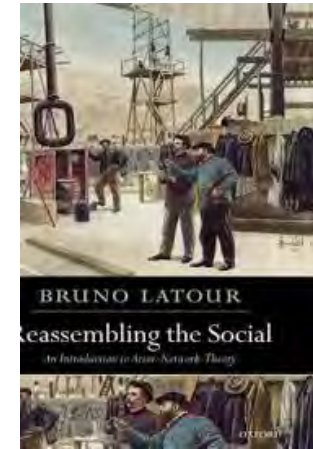
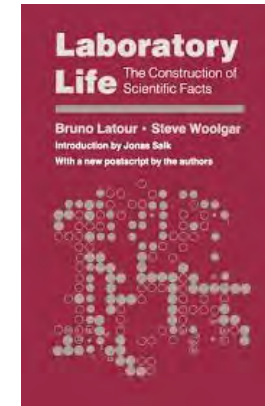
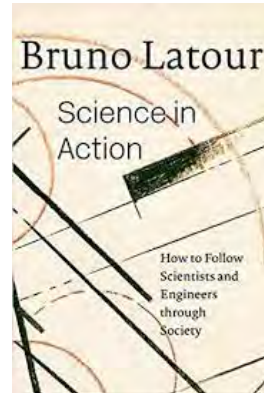


Introduction to Actor-Network Theory



Bruno Latour- sociologist and philosopher of science

“What is an organization actually...if not a serial redescription which starts again every morning.”

Introduction to Actor-Network Theory

- Emerged from science and technology studies (STS)
- Post-humanist, sociotechnical ontology
- Calls for the symmetry between society and science and objects and humans
- Relational ontology- what something is, is always in relation to other things
- Epistemology- social constructionism?
- Methodology- follow the actors, deep dive investigation
- ANT tell stories about how things come together

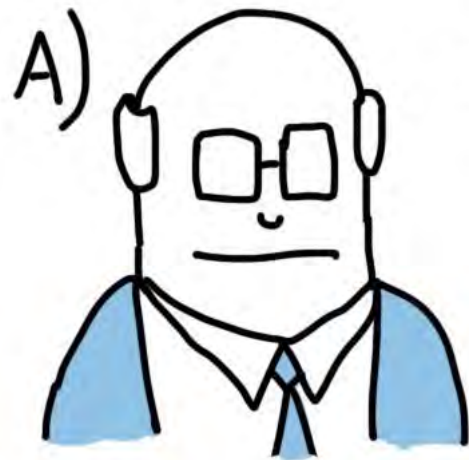
Introduction to Actor-Network Theory

- ANT looks beyond specifically social explanations for societal achievements (the things we build)
- ‘Dark matter’ of technological/ material (the missing masses) as a absent explanation society’s coherence
- ANT sets out to describe a complex society of humans and, importantly, **non-humans**, as **equal actors** tied together into networks established to achieve particular aims or goals.



Introduction to Actor-Network Theory

WHO LED THE DIGITAL TRANSFORMATION
OF YOUR COMPANY ?



THE CEO



THE CTO



COVID-19

Introduction to Actor-Network Theory

ANT on agency

“I start by exploring the metaphor of heterogeneous network. This lies at the heart of actor-network theory, and is a way of suggesting that society, organizations, agents and machines are all effects generated in patterned networks of diverse (not simply human) materials...

... Analytically, what counts as a person is an effect generated by a network of heterogeneous, interacting, materials.” John Law

- ANT sees agency as held by both Humans and technology

Introduction to Actor-Network Theory

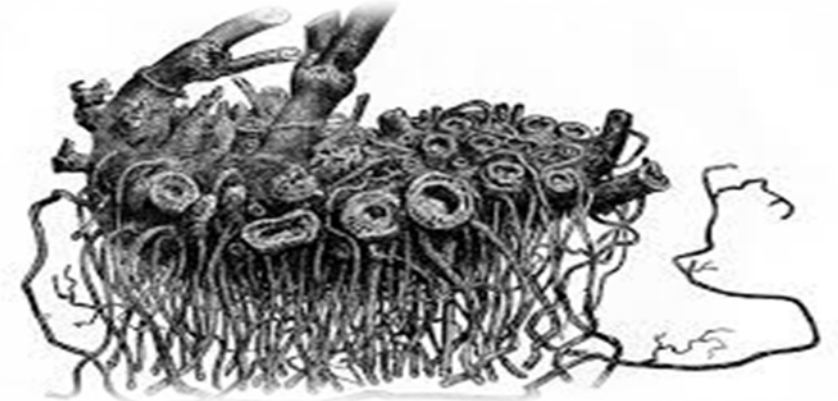
Sensitizing concepts of ANT- the toolkit

- **Actants**-technologies and humans agency- a matter of network stability
- **Networks**- assorted, unrelated (but relatable) objects
- **Heterogeneous engineering**- bringing things together, creating networks
- **Translation**- enrolment of entities onto networks
- **Intermediaries & mediator** Actants roles



Introduction to Actor-Network Theory

- **Network alliances-** creating and stabilising the relations between things
- **Performativity-** networks exist through constant activity of humans and technological materials
- **Distribution and delegation-** stabilising human activity/agency in machines/technology- black-boxing
- **Obligatory Passage Points and boundary objects-** access points to network alliances.



Introduction to Actor-Network Theory

What are Actants?

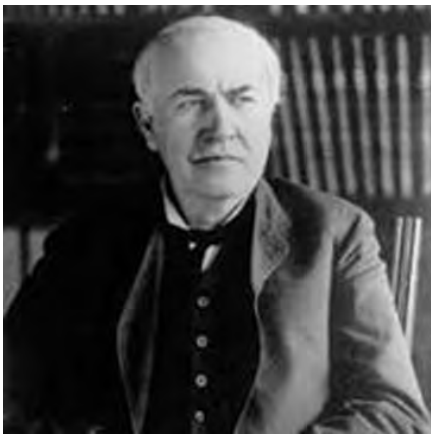
- Actants are entities in and of networks, they are the effects of Network stability
- They can be both social and technological (and natural) agents, but this is decided through following the actors
- Agency- associated with human, however ANT gives agency to technological- material objects



Introduction to Actor-Network Theory

Networks and heterogeneous engineering

- Networks are made up of heterogeneous “bits and pieces”
- Contain both social and technical elements
- Entities (actants) are an effect of a network of heterogeneous materials.
- Heterogeneous engineers’ task is to hold things together, to achieve network aims



Systems builder

Supply chain Banks and backers

The press/ publicity

Construction bosses Political persuasion



Introduction to Actor-Network Theory

- What is a patient hip replacement network?
 - Scalpels, surgeons, royal colleges, bones, pain thresholds, theatre managers, MRI scans, skilled hands, research articles, computer terminals, and all the rest.
- What is a successful paramedic episode network?
 - Ambulance crew, training, Sat Navs, response IT system, oxygen supply infrastructure, rush hour traffic, AED, first response protocols, vehicle maintenance pool etc.



Introduction to Actor-Network Theory

Translation and enrolment

- For things to enter networks there is a point of translation
- All translation (as with language) incurs loss
- Heterogeneous engineers activity it to align the interests of the Actant to that of the network- enrolment
- Unrelated things become related within network alliances
- Actants as **Intermediaries** and **mediators** in networks

Introduction to Actor-Network Theory

Black boxes

- **Black box** is a **metaphor** that is able to contain a complex object
- A set of complex commands and actions that can be substituted by a 'box', because it is generally regular and stable in its functions
- When networks breakdown black boxes are prone to fragmentation (or translation) into other network configurations



Introduction to Actor-Network Theory

Obligatory passage points and boundary objects

- In order to join networks, enrolled Actants take on the devolved power Actants may enter through obligatory passage points e.g. qualifications, useful to the network, hygiene practice.
- In ICU the space between corridor and ward becomes an OPP- performative acts of hygiene are required
- Understanding of ICU patients underlying condition technological monitoring becomes OPP to nursing
- “hermeneutic devices“- Ihde



Introduction to Actor-Network Theory

- **Delegation and distribution of powers to people and objects**
- Actants, as heterogeneous engineers, delegate responsibilities to different types of objects within networks (e.g. sleeping policeman)
- AED represents assigned delegation to enact the steps of cardiac resuscitation- defibrillation .
- The AED in turn delegates the pressing of the shock to the lay person, once the person is configured, both the cardio patient and the rescuer/first aider.
- “mutable mobiles”- Law
- Programs and anti-programs



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- The actants obduracy is due to the **performativity** of all actants within the network.
- If actant- networks breakdown then performativity becomes problematic

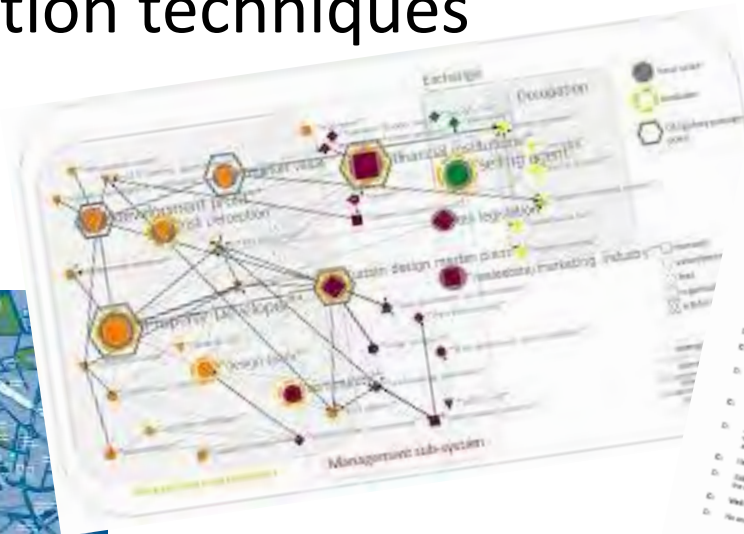
e.g. the old dialysis machine requires too much vigilance from nurses, to many risks around treatment. The new machine has more stable delegation and less technological vigilance



Introduction to Actor-Network Theory

Methodology

- Follow the actors
- ANT calls for depth ethnography
- Qualitative interviews, documentary analysis
- Drawing maps and network visualisation techniques
- Analysis is interpretive



Introduction to Actor-Network Theory

Potential for ANT in health research

- Research to capture the pathways of Big IT projects in Healthcare
- The uptake of new health technology- movers and shakers
- Complex health interventions can be viewed as Actor-networks
- ANT Research seeks to disclose the missing masses in intervention development and evaluation- NPT
- A tool with which to un-pack complexity in health systems
 - Particularly interventions that fail to thrive

Thank you, any questions!

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