Actor Network Theory

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The Sociology of Organizations

- Where does a leader’s power come from?
- How do people in positions of power stay there?
- What protects organizations from forces that might collapse them?
What is Actor Network Theory?

- An approach to social theory originating from science studies
- A material-semiotic method
- Explores how relations between objects, people, and concepts are formed, rather than why they are formed
The Three Components of ANT

- Heterogeneous Networks
- Network Consolidation
- Network Ordering
Heterogeneous Networks

- “Knowledge” emerges from networks of heterogeneous materials
- “Knowledge” takes on many forms
- “Knowledge” is a social product, instead of the result of privileged scientific methods
Heterogeneous Engineering

- In actor-network theory, this is essentially what defines science.

- Science takes parts of the social, technical, conceptual, and textual and transforms them into heterogeneous scientific products.

- Applies to other institutions as well.
Interactions and Artifacts

- Social networks are more than just the people

- Material objects mediate interpersonal interactions
  - Define relationships and context
  - Affect individual behaviors and actions

- Preferences in interaction create patterning, which in turn creates order
ANT and Ethics

- Are the people no different from the objects in an actor network?
- ANT can be used to inform ethical questions of the human effect’s special character
- Actors are heterogeneous networks, too, hence actor-networks
Network Consolidation

- Some networks aren’t noticeable, until they break down
- Networks can be immensely complex, so being completely aware of all the networks around us is infeasible
- Humans consolidate networks to simplify the world around them
Punctualization

- Often occurs in widely-performed network patterns

- Punctualized networks become resources in heterogeneous engineering
  - Hides the network’s complexity
  - The network may fail if resistance is encountered
Social Order

- Punctualization is an endless process
- Social structure is a verb
  - The structure is constantly changing
  - Ordering creates power, but can be contested
  - Individual preferences can cause resistance
- Order can also create devices, agents, and institutions
Network Ordering

- Effects of order, power, and organization often come from punctualized actors

- In actors and organizations, ANT considers:
  - How components are mobilized and managed
  - How resistance is handled
  - How punctualization and translation occur unnoticed
Translation and Power

- Translation is a contingent, local, and variable process
- Implies transformation, equivalence, and symbolic representation
- Translation generates order by generating agents, devices, and organizations
Some materials are more durable than others, and thus maintain more long-lived relational patterns.

Using durable materials to embody relations ensures good ordering.

A material’s effects can depend on the network that it occupies.
Mobility

- Creates a spatial ordering
- Surveillance and control create centers and peripheries
- ANT explores communication materials and processes in particular, and how translation can transmit “immutable mobiles”
- May still be subject to relations and networks
Calculability

- Anticipating the responses of materials to be translated is key to effective translation
- Calculation is a method of anticipation, and the result of certain innovations
- Calculation is a set of social methods and relations, and works only on material representations
Scoping

- The scope in which ordering takes place must be considered
- Generally local, though there may be translation strategies applying to a wider range of networks and locations
- Centers of translation required for explicit calculation
Applicability in Computing

- Ubiquitous computing and wireless devices
Applicability in Computing

- The Internet
Applicability in Computing

- Computer games (especially MMOs)
Conclusion

- Actor Network Theory studies society in terms of the relationships between people and objects, all of which are networks of relations in themselves.

- Networks produce patterns, generating and reproducing hierarchies, organizations, agents, and order.

- It is a sociology demanding consideration of machines and architecture as well as the humans that create and use them.
Discussion

- Think about some actor-networks that you might be a part of. What are these networks composed of? What do they generate? What resistances do they face, and how do they protect themselves from it?

- Can a person’s identity be defined without the objects he or she regularly interacts with?