

# Transitions within: Power struggles on the blockchain - paradoxes of progress\*

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# PhD\*

\*dissertation-by-article

The presented article-in-progress is the core part of my doctoral dissertation. The two other articles-in-progress are:

- *"Parallel notions of decentralization in energy and information technology: Reviewing techno-economic characteristics, institutional logics and current problems"*

Planned submission for "Renewable and Sustainable Energy Reviews", Special Issue on "Energy Decentralization"

- *"New governance frameworks on consumer-centric electricity markets"*

Planned submission for "Energies" [Energy Economics and Policy](#) Special Issue titled ["100% Renewable Energy Transition: Pathways and Implementation"](#)

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# Today:

A first attempt at running through  
the article outline - with some  
added context for you

Some context on blockchain and energy

- Methods:
  - the phronetic approach to social science
  - “unintended self-ethnographic field work”
- Analysis: the decentralization - recentralization movement
- Discussion: Limitations of methods and self-reflection
- Questions (from me to you & from you to me)

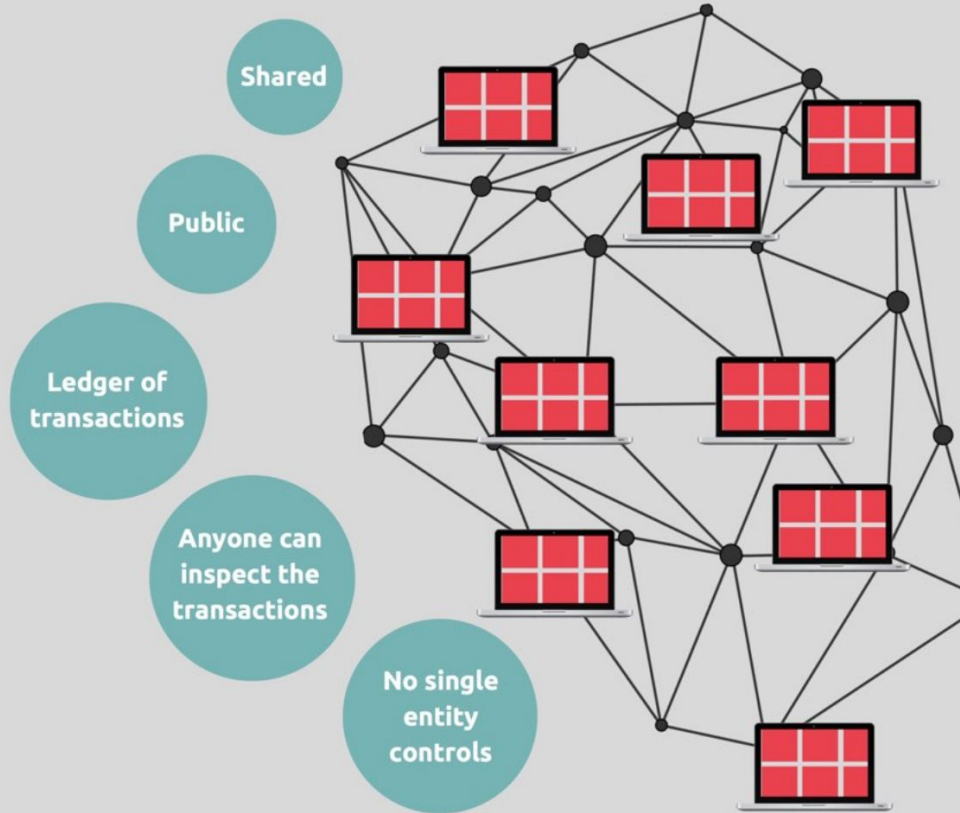


**A little bit of context on blockchain**

# What is a blockchain?

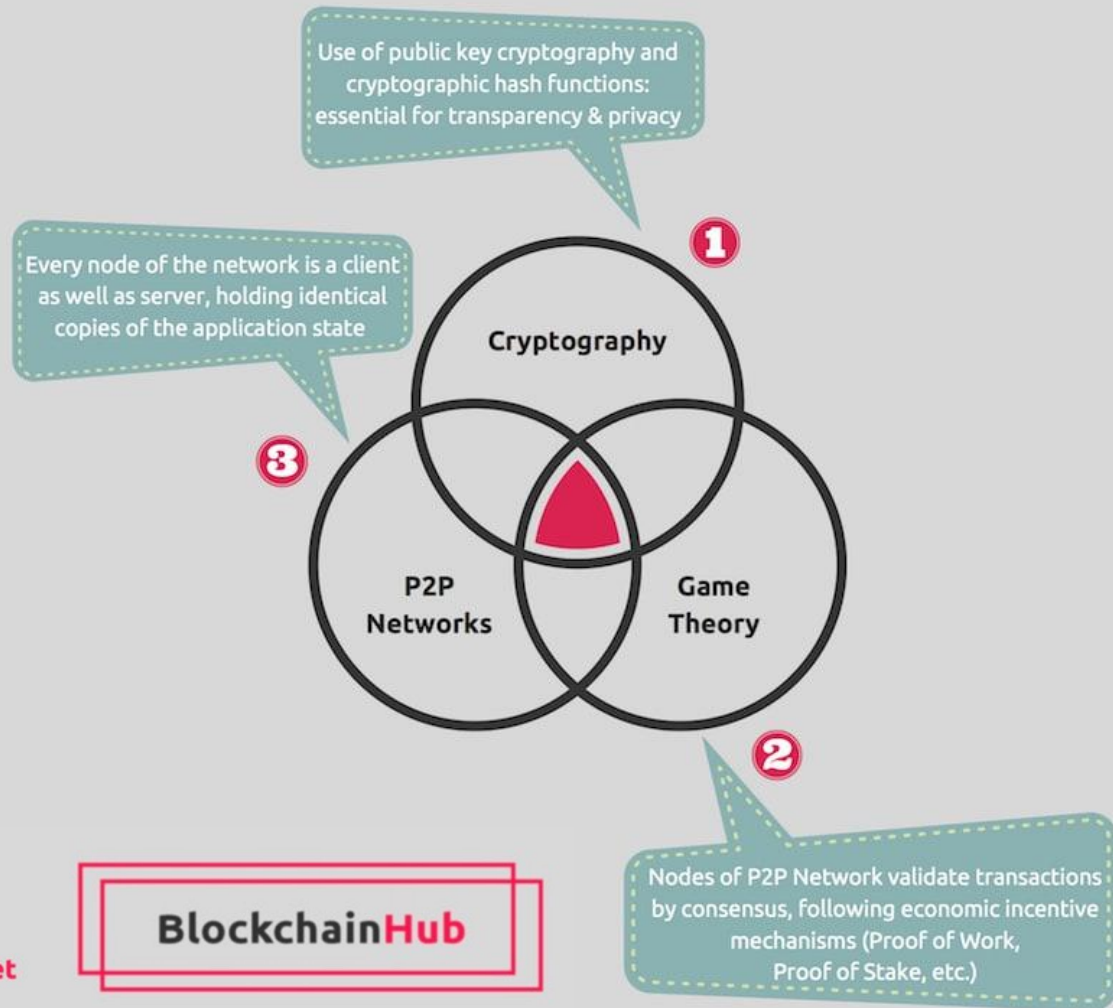
BlockchainHub

Like a Spreadsheet in the Sky




All network transactions get stored in the blockchain

# Combination of three technologies



**Authors:** Shermin Voshmgir, Valentin Kalinov

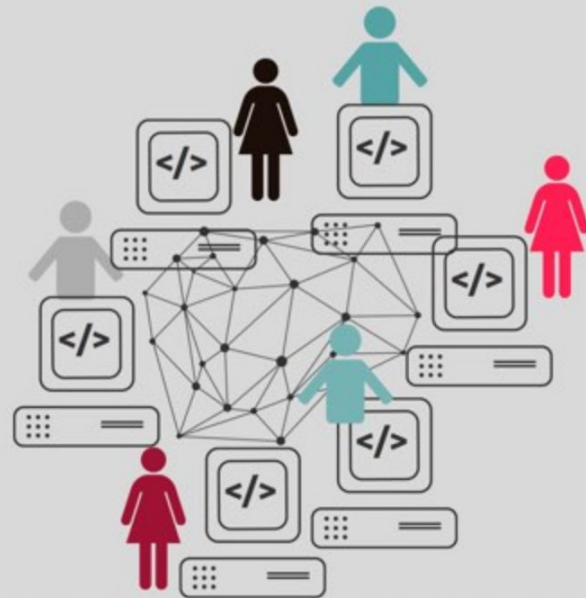
**Creative Commons Licence:** Attribution, Share Alike 

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# Data Monarchy <> Data Democracy



**Server:**  
Unique Point of Failure!



**P2P Network:** If parts of the network fail, the rest of the network will still be functional and safe

# The “blockchain promise”:

Tapscott & Tapscott: Blockchain Revolution (2016)

*"Today's sharing economy is "a nice notion (...). But these businesses have little to do with sharing. In fact, they are successful precisely because they do not share – they aggregate."*

— — —



# NETWORKED MONOPOLIES

THE PROCESS OF CROWDSOURCING MONOPOLY POWER



BUDDING NETWORK EFFECT

GROWING NETWORK UTILITY

FULL-FLEDGED NETWORKED MONOPOLY

# A real sharing economy at last

Tapscott & Tapscott: Blockchain Revolution (2016)

*"Imagine instead of the centralized company Airbnb, a distributed application – call it blockchain Airbnb or bAirbnb – essentially a cooperative owned by its members."*

— — —

# BUSINESS LANDSCAPE

A COMPARISON OF EXISTING AND EMERGENT BUSINESS MODELS



## TRADITIONAL

Business model is based on resource extraction.

Value is created by products or services. Consumers and workers have minimal power over technology.

## PLATFORM

Not based on extraction. Value is created by users sharing content in an online network, giving them power over technology to communicate.

## SHARING PLATFORM

Consciously not based on resource extraction, but rather on facilitating the exchange of resource. Value is created by users - consumers and workers - sharing access to underused assets or human resource as part of an online network. An intermediary connects users and oversees activity on a platform, but users have some power over technology to change how they live and work.

## CO-OPERATIVE SHARING PLATFORM

Similar to a sharing platform, but the online network is co-operative. No intermediary is needed, in some cases because of blockchain technology. Users, but particularly workers, have power over technology to change how they live and work.

Where \*blockchain\*  
was a year ago...

# Kodak Surges After Announcing Plans to Launch Cryptocurrency Called 'Kodakcoin'

By **Jeremy Herron**

January 9, 2018, 6:23 PM GMT+1

*Updated on* January 9, 2018, 10:28 PM GMT+1

RETAIL • KFC

## KFC Introduces a Bucket That Can Only Be Paid for in Bitcoin

BITCOIN

ICOS RAISED OVER \$1 BILLION  
IT'S ONLY FEBRUARY



ALLEN SCOTT • @BITCOINISTER | FEB 26, 2018 | 17:30

BLOCKCHAIN-SZENE

## „Berlin ist der Hammer für Blockchain-Startups!“

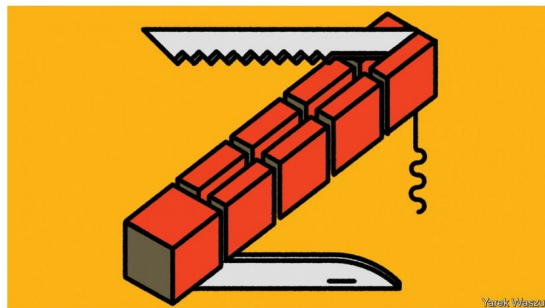
**Interview.** In Berlin erblüht eine Blockchain-Szene. Im Interview erzählt Miriam Neubauer, Leiterin des Blockchain-Accelerators Catena Capital, von Trends und neuen Problemen.

**...and where it is today:**

Beyond the hype

## Dividing the cryptocurrency sheep from the blockchain goats

*Cryptocurrencies look like a solution in search of a problem. Blockchains could be more interesting*



NEWS ANALYSIS

## Mingis on Tech: As blockchain hype cools, a 'trough of disillusionment' for 2019?

A year ago, blockchain aficionados were all but declaring the distributed ledger technology would be bigger than the internet. Maybe so, but not yet. So where does blockchain go from here?



Greens meet geeks

## Hope, hype and heresy as blockchains enter the energy business

*As yet, applications of the new technology have not lived up to expectations*



By Ana Alexandre

NOV 26, 2018

## Ethereum's Buterin: Misapplication of Blockchain Tech Leads to 'Wasted Time'

18680 Total views

282 Total shares

Listen to article



2:15





**A little bit of context on energy**



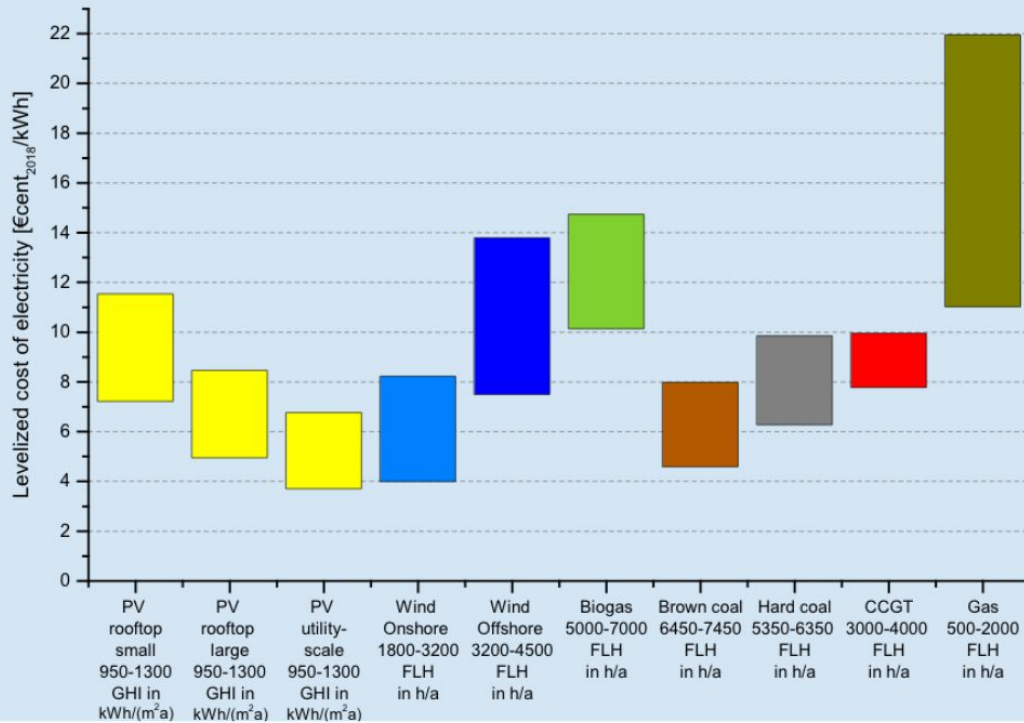
Energy production is increasingly decentralized and ownership has pluralized...





...but grid balancing, trading and billing is still centralised, ...





... although grid parity and even generation parity is here...

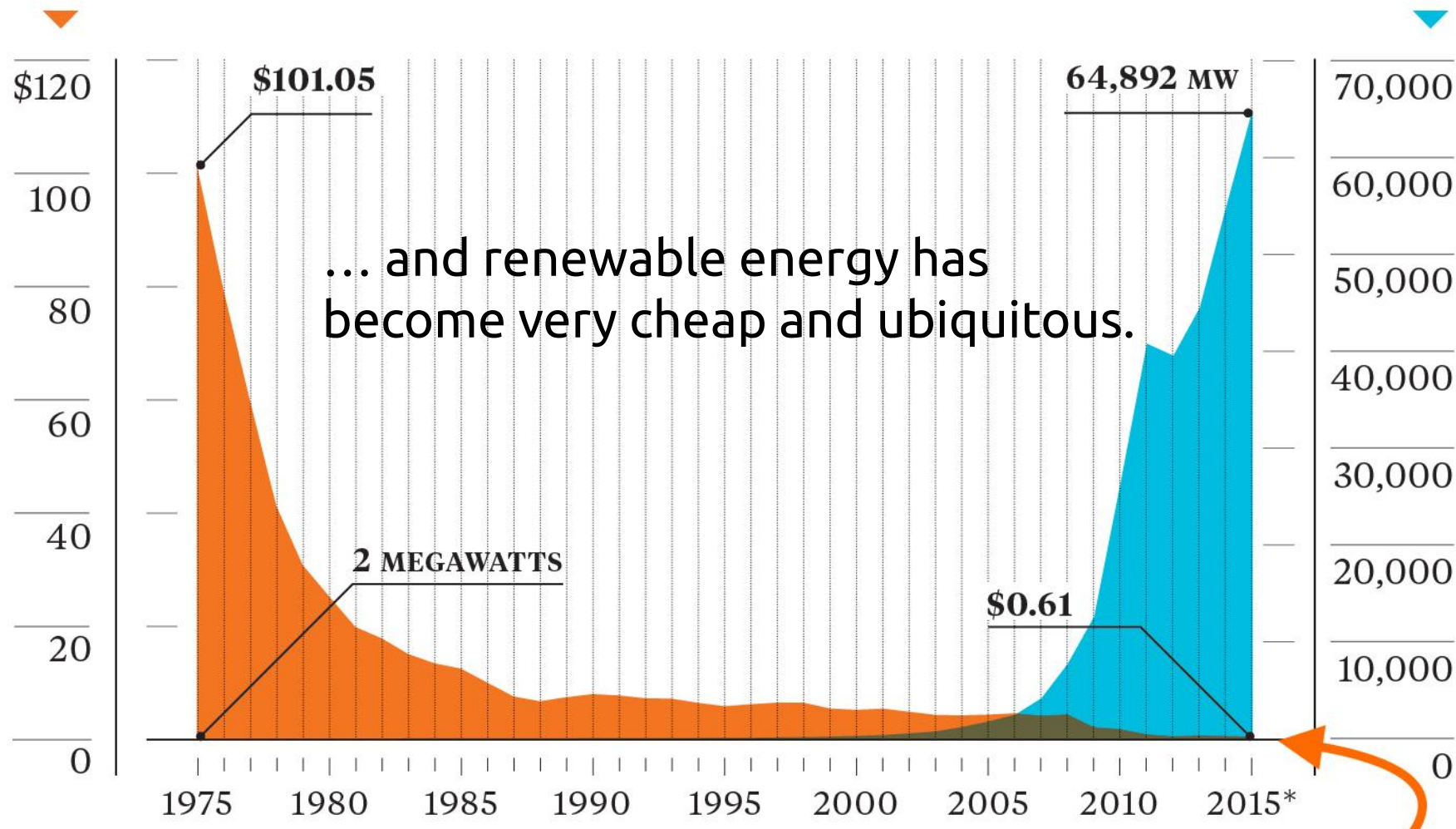
March 2018, Germany:

1 kWh solar PV (ground mounted) costs 3,7 -6,9 EURcent (Fraunhofer 2018: LCOE)

1 kWh mixed electricity from household retailer costs 29 EUR cent

## Price of a solar panel per watt

## Global solar panel installations





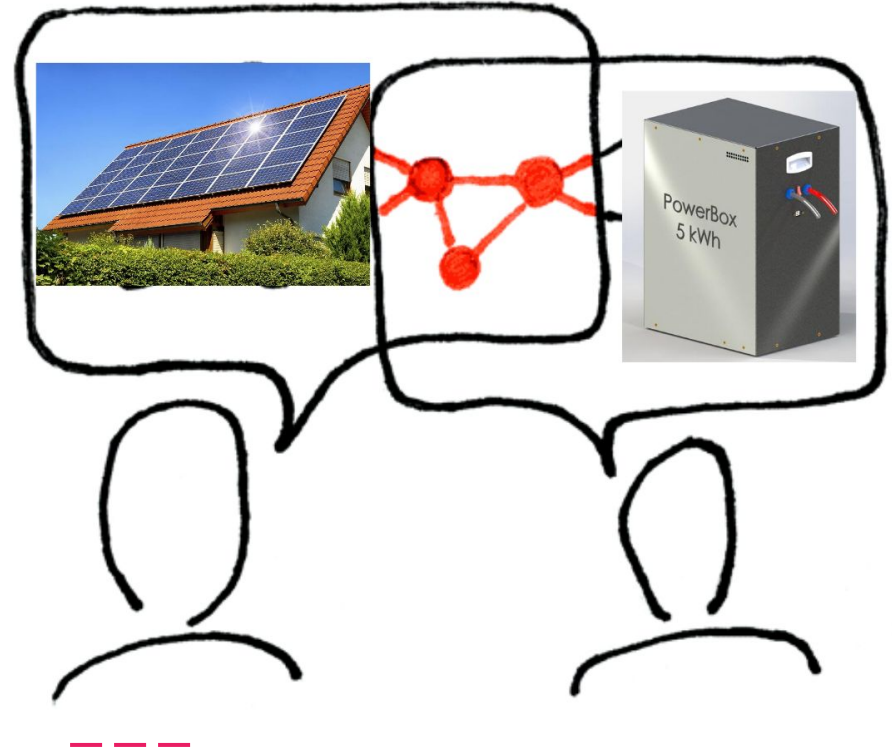
A black and white photograph capturing a dramatic scene of a massive wave crashing over the side of a ship. The wave is turbulent and filled with white foam, dominating the upper half of the frame. In the lower right, the ship's deck is visible, crowded with a group of people looking on. A small, domed structure, possibly a lifeboat or a small cabin, is situated on the deck. The overall atmosphere is one of intense power and potential danger.

# A wave of decentralization

Millions of new market participants are waiting at the edges of the old system. Decentralized generation and exchange require reorganization of markets.

# This “Blockchain” thing

... could allow prosumers to trade electricity locally, without a central intermediary.



# Blockchain: Energieversorgung ohne EVU

**INFORMATIONSTECHNOLOGIE** In New York tauschen zehn Haushalte untereinander Photovoltaik-Überschussstrom aus. Versorger  
liker bekommen davon nichts mit. Blockchain macht's möglich. Die Transaktionskosten interner Prozesse sinken um 95 Prozent

Politik Wirtschaft Panorama Sport München Bayern Kultur Wissen Digital Chancen Reise Auto Stil mehr... Q

14. August 2016, 18:11 Uhr Energie

## Wie Blockchain-Technik das Energiesystem revolutionieren kann

# Energy without utilities



WIRTSCHAFT \_Blockchain



## „Ein neues Geschäftsmodell für Anlagenbetreiber“

**Programm**

**Blockchain-Tag für die Energiewelt 2016**  
**23. Mai 2016 in Berlin**

# Methodology:

## Phronetic social science

*"The point of departure for such research can be summarized in four value-rational questions, which researchers ask and answer for specific problematics in their fields of interest (...) in order to understand better what is going on and what should be done:*

- (1) Where are we going?*
- (2) Who gains and who loses, and by which mechanisms of power?*
- (3) Is this development desirable?*
- (4) What, if anything, should we do about it?"*

*Phronetic researchers are highly aware of the importance of context and perspective, and see no neutral ground, no "view from nowhere," for their work."*

*"It is a basic tenet of phronetic research that in so far as social and political situations become clear, they get clarified by detailed stories of who is doing what to whom. Such clarifications provide a main link to praxis. Hence a main task of phronetic research is to **provide in-depth narratives of how power works and with what consequences**, and to suggest how power might be changed and work with other consequences. The result of phronetic research is an **account of the possibilities, problems, and risks** we face in specific domains of social action."*

Flyvbjerg (2001)



# Methods

“Unintended, self-ethnographic field work” - what’s that?

Following Riemer (1977)

- Taking advantage of unique circumstances or timely events
- Taking advantage of of familiar situations
- Taking advantage of special expertise

The screenshot shows a Google search interface with the query 'field studies'. The search results page displays 'About 30.200.000 results (0,60 seconds)'. The first result is a video titled 'Field Study: Definition & Research - Video & Lesson Transcript | Study ...' with a URL 'https://study.com/academy/lesson/field-study-definition-research-quiz.html'. The video thumbnail shows two people in a natural setting, one kneeling and one standing. The second result is titled 'Field research' with a thumbnail showing a person wearing a hat and sunglasses in a field. The description for 'Field research' states: 'Field research or fieldwork is the collection of information outside a laboratory, library or workplace setting. The approaches and methods used in field research vary across disciplines. Wikipedia'.

Google

field studies

All Images Videos Maps Shopping More Settings Tools

About 30.200.000 results (0,60 seconds)

Field studies involve collecting data outside of an **experimental** or lab setting. This type of data collection is most often done in natural settings or environments and can be done in a variety of ways for various disciplines.

Field Study: Definition & Research - Video & Lesson Transcript | Study ...  
<https://study.com/academy/lesson/field-study-definition-research-quiz.html>

Field research

Field research or fieldwork is the collection of information outside a laboratory, library or workplace setting. The approaches and methods used in field research vary across disciplines. Wikipedia



Many sociologists possess special skills and knowledge aside from their sociological expertise. Some have taken advantage of this in their research endeavors. This coupling of expertise has resulted in some of the more interesting and illuminating case studies.

Ned Polsky's research on pool hustlers and Howard S. Becker's research on jazz musicians exemplify this research strategy. As Polsky (1969: 35) states:

membership and internalization of the appropriate orientations, and (b) within the community being studied, ending with a good understanding and mastery of cultural rules, but also considerable distance to these. While conventional ethnography is basically a matter of the stranger entering a setting and "breaking in", trying to create knowledge through understanding the natives from their point of view or their reading of acts, words and materia used, self-ethnography is more of a struggle of "breaking out" from the taken for grantedness of a particular framework and of creating knowledge through trying to interpret the acts, words and materia used by oneself and one's fellow organizational members from a certain distance. In the first case, we have the researcher as burglar, in the second as a run-away. The burglar-researcher wants to overcome obstacles in order to get in contact with a

Rierner, J. W. (1977) 'Varieties of opportunistic research', *Urban Life*, 5(4), pp. 467–477.

Alvesson, M. (2003) 'Methodology for close up studies - Struggling with closeness and closure', *Higher Education*. Kluwer Academic Publishers, 46(2), pp. 167–193. doi: 10.1023/A:1024716513774.

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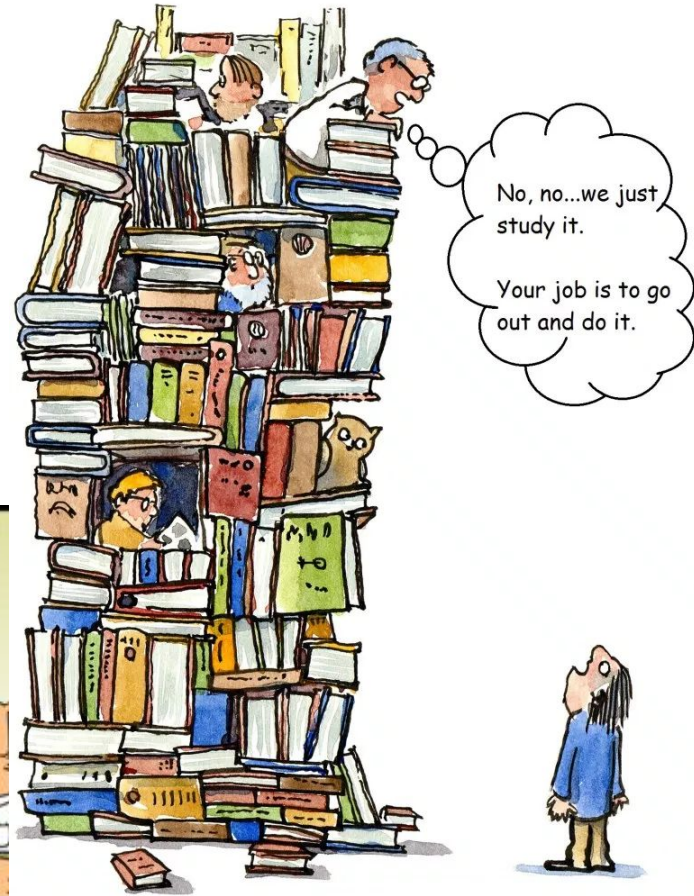
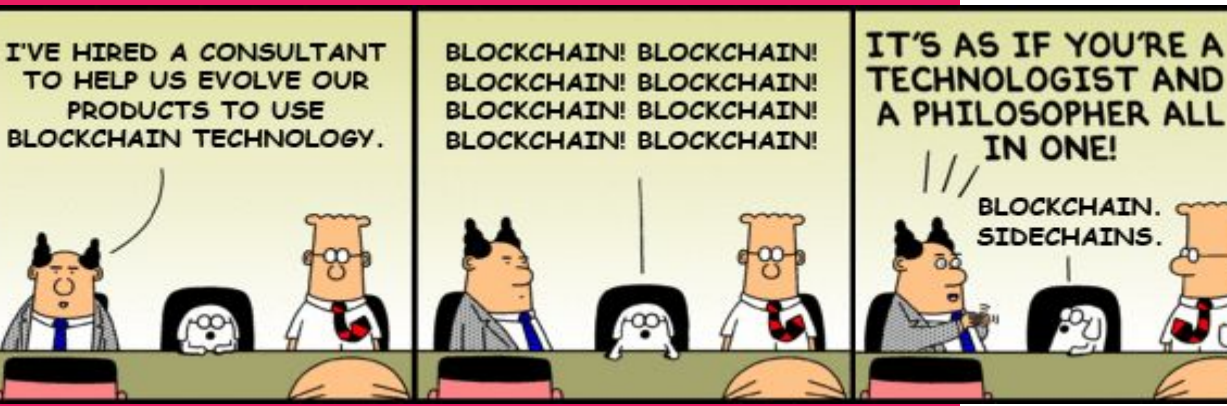
# Field work

- primary period: spring 2016 - end 2017 (until today, really)
- narratives from specific communities of practice, particularly:
  - BlockchainHub Berlin /BundesBlock
  - StromDAO
  - GridSingularity
  - German conferences and working groups on energy & blockchain
- primary location Berlin, but also Vienna, Budapest, New York, Copenhagen, Belgium & Nairobi
- Documents: Reports, news articles and tweets on blockchain and energy from that period
- unrecorded confidential conversations with key players



# The meaning of “transition within” is twofold:

- Reflections on my own transition path from inside to outside of “community of practice”



# Analysis

Blockchain in energy is a testing ground for  
challenge / resistance to the status quo

*--- at the same time ---*

a product of the pre-existing power and  
governance structures that prevail and which  
the technology itself and the culture around  
it could not break

— — —

# Analysis

The struggles inside the communities of practice of blockchain in energy reveal how different stakeholders perceive and shape, colonize and co-create the use of blockchain technology. Dissimilar visions are promoted by different stakeholders, of which some support and some rather obstruct the energy transition, and at times, the technology is used as a veil rather than a change agent.

This results in a circular movement of decentralization and re-centralization. Communities of practice around blockchain technology in the energy sector end up replicating what they originally set out to challenge.



# Discussion

- Limitations of the method: Generalizability?  
Self-reflections

Simpson (2006): “you don’t do fieldwork, it does you”

*“(We) claim to have some expertise when it comes to understanding social life and like to preserve the fiction that our research is carefully planned and executed. However, ethnographic fieldwork is a messy business which can and should puncture these pretensions.”*

*“(...) at a time when there is a considerable undertow pulling social research practice towards ever more prescribed forms, (the) strengths are apt to be constructed as weaknesses. The idea that one might be “done”, even if heuristically so, by one’s fieldwork rather than “doing” it in accord with some quasi-experimental, managerial model would not go down well on a grant application form. Yet, all ethnographers are, to some degree or other, “done” by their fieldwork”.*

Simpson (2006)



# Reflections on choices of theory & method

*"There is nothing as practical as good theory" (attributed to Kurt Lewin)*

→ *theory as a servant, not a master.* (Hvelplund, 2005)

(Van Maanen, 2011) *quotes Goffmann for a similar take on the purpose and role of theory:*

**Goffmann on theory:**

*"He (Goffmann, my remark) responded bluntly but eloquently to those who took him to be "untheoretical" by saying that it is "better perhaps (to put) different coats to clothe the children well than a single, spacious tent in which they all shiver" (Goffmann 1961, xiv). The point here is that a good deal of the headwork involved in ethnography is (and has been) in developing concepts, theories or frameworks that fit one's particular research questions and studied situations. (...)*

*In practice, theory choices (the rabbits we pull out of our hats) rest as much on taste as fit. And taste in ethnography, as elsewhere, results from what is no doubt a complex interaction involving ethnographers, their readings, their disciplinary orientations, their mentors, their colleagues (...). The majority of us are no doubt most comfortable working analytic lines that follow the traditions in which we were trained (...).*

**Law on method:**

Law (2004) describes how we should "unmake our desire and expectation for security" (p. 9):

*"My aim is thus to broaden method, to subvert it, but also to .... I would like to divest concern with method of its inheritance of hygiene and to move from the moralist idea that if only you do your methods precicely, it will lead a healthy research life."*

*(...) Method, as we usually imagine it, is a system for offering more or less bankable guarantees. It hopes to guide us more or less quickly and securely to our destination, a destination that is taken to be knowledge about the processes at work in a single world. It hopes to limit the risks that we entertain along the way."*

# Questions

- from me to you!

- Does it make sense to mix conceptual frameworks from different disciplines with a method from ethnography?
- Could I split the paper into two (how to make space for some more detailed narrative from the field?, and more thorough discussion of methodological concerns?)

— — —



# Thank you!

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