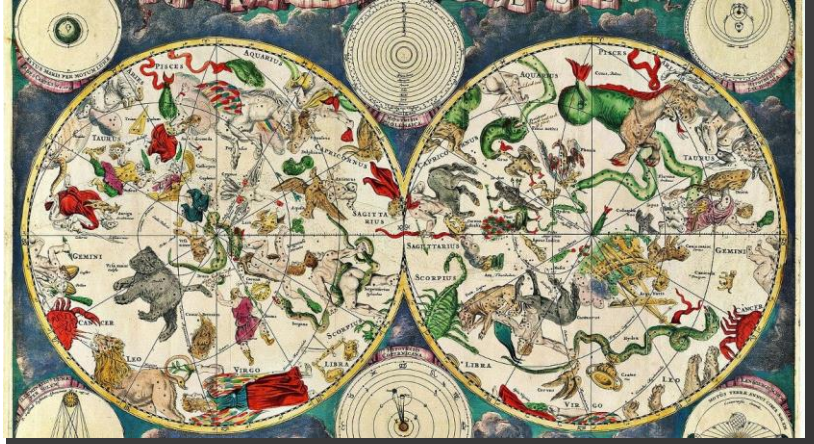
Business, Innovation, Responsibility

STS gaze

The 17th-century “Quest for Certainty”

- a timely response to a specific historical challenge-the political, social, and theological chaos embodied in the Thirty Years' War;
- Cartesian program for philosophy that swept aside the "reasonable" uncertainties and hesitations of 16th-century skeptics in I favor of new, mathematical kinds of "rational" certainty and proof;
- Build a secure body of human knowledge using "rationally validated" methods.
- Framing basic theories around ideas whose merits were clear, distinct and certain and using only demonstrable arguments, having the necessity of geometrical proofs.

The (his)story of responsibility



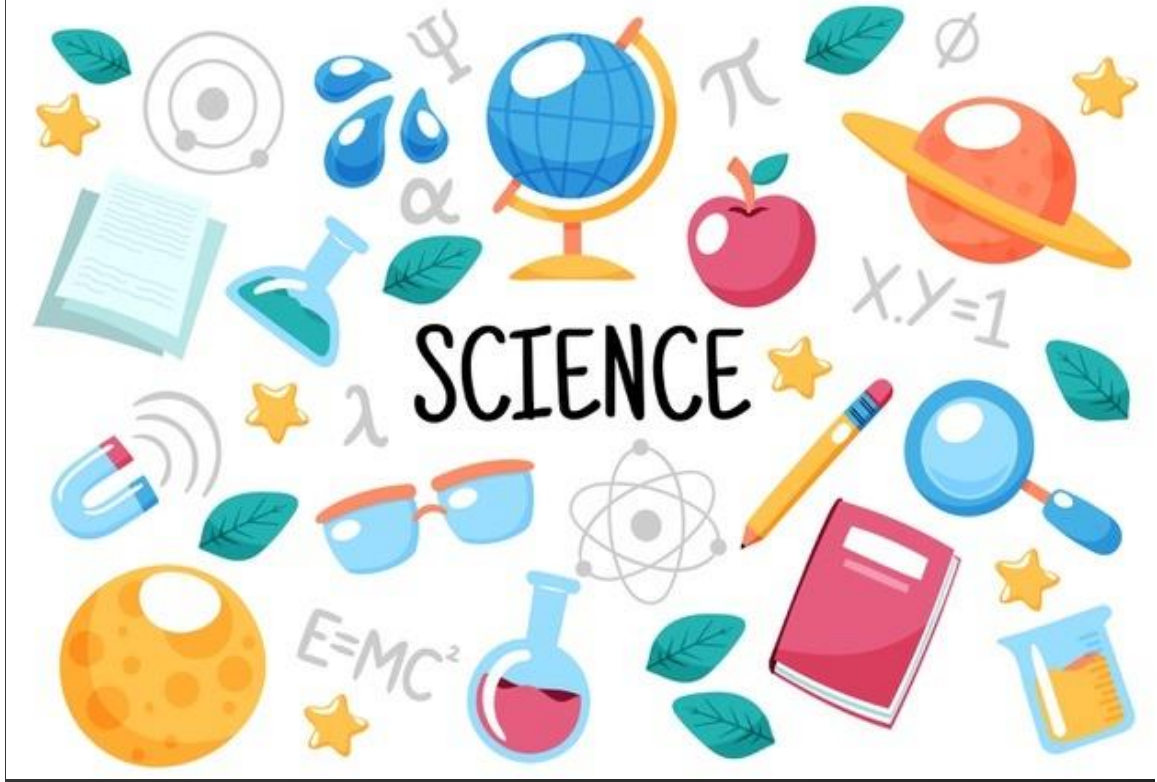
What "is" science?

From transcendental space to spatialized transcendence

The new "way of seeing"

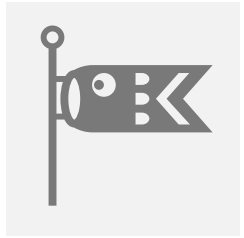
A new world emerged populated by the knowing subject and knowable objects; a machinistic operation with laws and regularities; the world as process and evolution; rationality as value.

- Cogito ergo sum: a new human(ist) ontology;
- Euclidean geometry not as abstract system, but representation of the world (including social relations);
- The "nomos" as the West and the Rest;
- Land as terra nullius and its people as steps in evolution (the ontological other);
- The Book of Nature written with moral certainty.



What is science?

Kjetil Rommetveit, Roger Strand, Ragnar Fjelland & Silvio Funtowicz (2013). „What can history teach us about the prospects of a European Research Area?" Ispra: JRC



Thirty Years' war	Religious conflicts	Disorder & superstition
Destitution and devastation	Insecurity of knowledge	Witchcarft and 'alternative' knowledge trajectories

- The grand book of the universe written in the language of mathematics.
- To avoid precipitancy and prejudice, and to include judgements nothing more than what presented itself.
- Continual fear and danger of violent death and the life of man solitary, poor, nasty: covenants, without the sword, are but words.

→ Science as ideology
Science as political hierarchy

Innovation & Responsibility

Key words:

- ✓ Giving back
- ✓ Strategic goals
- ✓ Cradle to cradle
- ✓ Management of impacts

How is (one) responsible?

- Do no harm
- Anticipate impacts
- Do good business
- Bring better solutions
- ….

- ➢ Innovation is generally conceived as the basis for a competitive economy: to develop new market segments, improve the quality of their products or reduce the costs of production.
- ➢ A constant race for novelty and improvement only those that constantly reinvent themselves and their products can win. An innovation's success is, however, measured in terms of its uptake on the market and its generation of economic profit for the owner of the innovation. Societal benefit may arise as positive externalities of innovation but are not per-se decisive for action.
- ➢ Innovation management in companies is mostly concerned with creating fruitful environments for new ideas and deciding which of these ideas will be pursued further and which are to be discarded.

Corporations have an **economic orientation**; management is attending to stakeholder risks and claims.

Marketing: focuses on the effective facilitation of processes of (product) exchange.

Stakeholders express needs and wants and assumed corporate utility informs managerial processes.

CSR: focuses on effective social processes that balance said exchange with social value creation based on stakeholders' social wants and needs.

Stakeholders are invited to public deliberations, collective decision-making and joint activities in order to balance economic utility with social value-creation.

pCSR+: engages in social value creation to anticipate, respect and be responsive to values of stakeholders when providing public goods or restricting public bads in managing exchange of products.

Stakeholders may force firms to engage in public deliberations on social values and stakeholder risks and claims.

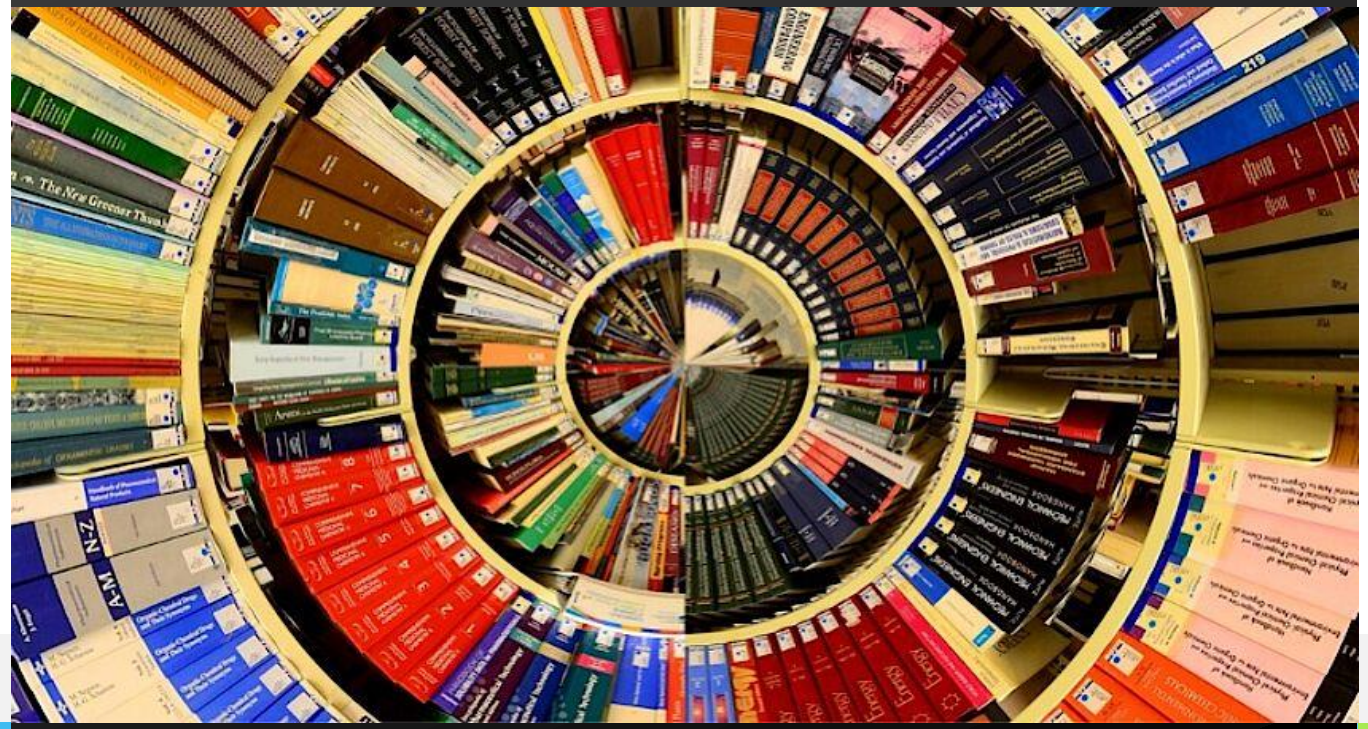
What is STS?

It deconstructs processes and terminologies of science in order to help understand how science works, both internally and within society at large.

A large body of scholarly work has examined historical, social, technological, and political contexts shaping different modes of scientific inquiry and how scientific knowledge is shaped and circulated in particular places at particular times.

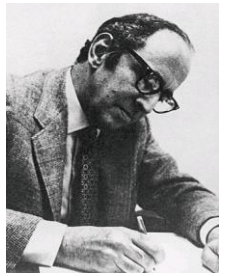
Science and Technology

- is focused on organizations, networks, and assemblages and approached human and non-human actors. STS considers how technology and society co-produce each other.



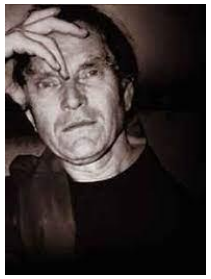
History of STS

A criticism of traditional science



Scientific Revolutions

Tomas Kuhn on normal vs. revolutionary science and the invention of the concept of "paradigm"



Against method

Fayerabend: Radical questioning of Western Rationalism

Actor Network Theory

Latour and Law defining the material semiotic web of actants

Sociotechnical Imaginaries

Sheila Jasanoff on institutionally stabilized, and publicly performed visions of desirable futures

STS on science as politics

Scientific/engineering practices and methods (data collection, sampling, calculating, charting results, and modeling) are **inscription devices**.

- They seem stable and graspable (or they stabilize and grasp), but they simultaneously may serve to erase the complex materiality of the reality being studied.
- Scientific knowledge is constructed not by individual scientists or by science as such but by specific established practices that are widely accepted and practiced among groups of scientists and institutions.

Society/Technology confluence

Weak programme – decentering the object that is the artefact

Criticism of determinism	(social) Construction	(social) Co-production
• Technological determinism was taken to comprise two basic claims: (1) technology develops autonomously and (2) technology determines societal development to an important degree.	• Development, stabilization, and even working of technology are socially constructed, with the emphasis on social. Key concepts are 'relevant social group,' 'interpretive flexibility,' 'closure,' and 'stabilization.' The unit of analysis was the single artifact (that is, a tool, a device, or a machine).	• Imagined forms of social life and social order that center on the development and fulfillment of innovative scientific and/or technological projects.

Society/Technology confluence

Strong programme – decentering the subject that is the human

Actor-network Theory

- The world as consisting of networks: these networks can include humans, things, ideas, concepts - all of which are referred to as "actants" in the network.
- The sum of non-social phenomena can account for something that is social as a result of constellations of human and non-human actors constituting the network.

Vital materialism

- Humans are viewed as always imbricated within networks of other humans but also with nonhumans.
- Living things as well as non-living matter or things possess agency that can work with – or indeed against – the agency possessed by humans, and together generate new forms of agential capacities.

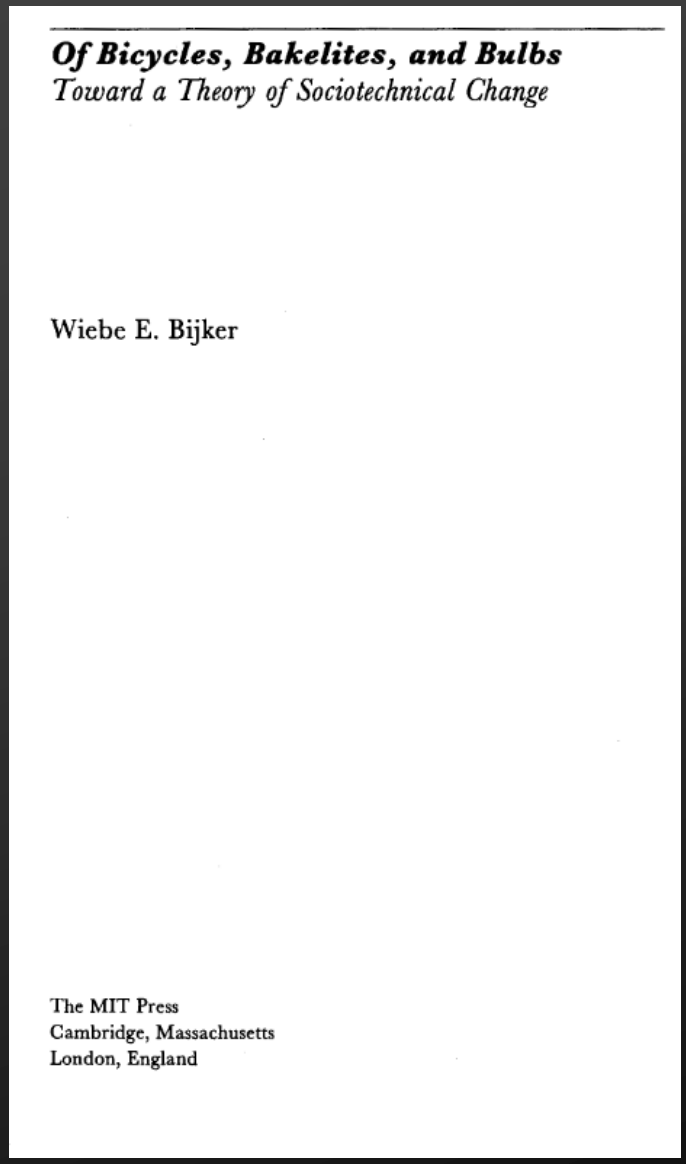
Agential realism

- Inspired by quantum physics, thinking of becoming (being-in) as phenomena of entangled timespacemattering events: a rejection of anthropocentric ways of thinking 'about' and 'acting' in the world.

2. Sociotechnical systems

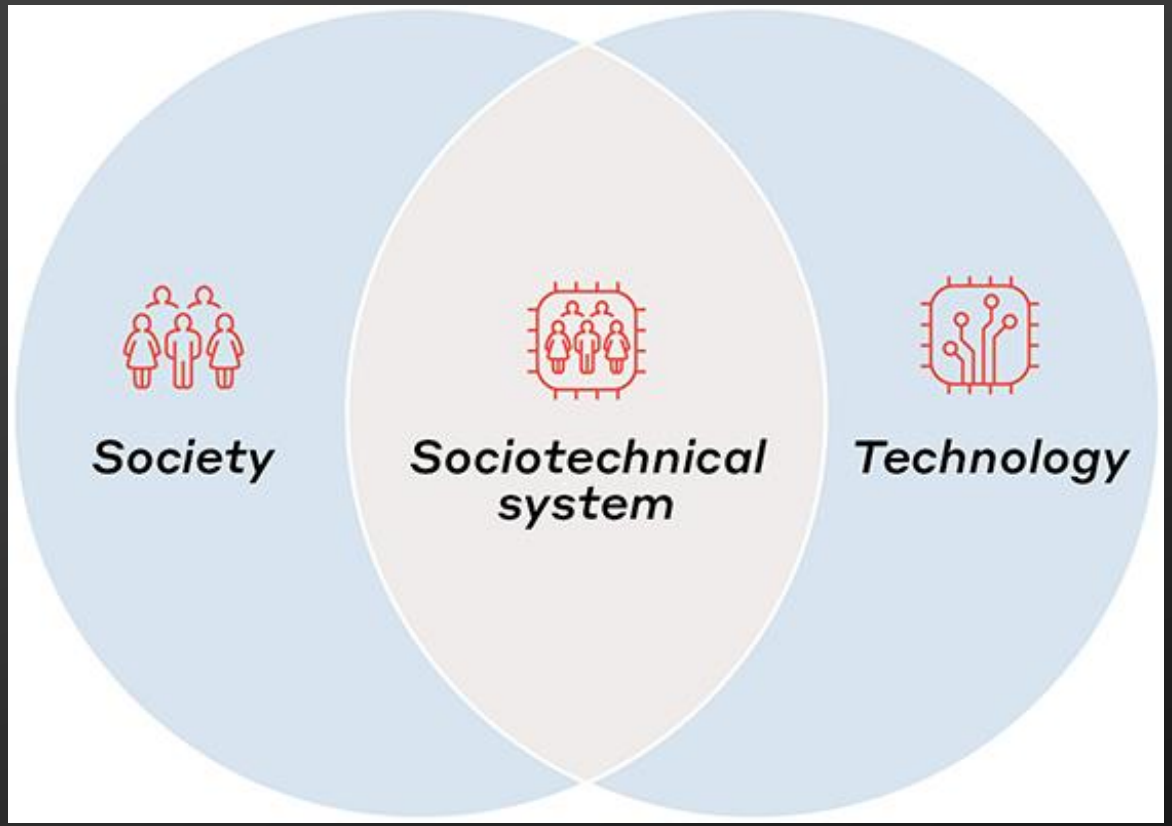
One key word

- Pls remember one key word from the Bijker text and explain:
  - What is the key to sociotechnical change?
  - Why?



What is a sociotechnical system?

- The term *socio-technical systems* was originally coined by Emery and Trist (1960) to describe systems that involve a complex interaction between humans, machines and the environmental aspects of the work system.
- Technology plays an important role in fulfilling societal functions
- Socio-technical systems consist of a cluster of elements, including technology, regulation, user practices and markets, cultural meaning, infrastructure, maintenance networks and supply networks
- Socio-technical systems are actively created, (re)produced and refined by several social groups, for instance, firms, universities and knowledge institutes, public authorities, public interest groups and users. These social groups have their own vested interests, problem perceptions, values, preferences, strategies and resources (money, knowledge and contacts).



The bycicle


PEDESTRIAN HOBBYHORSE.


VectorStock
VectorStock.com/948862


1968.0372 CR
Dec. 2005

The social construct

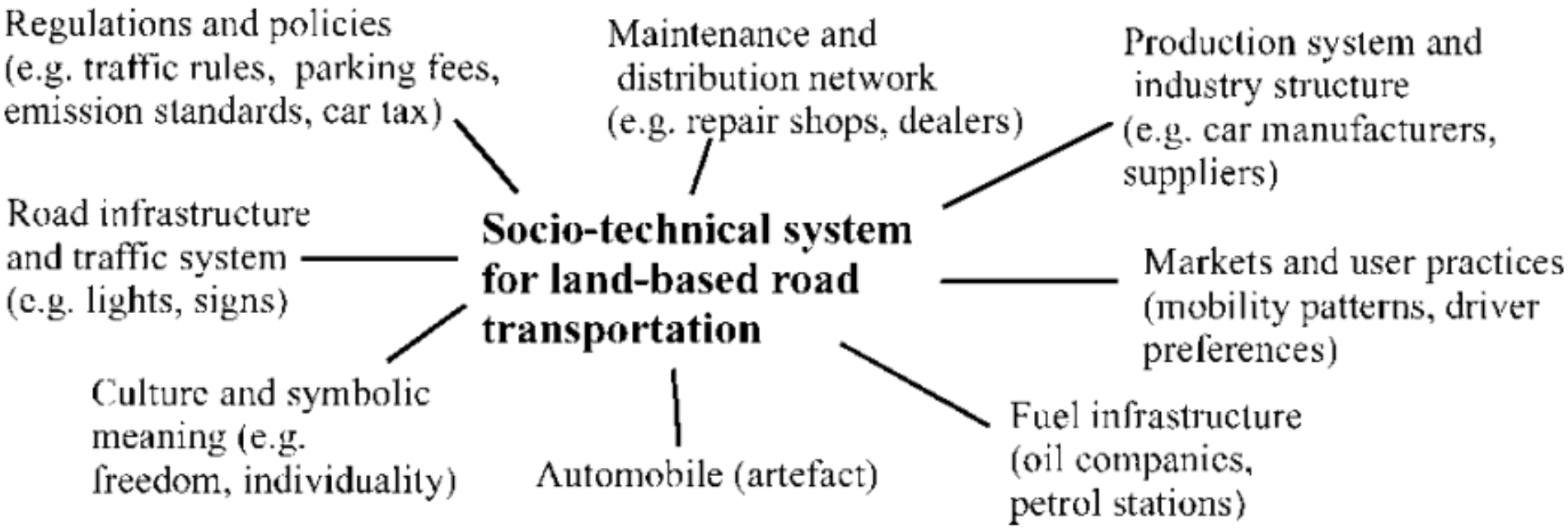
The urban construct


The Bicycle Path from Prospect Park, Brooklyn, to Coney Island.
Drawn by J. M. Gleason.

One quick example of a sociotechnical system

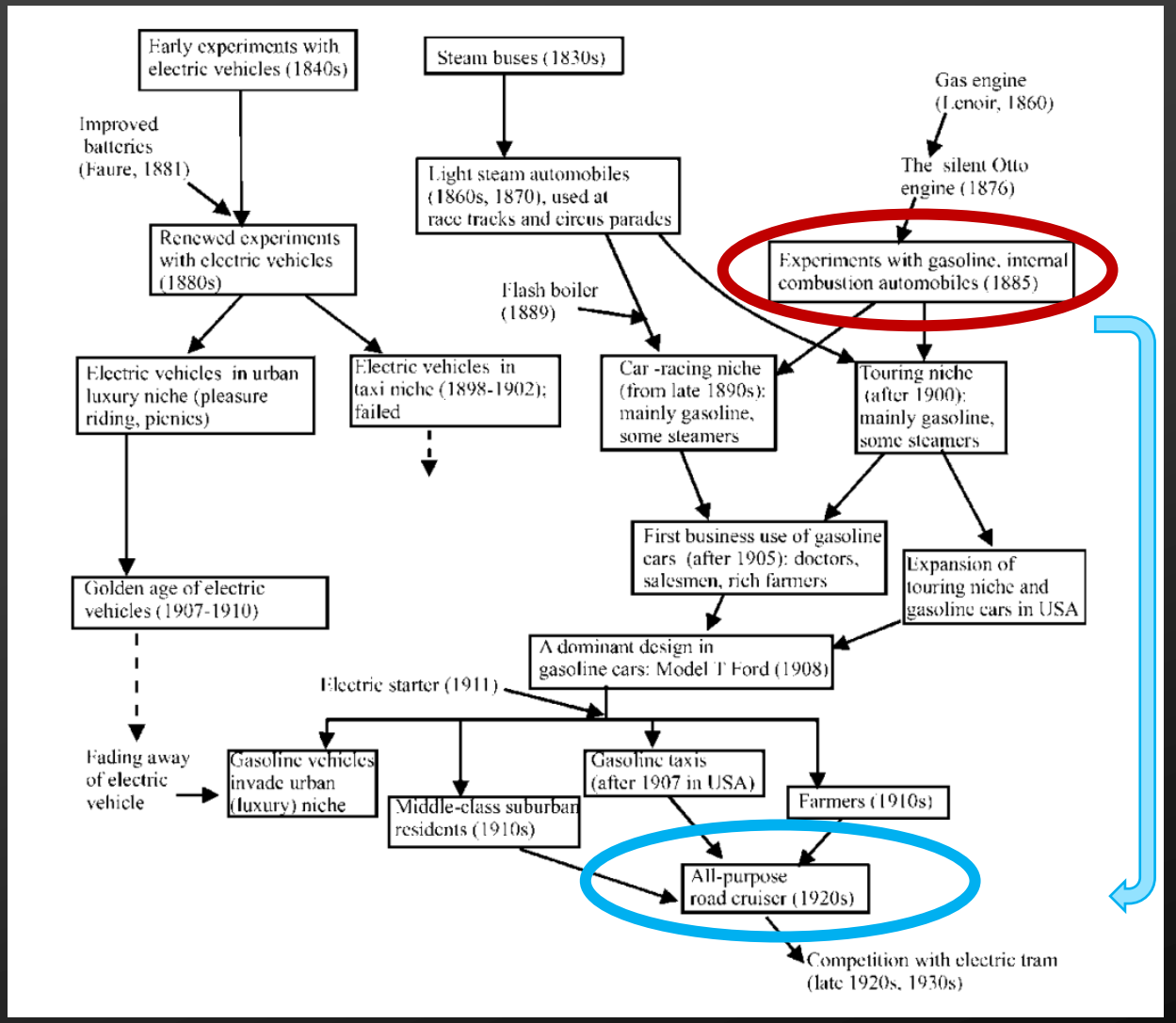
- Think of an example of a sociortechnical system and address it critically deconstructing the social in the technical.
- (5 mins)

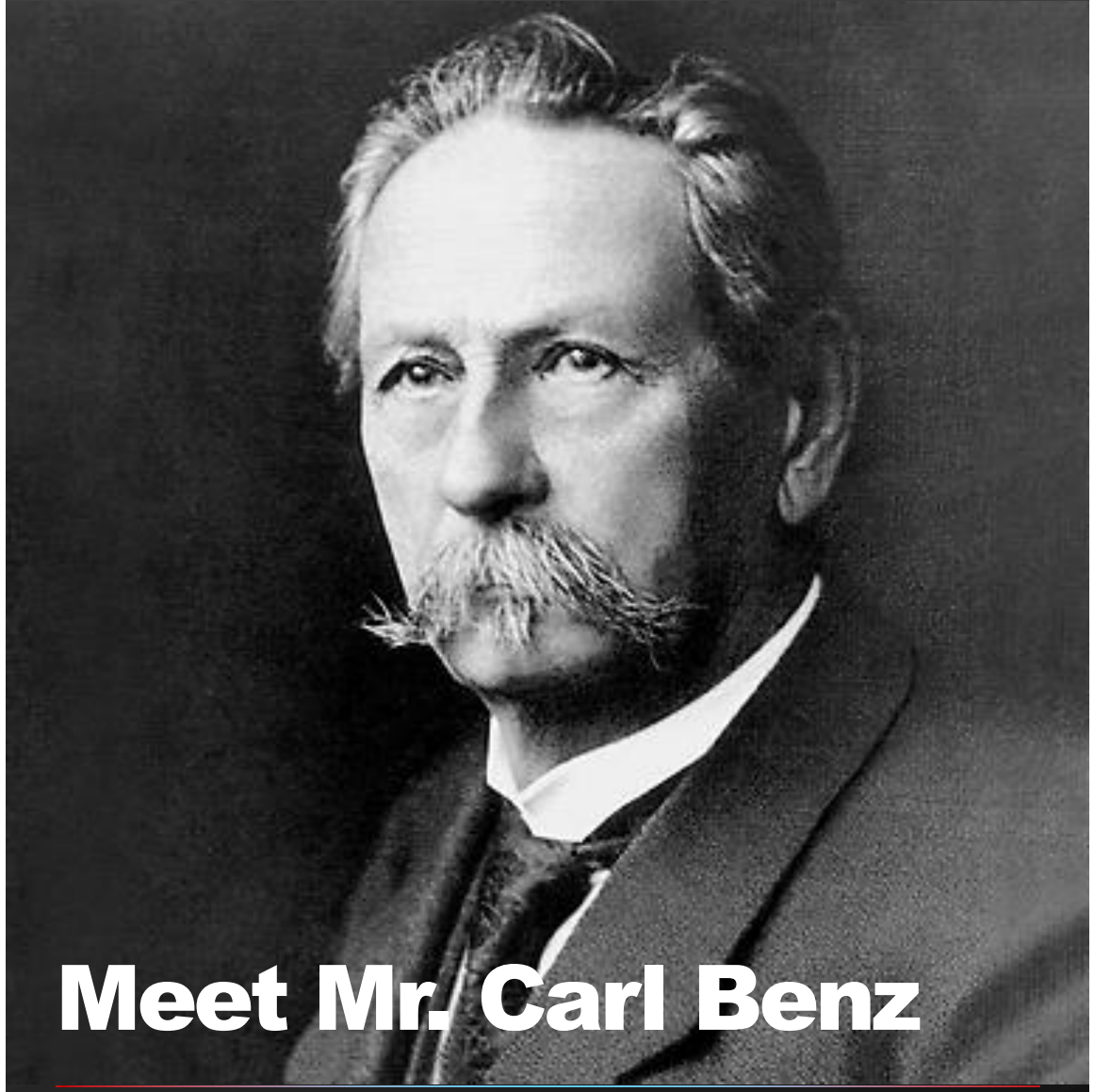
Automobility as sociotechnical system



Emergence of the automobile

A sociotechnical perspective





Meet Mr. Carl Benz

Benz Patent Motorcar from 1885 is considered the first practical automobile. He received a patent for the motorcar in 1886

Ontology

Epistemology

Politics

What should he do different?

Or

Mary Anderson

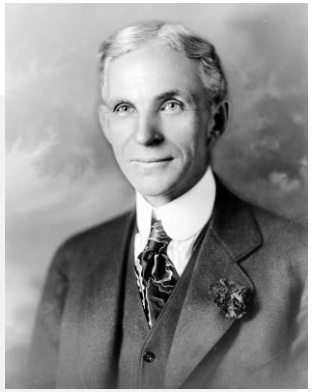
Inventor

The inventor of the windshield wiper

Ransom Eli Olds

Engineer

The inventor of the first assembly line



Henry Ford

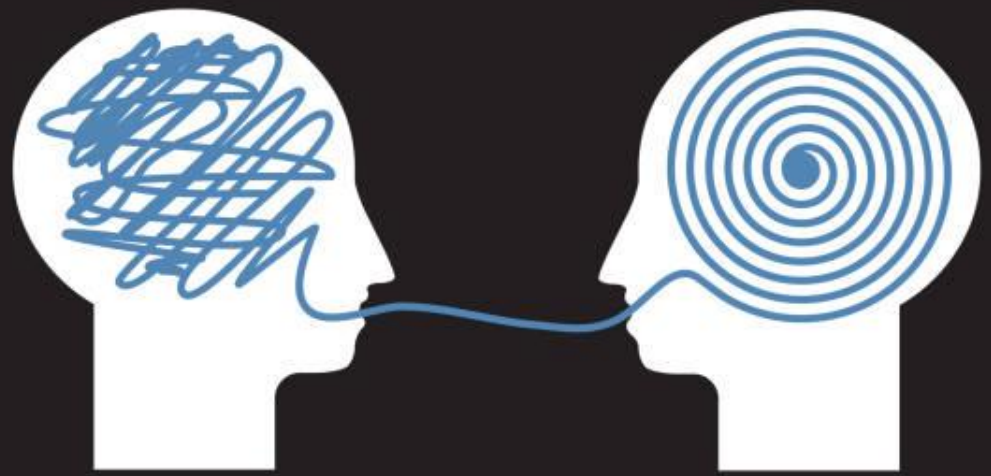
Engineer

Creator of the Ford T model

Pair work

- What should have they done different if they knew what we know (the social in the technical)


Automobility



In plain language

- What is Science Technology and Society (STS) Studies?
  - **The „world" is socially, epistemically or even ontologically constructed**.
    - Critically reflecting on the role of science as underpinning and observing a world "out there", populated with fixed, unchanging, preexisting entities; that human knowers can discover foundational truths through the application of reason.
- What is the order we live in?
  - **The „world" that is constructed by forms of power.**
    - A specific construct of „conditions of possibility" (for life/being) (by multiple forms of violence [physical, slow, epistemic, infrastructural])
    - What kind of things are created and how? Maybe not „what we see is all there is"…
- What is automobility?
  - **Not a system of transportation operated by the car, but a political and social order.**
    - This is the "world" in which we currently live. It is an enduring, permanent global space of mobilityscapes. For the avoidance of doubt, cycling, walking or, even, working and entertaining, is being-in automobility (not moving with a different/better/sustainable technology).

Please discuss what the name automobility covers?

Pls define and discuss ist constituent elements

Automobility

The ill-named thing

John Urry

"A self-organizing autopoietic, nonlinear **system** that spreads world-wide, and includes cars, car-drivers, roads, petroleum supplies and many novel objects, technologies and signs."

Stephen Böhm, et al

"A **regime** shaping and producing *new types of people* consistent with [its] logics."

Katharina Mandersheid

"[A]n **apparatus** of dispersed and decentralized power, which consists of automobile landscapes, discourses, formation governance of specific subjectivities and mobility practices."

Braun & Randell

A political order: a world; one example, constituent element, manifestation, of the political ontology of the late-Anthropocene.

What is a car?

"A road vehicle with an engine and four wheels that can carry a small number of passengers."

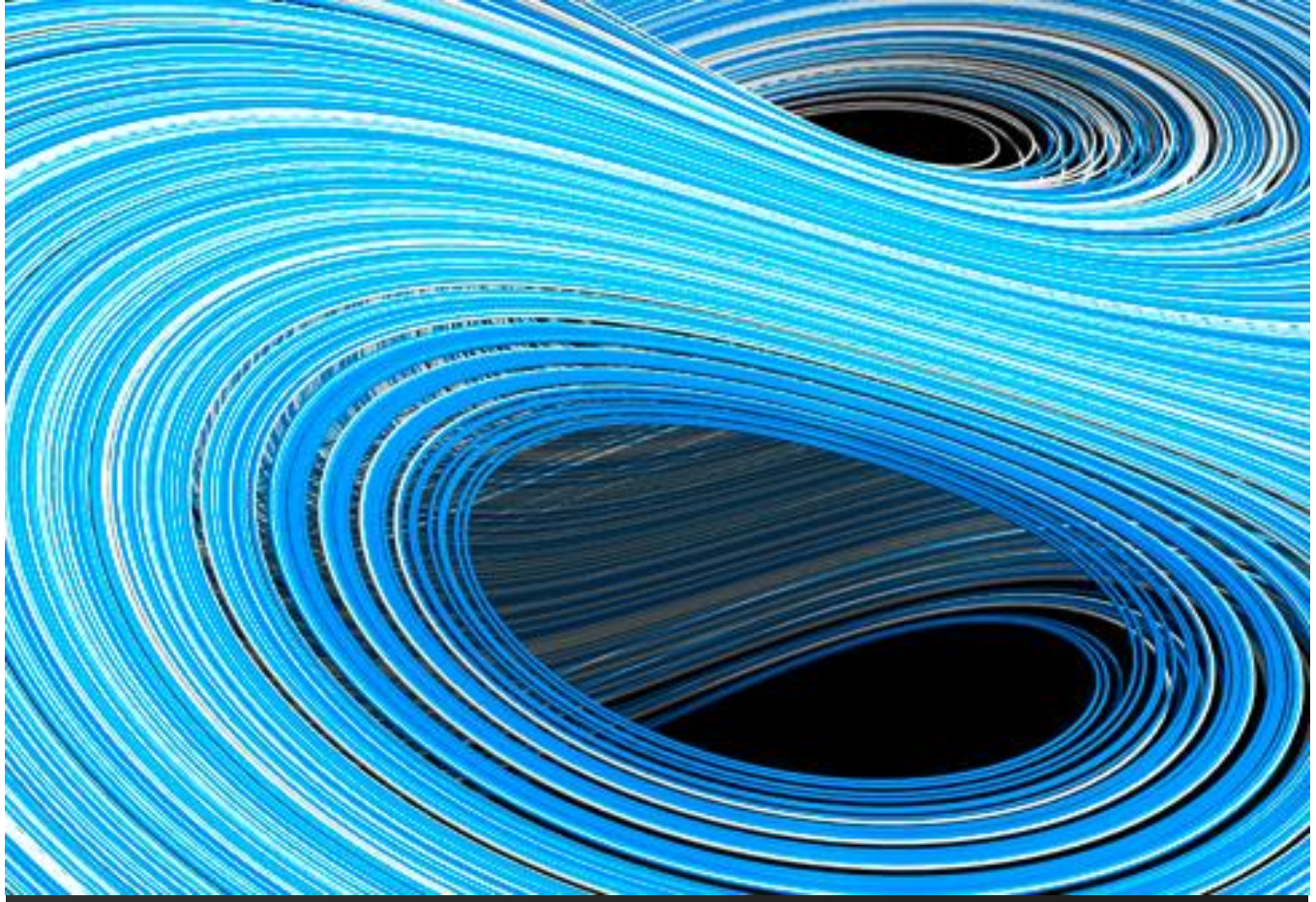
Oxford Dictionary

Ontology	Epistemology	Politics
A composite cyborg	A technoscientific actant	Agency in the order of late modernity

An imaginary/apparatus

The ostensibly real and the ostensibly imaginary are indistinguishable:

- empirically, as referring to different categories of objects that might be available for analysis
- conceptually, to refer to ontologically disparate entities.

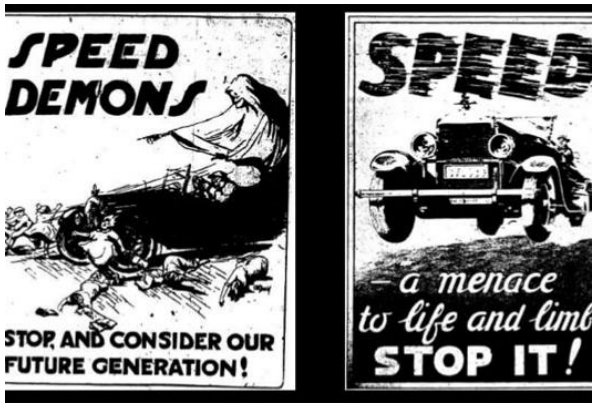


"What I'm trying to single out with this term is, first and foremost, a thoroughly heterogeneous set consisting of **discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral, and philanthropic propositions** in short, the said as much as the unsaid. Such are the elements of the apparatus. The apparatus itself is the network that can be established between these elements ... "

Michael Foucault: Power/Knowledge

What is order?

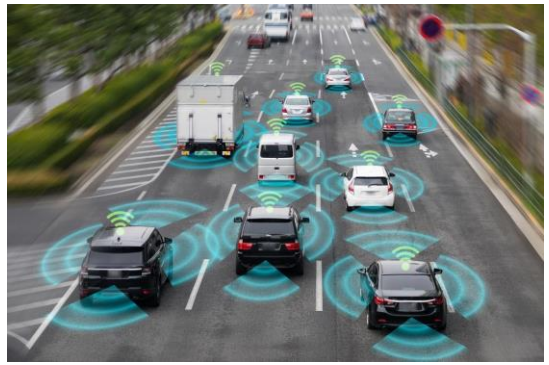
„It is not born, it is made.“



Fight against speed

Anti car protests

Campaign: Jaywalking



Next thing: smart cities

Automobility violence

Multiple forms of violence

Being in automobility

Physical

85 million dead & billions injured that are referred to and analysed as "accidents"

Slow

A violence that occurs gradually and out of sight, of delayed destruction dispersed across time and space, typically not viewed as violence at all

Epistemic

Violence effaced and occluded; of victims, bystanders, non-automobilized peoples

Ontological

The technoscientific actualization of settler colonialism and of the modern "politics of being" that had enabled it --"othering" and the "enserfing" of non-automobilized humans across the entire planet.

Integral accident

„When you invent the ship, you also invent the shipwreck; when you invent the plane you also invent the plane crash; and when you invent electricity, you invent electrocution… Every technology carries its own negativity, which is invented at the same time as technical progress.”

(Paul Virilio: The original accident, p. 10.)

- Violence as ‘the integral accident’
- Violence is constitutive of automobility
- Violence as a mode of subjectification/objectification

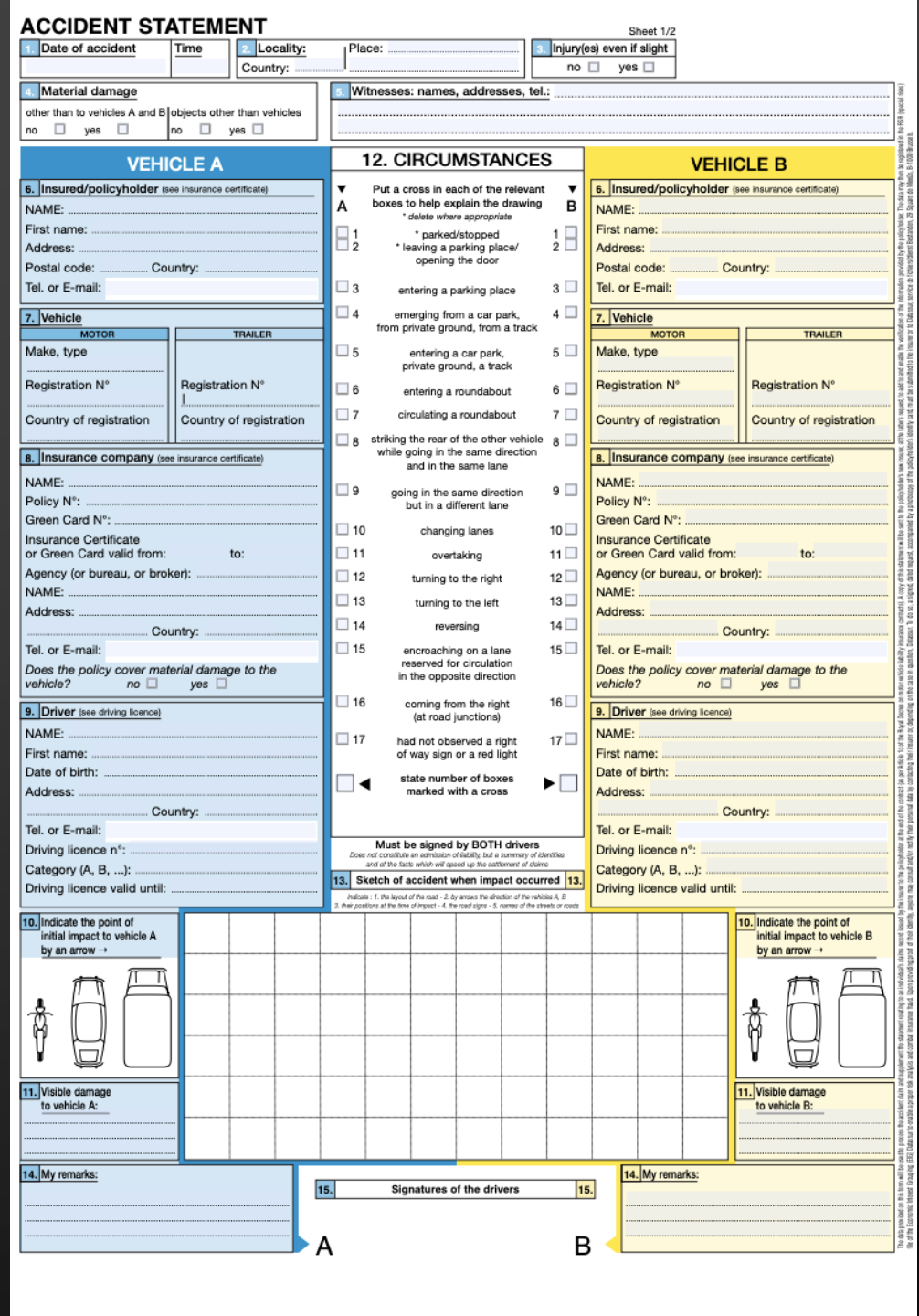
Automobility‘s integral accident

The political ontology of the accident

Quick artefact analysis

- Private document made public
- Main actor: the vehicle
- Non-human agents as "Circumstances"
- Bodies as vehicle-objects
- Human injury as yes/no options
- Animals not present
- .....

An "accident" is (created as) a mobile sociotechnical event enacted in fixed timespace; a collision creating agencyless (degraded) inanimate bodies and humans endowed with agency.



The politics of automobility

The political constitution of humans and non-humans is the very creation of these entities in terms of mobile human and non-human:

- Violence is constitutive of the „world" of automobility
- Entities therein are cyborgs (technosocial assemblages) enduring or meting out violence
- Violence is transformed into ontological violence

Meet Graham


So what?

Thinking of responsibility critically?

Educated people as legislators

What is my responsibility?

Educated people as STSers

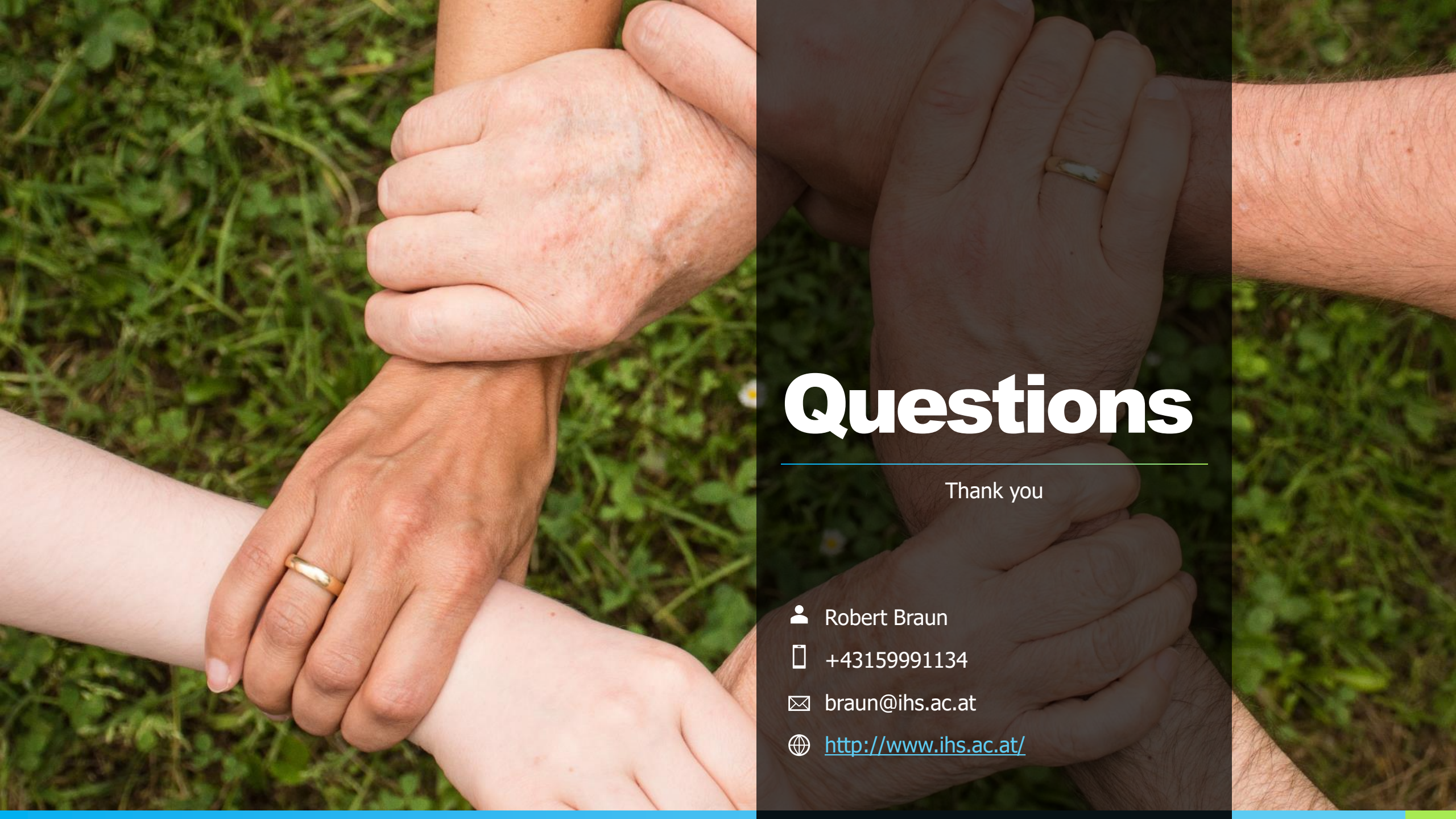
What is my responsibility?

Educated people as economists

What is my responsibility?

Educated people as sociologists

What is my responsibility?



Questions

Thank you

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