

# The End of (artificial) Scarcity

Failures in our society's structure, and how to fix them

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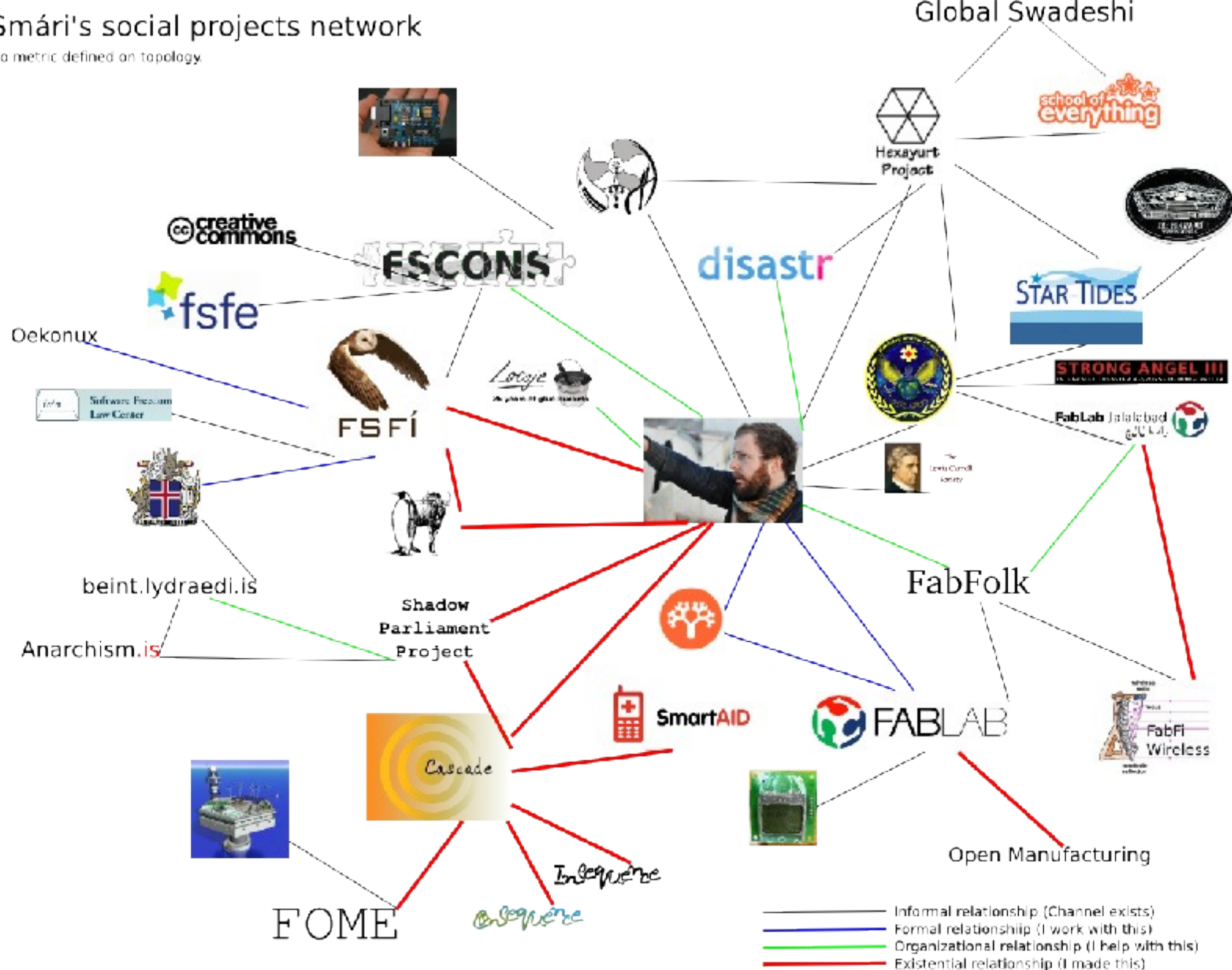


VS.



# Smári's social projects network

No metric defined on topology



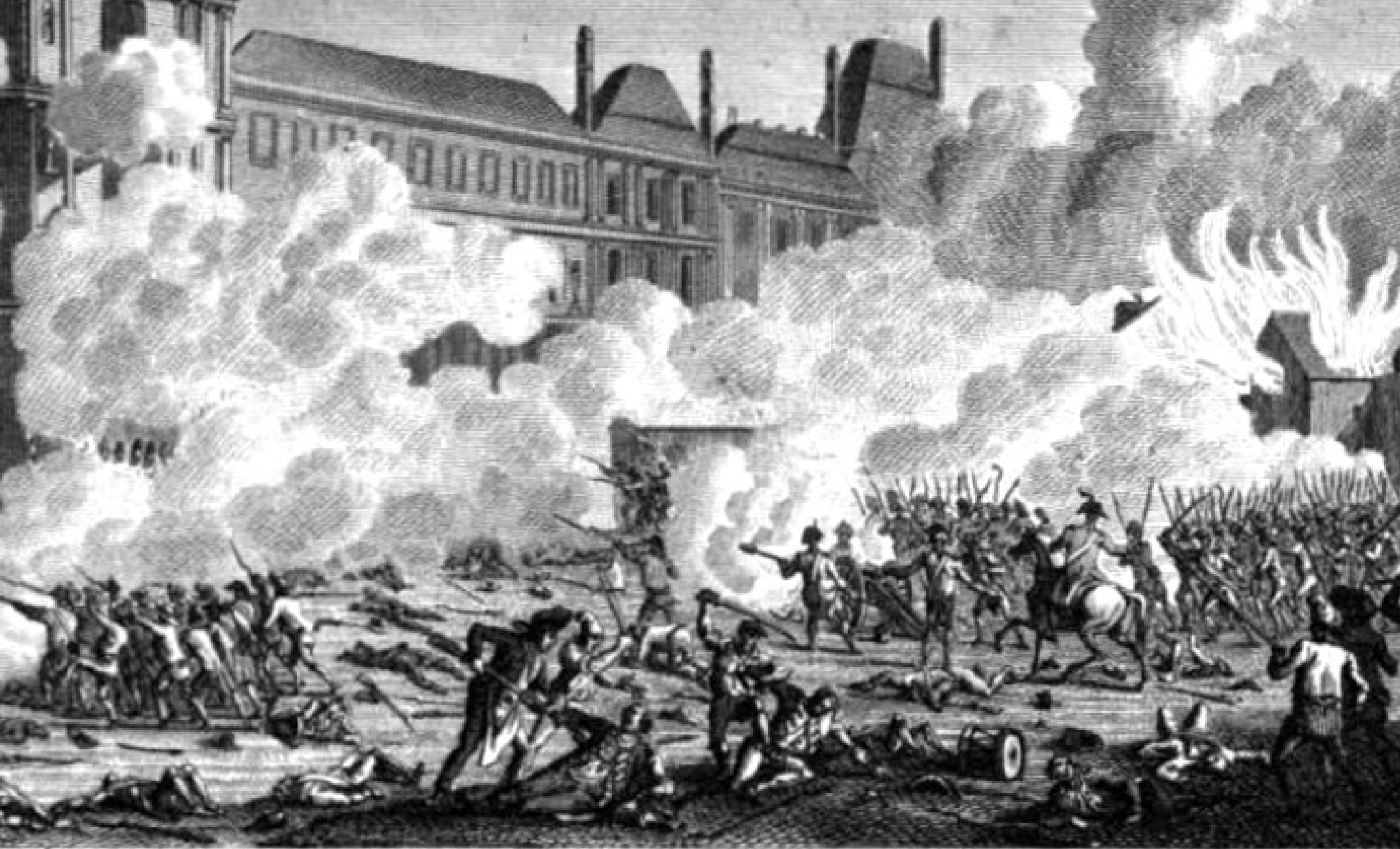


WITHOUT FREEDOM OF THOUGHT  
THERE CAN BE NO SUCH THING <sup>AS</sup> WISDOM  
& NO SUCH THING <sup>AS</sup> PUBLIC LIBERTY  
WITHOUT FREEDOM OF SPEECH

BENJAMIN FRANKLIN 1722





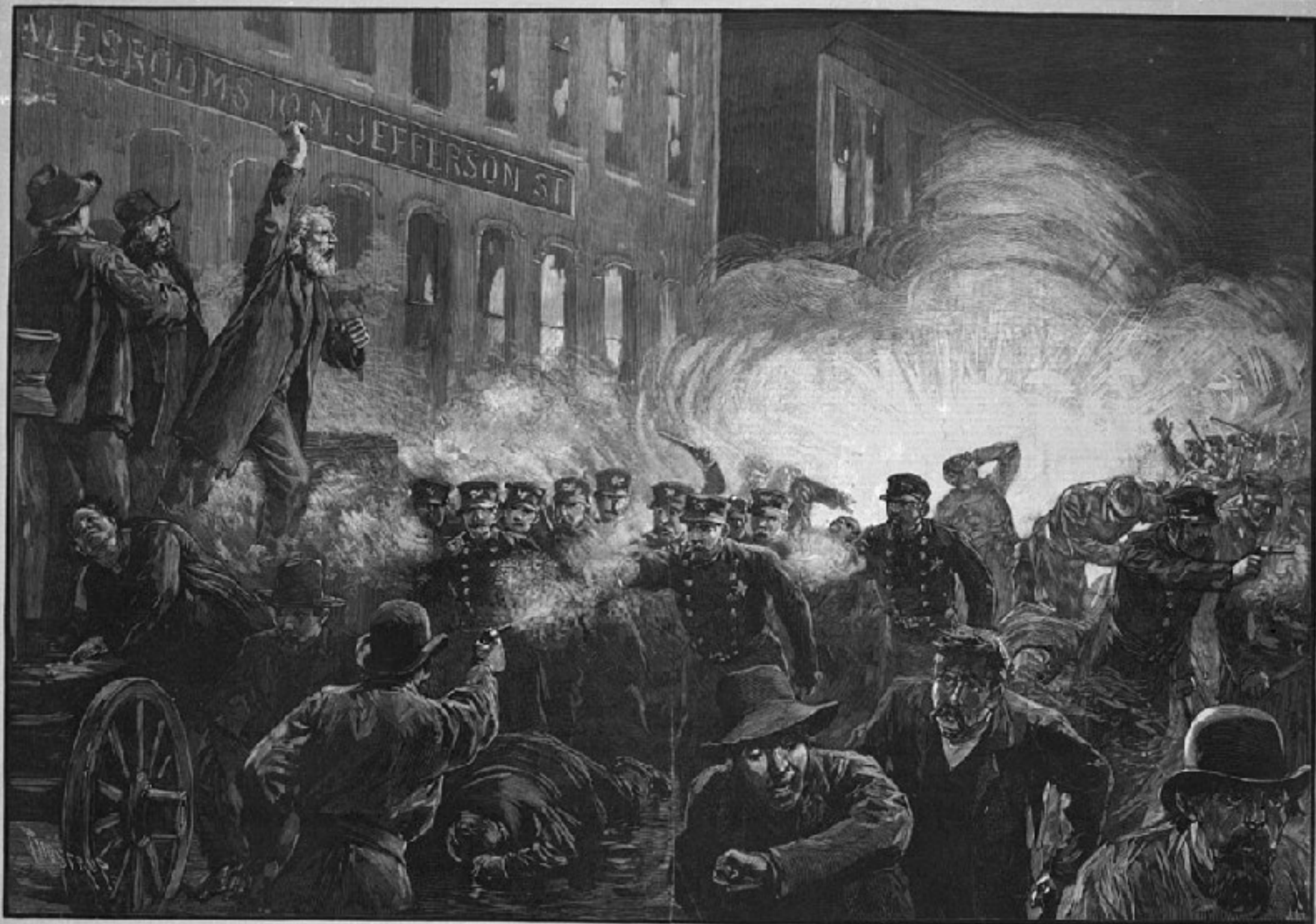


*Travé par Goussier fils*

*Tremblé*

*Evénements de la journée*

*du 10 Août 1792.*



THE ANARCHIST SHOT IN CHICAGO—A DYNAMITE BOMB EXPLODING AMONG THE POLICE.—DRAWN BY THE TRUTHFUL FROM SKETCHES AND PHOTOGRAPHS FURNISHED BY H. J. FARMER.—(SEE PAGE 815.)

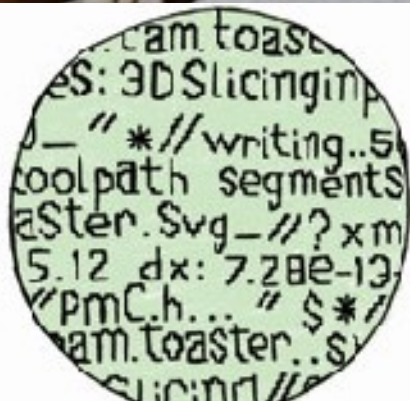




Increasingly, our  
**Freedom**  
are hinging on our  
**Digital Freedoms**



**STEP 1: Design it**



**STEP 2: Code it**



**STEP 3: Output  
to fabricator**



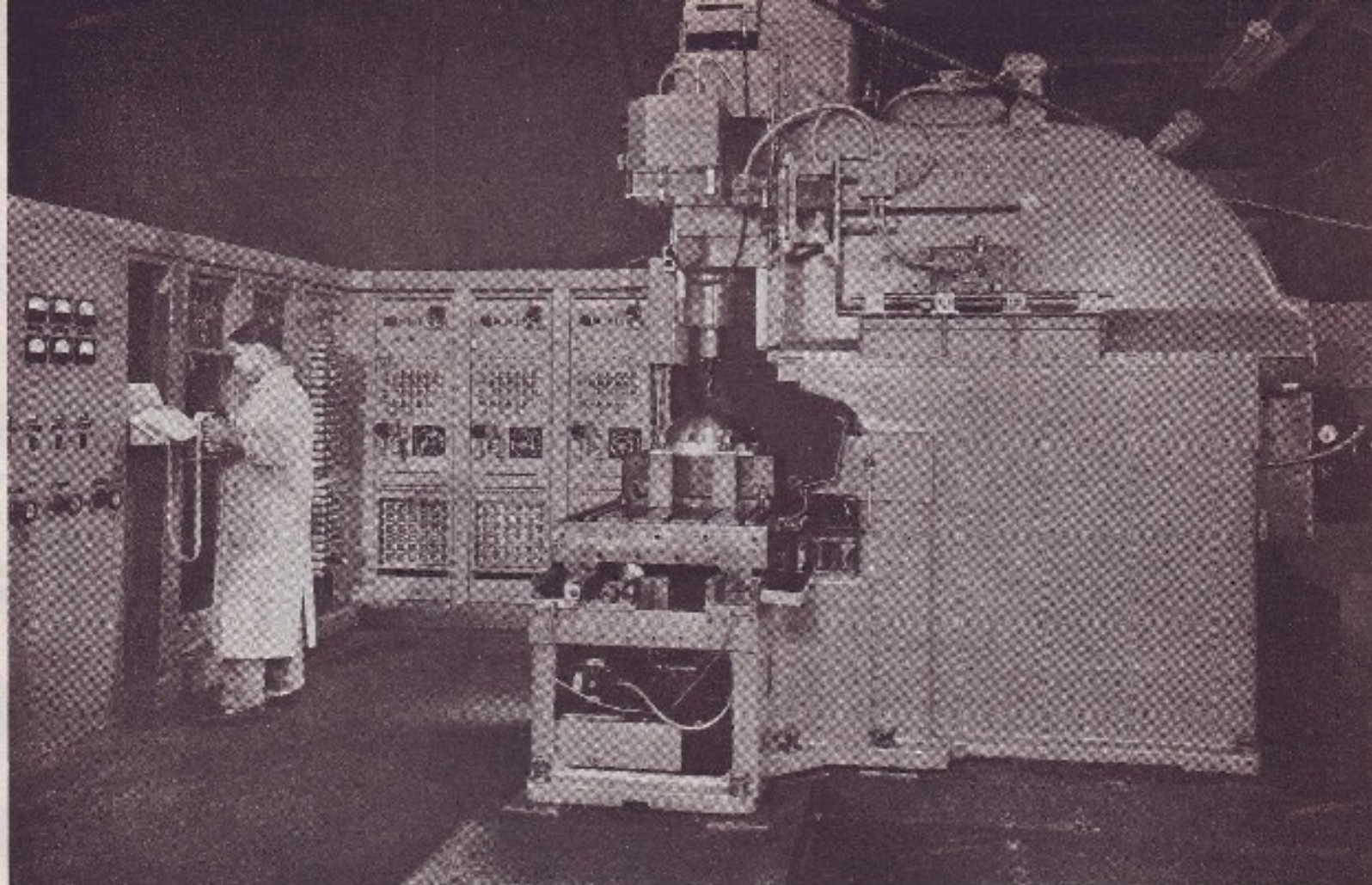
**STEP 4: Press 'print'**



**VOILA!**







Too big yet for home shop, this MIT milling machine is run by computer-control at left.

of tapes—one each for legs, arms, back and seat.

That night, he clamps a nice piece of birch into his Tapemaster, slips the tape into the control box, flips the switch, and sits back with his pipe and the new issue of *Outdoor Life*.

Forty minutes later, the rumble of the Tapemaster stops and Joe takes a look. One leg is finished. So he clamps on another piece of birch . . .

Sure it's a dream—in 1955. But the

engineering basis for Joe's Tapemaster exists right now. Sitting up in the Servomechanisms Laboratory of the Massachusetts Institute of Technology in Cambridge, Mass., is a milling machine that will turn out any metal part at the command of a little roll of tape. Originally a standard, vertical 28" Cincinnati Hydro-Tel, it now has hitched to it \$50,000 worth of electronics.

To conceive, design and build the MIT machine took some quarter-million

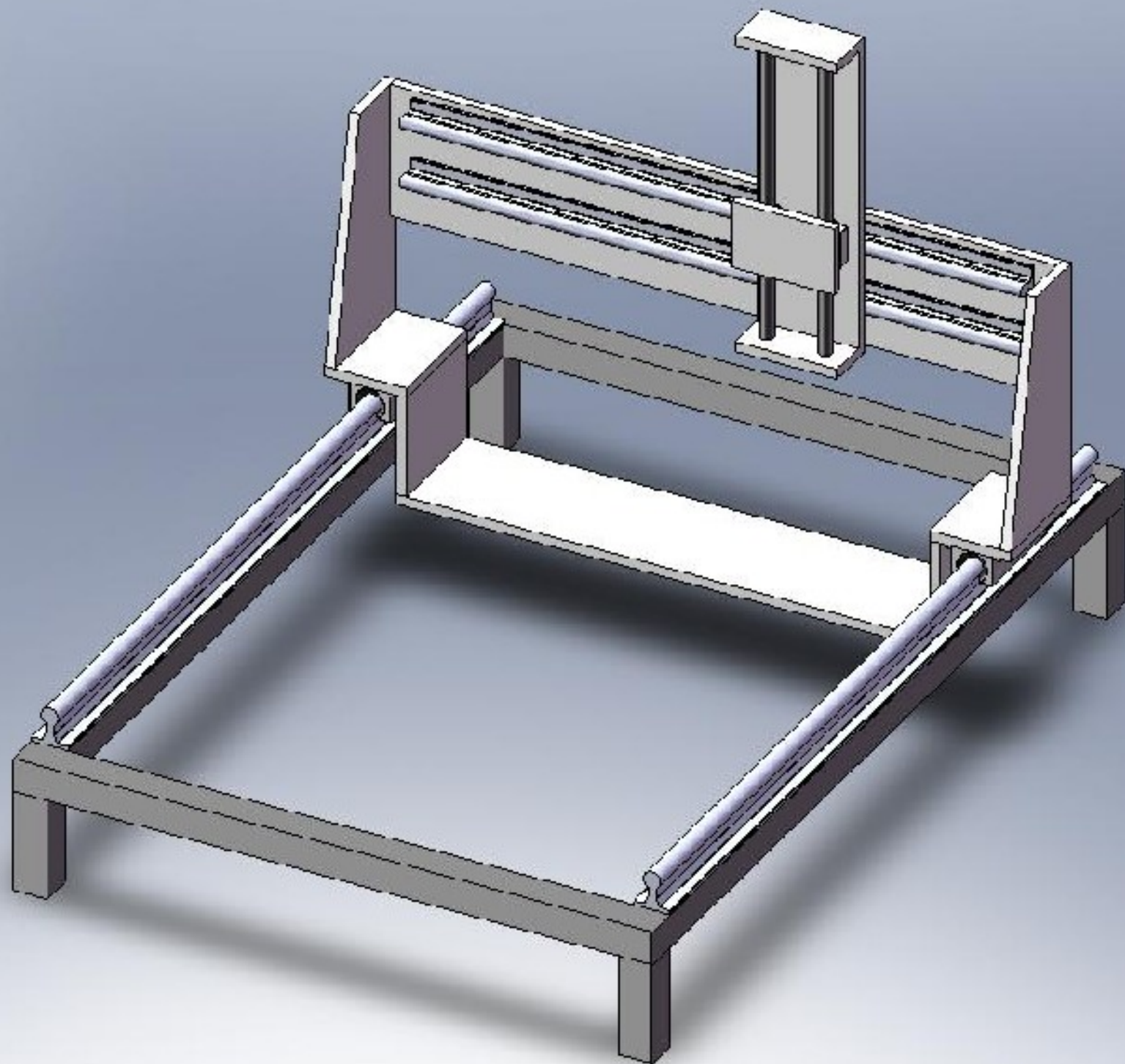


# Fab Labs

Democratizing innovation

What would you make  
if you could make *anything*?

Where are the limits of peer to peer design?



**Public Hospital**

200m

400m

**PH  
Water  
Tower**

**NGO**

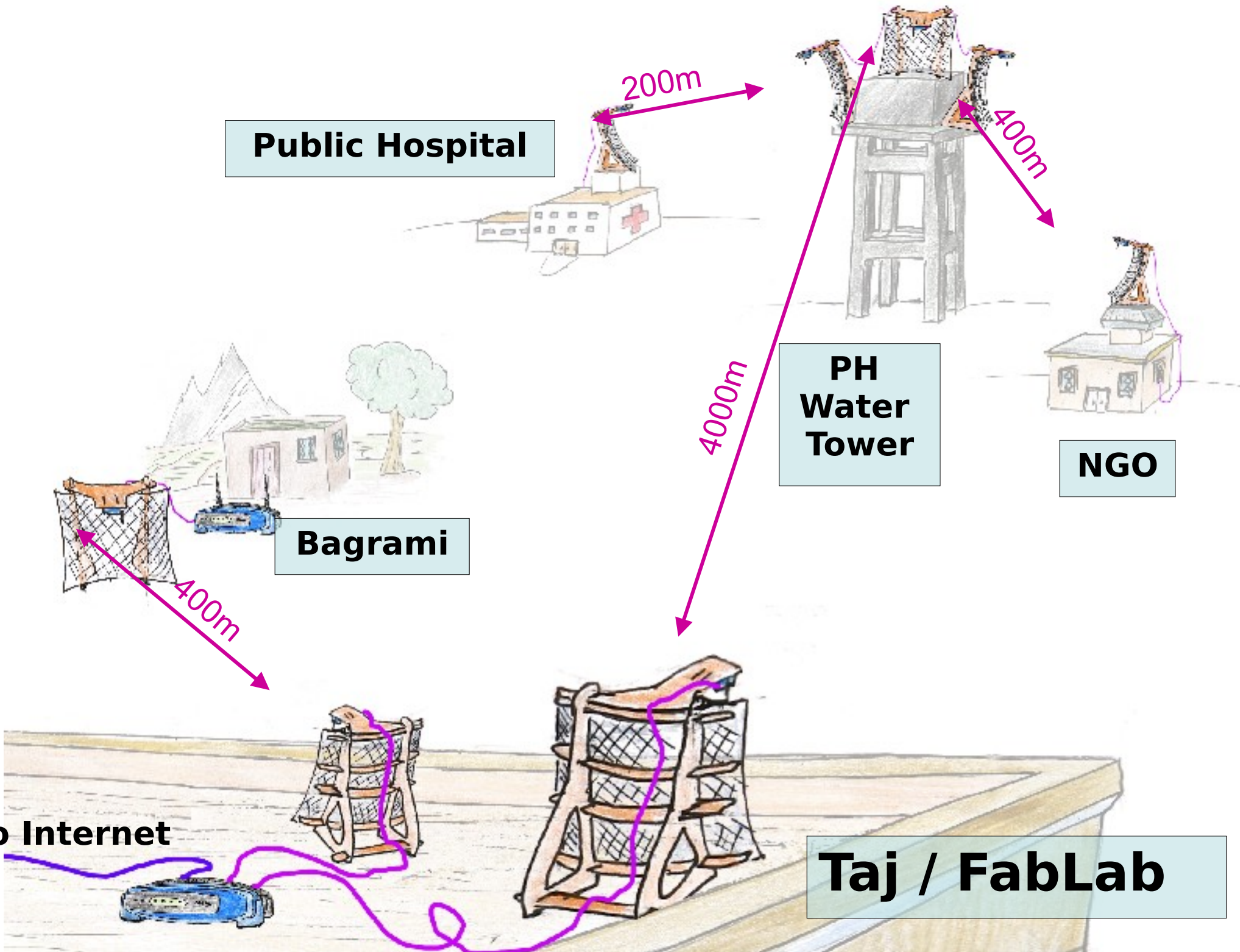
**Bagrami**

400m

4000m

**To Internet**

**Taj / FabLab**









# Hobbes' Lie

- From Leviathan (1651)
- Without a strong ruler, chaos will ensue -

*Bellum omnium  
contra omnes*



# Malthus' Lie

- Without restrictions on human behaviour, we will overpopulate, deplete our resources, and chaos will ensue
  - Viz the *Tragedy of the Commons* (Hardin)





வினாக்கள்



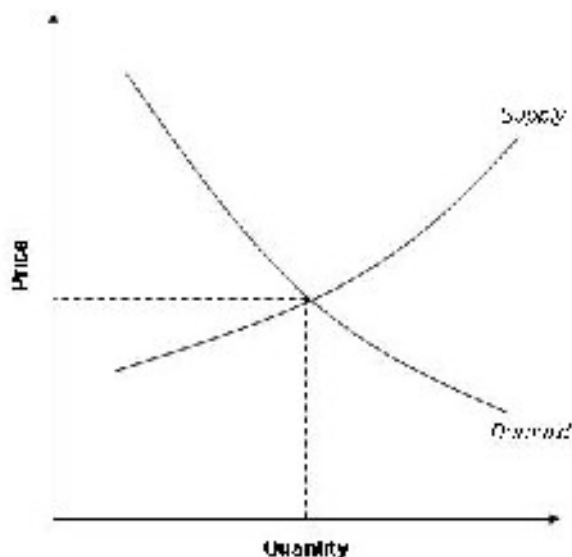


# The illusion of scarcity

- The fundamental assumption of all major economic dogmas is the inherent scarcity of “products”
- Roughly twice the amount of food needed to feed all humans produced in the west
  - Two thirds of it thrown out.
- Rerouting “wasted” food to areas of poverty considered too *costly*.



# The illusion of scarcity



- On the one hand, distribution will happen naturally. On the other hand, it is the alpha and omega of the system.
- So why then are there so many laws governing trade and distribution?
- According to the men who designed the systems that we purport to live by, distribution is extremely important and should not be stifled at any cost. And yet, this is being done.



# The illusion of scarcity

- Freeganism is the ultimate social phenotype for this:
  - Kids dumpster diving for food and clothing, not because they must, but because they can.
  - Able to sustain a higher standard of living by foraging for waste than by working low paying jobs.
  - It doesn't take a genius to see that this does not scale.



#define

Scarce is any thing or concept,  
the supply of which can be  
depleted with sensible use.

Abundant is anything not scarce.

# #define

Rival is any thing or concept, the use of which precludes the use of the same by others.



Scarce goods

Abundant goods

Rival goods

The Eiffel Tower  
Lobster  
Seats on a bus  
You  
15th century manuscripts  
Nobel prizes  
Conventional currency

World soy bean output  
Gold in Fort Knox  
Places to stand in a queue  
Humans  
Drinking water  
Replicas of unique items

Friendships  
Trust

Good music  
Wisdom  
Votes  
Academy award winning movies

Electrons  
Music  
Mutualist money  
Movies  
Digital media  
Water in the oceans  
Free energy on earth  
Oxygen on earth

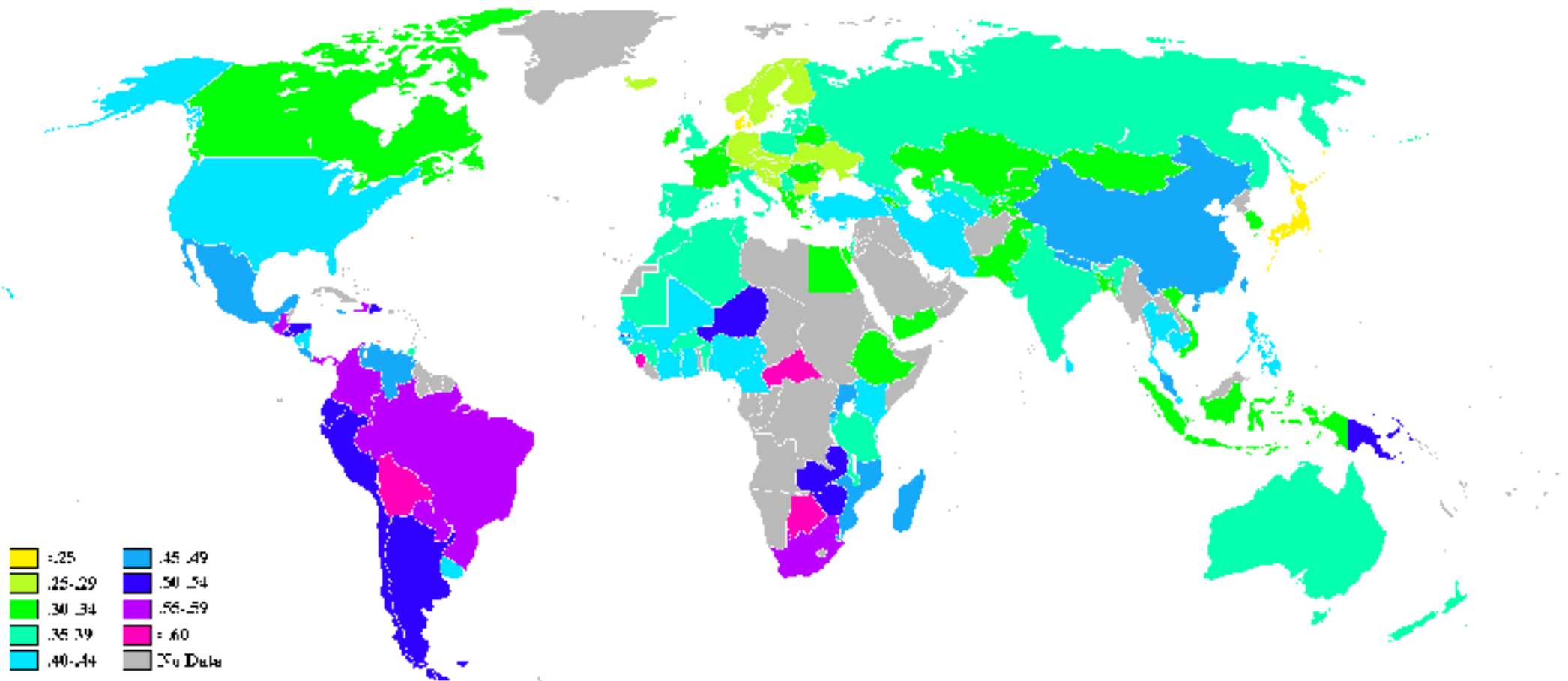
Non-rival goods





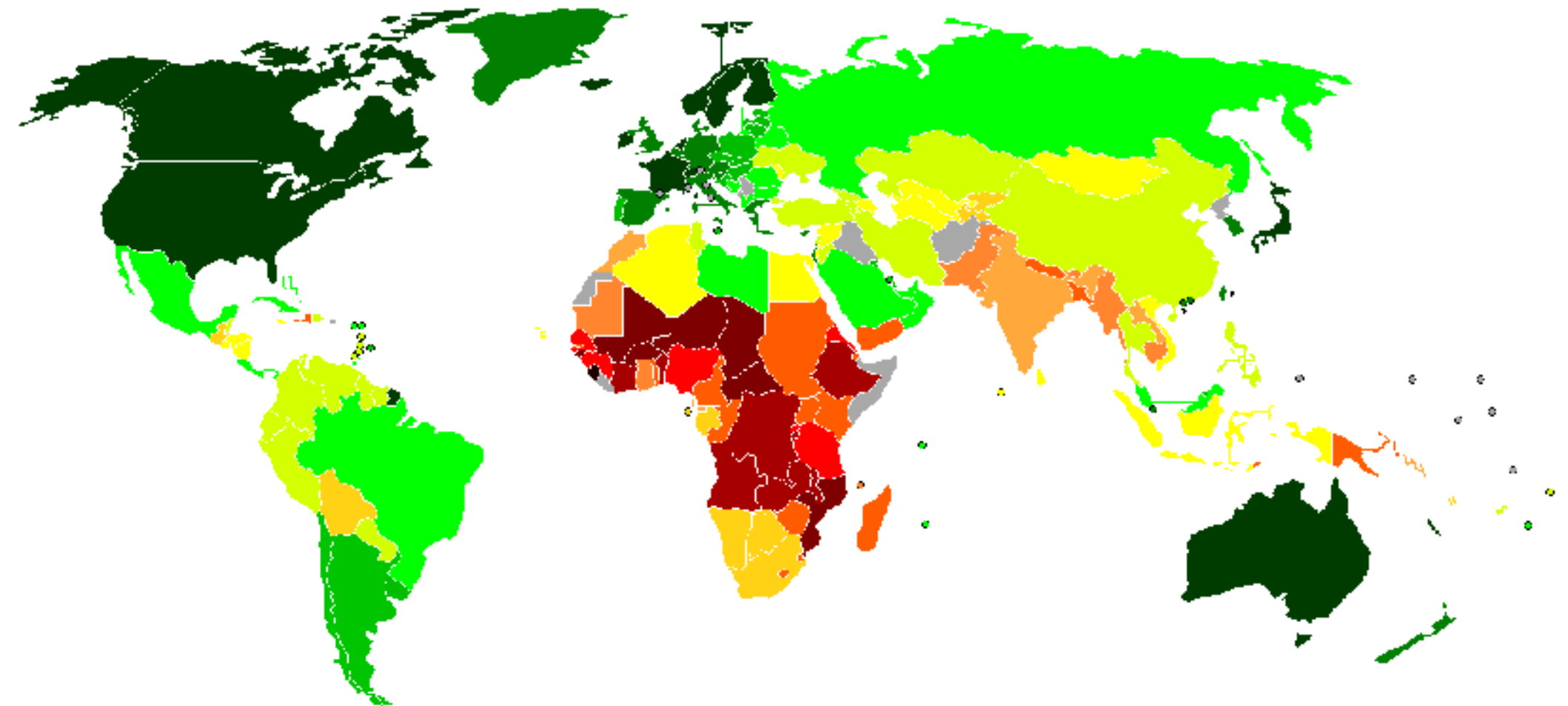


# Gini coefficient





# Human development Index



# The story so far

- Scarcity of basic human requirements was made extinct by the industrial revolution.
- Scarcity is artificially maintained by faulty political and economic systems.
- More freedom from
- Less violence
- More education
- Less poverty
- More food
- Less censorship
- More freedom to

# Social Change

- Consumerism is trashing our planet and making people miserable
- Economical underpinnings rely on continued subserviance
- The context of Malthus' and Hobbes' lies needs to be broken



# Industry 2.0

- P2P design and small scale democracy
- A new paradigm for industrial production
- Probably won't change our society in a fundamental way, but it will force us to reconsider our assumptions
- Eliminating scarcity for non-exotic objects

# What is the Law?

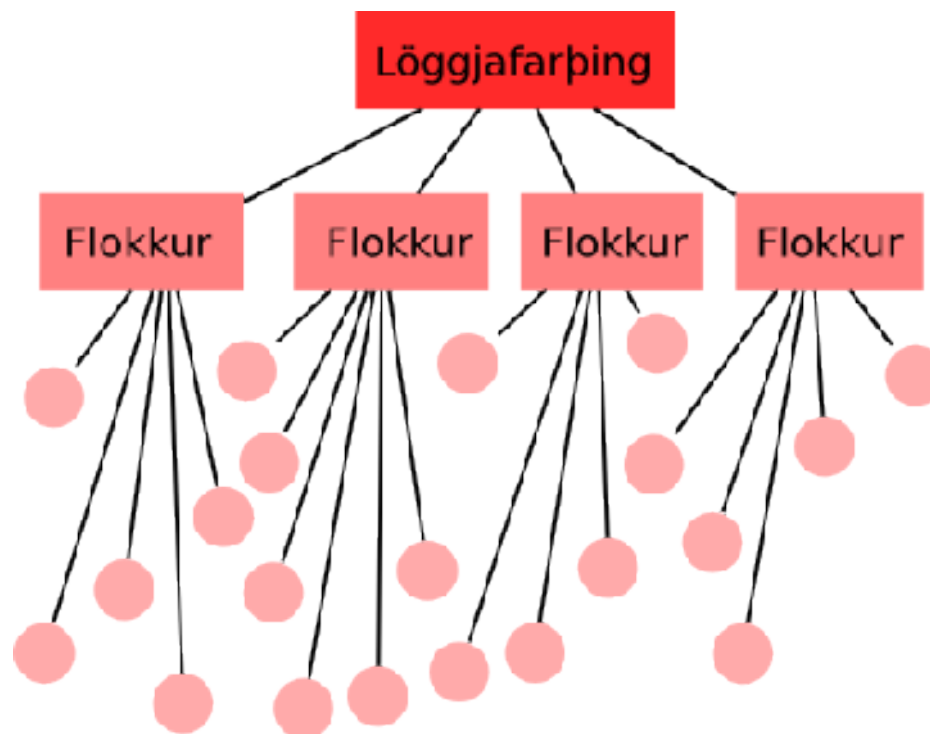
- Social software project
  - software that runs on society
- Open Source
  - everybody can read it
- Public domain
  - the legal code is free and not under copyright
- Developed by:
  - Committee elected by users (in republics)
  - Malevolent dictators & his cronies (in dictatorships)

# Self-modifying code?

- Changing legal code is tricky, because society is running on it in real time.
  - Any changes that are checked in to the code base take effect immediately, and can render the system unusable.
- Peer review is done in real time, and most minor crashes are salvageable.



# Modern “democracy”





Blog

Indymedia

Wikileaks

YouTube

Social links

Reddit

Wikinews

Mass media

RSS

Podcasts

Ojuice

Twiter

Technorati

Forums

Slashdot

Free software

Magnatune

Jamendo

Creative Commons

Linux

Apache

# Production

Free hardware

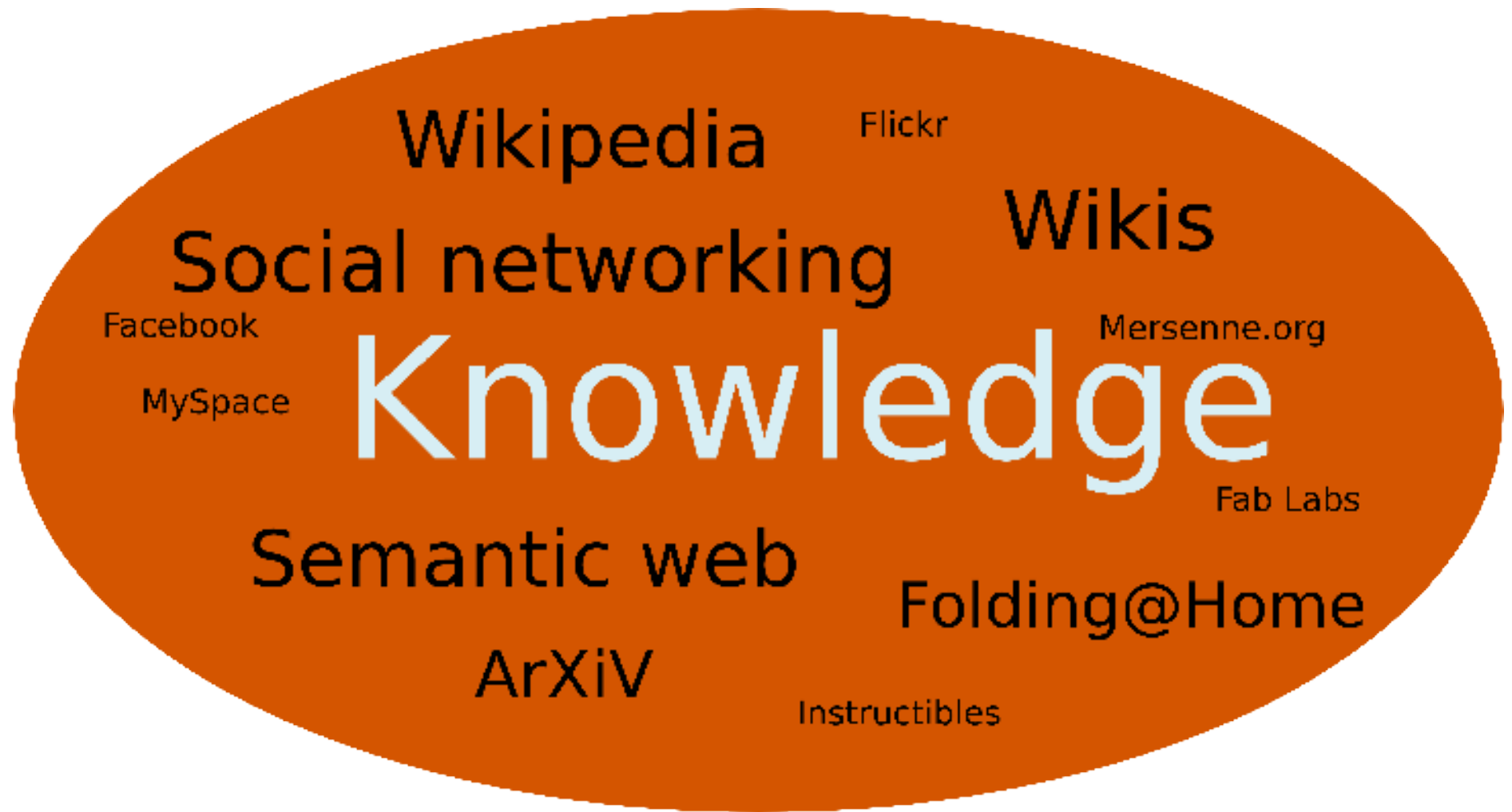
LifeTrac

Arduino

Free culture

Big Buck Bunny





Wikipedia

Flickr

Wikis

Social networking

Facebook

MySpace

Knowledge

Mersenne.org

Fab Labs

Semantic web

Folding@Home

ArXiv

Instructibles



Democracy?

“Nice idea, but it doesn't work”

Nevermind Switzerland...

“People can't keep up with *every* issue”

... with the exception of Parliamentarians...



A green diamond shape with white text inside.

Participate

Select “yes” or “no”

A green diamond shape with white text inside.

Abstain

Blank vote or no-show



Participate

Select “yes” or “no”

Abstain

Blank vote or no-show

Proxy

Allow a third party  
to use the vote

# Proxying

General

Categorical

Per issue

Proxying can happen in three different ways

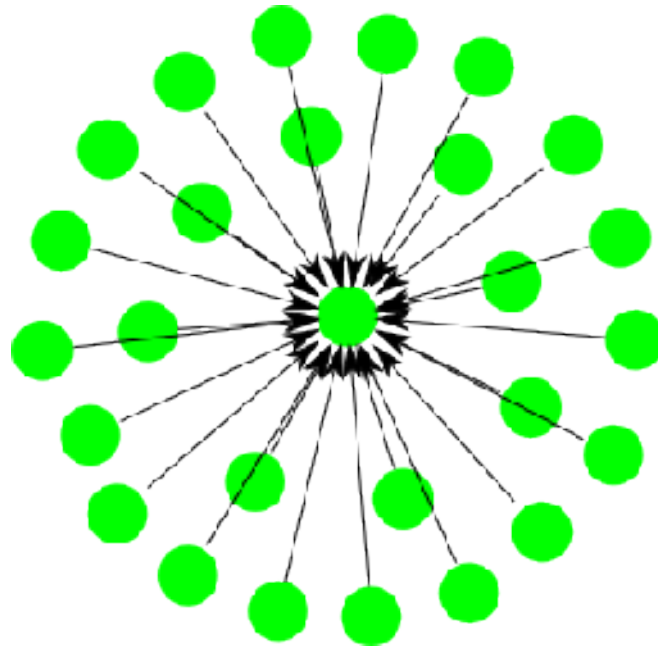
- General (“I’m apolitical, but I trust you.”)
- Categorical (“I know nothing of agriculture, but I trust you.”)
- Per issue (“I have no opinion on this, but I trust you.”)



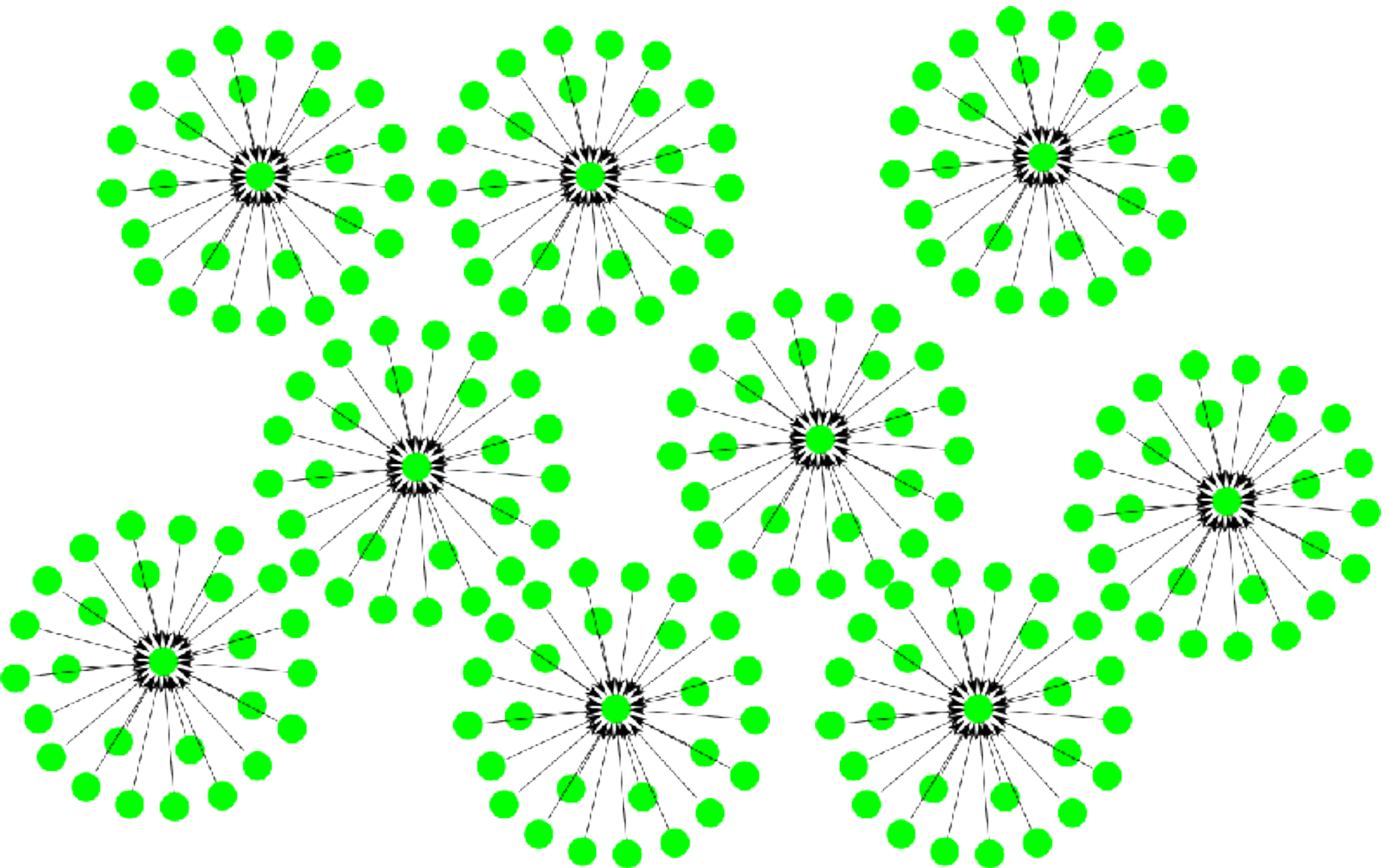
**All** forms of **government** ever **seen** are  
**possible states** in this system

- And a plethora of new (previously unthinkable) states become available.
- One state for every conceivable set of proxies.

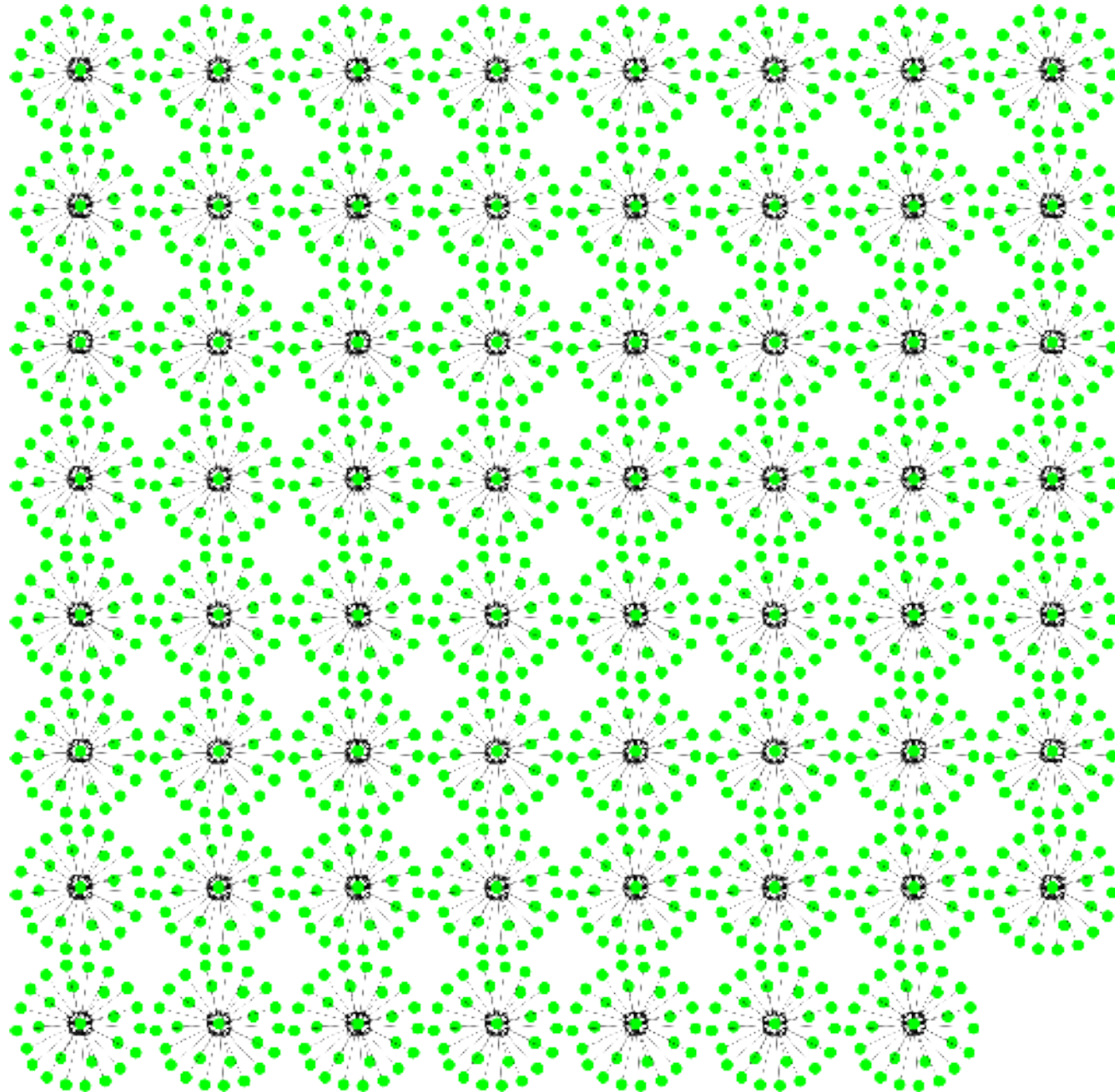
# Dictatorship



# Representative democracy

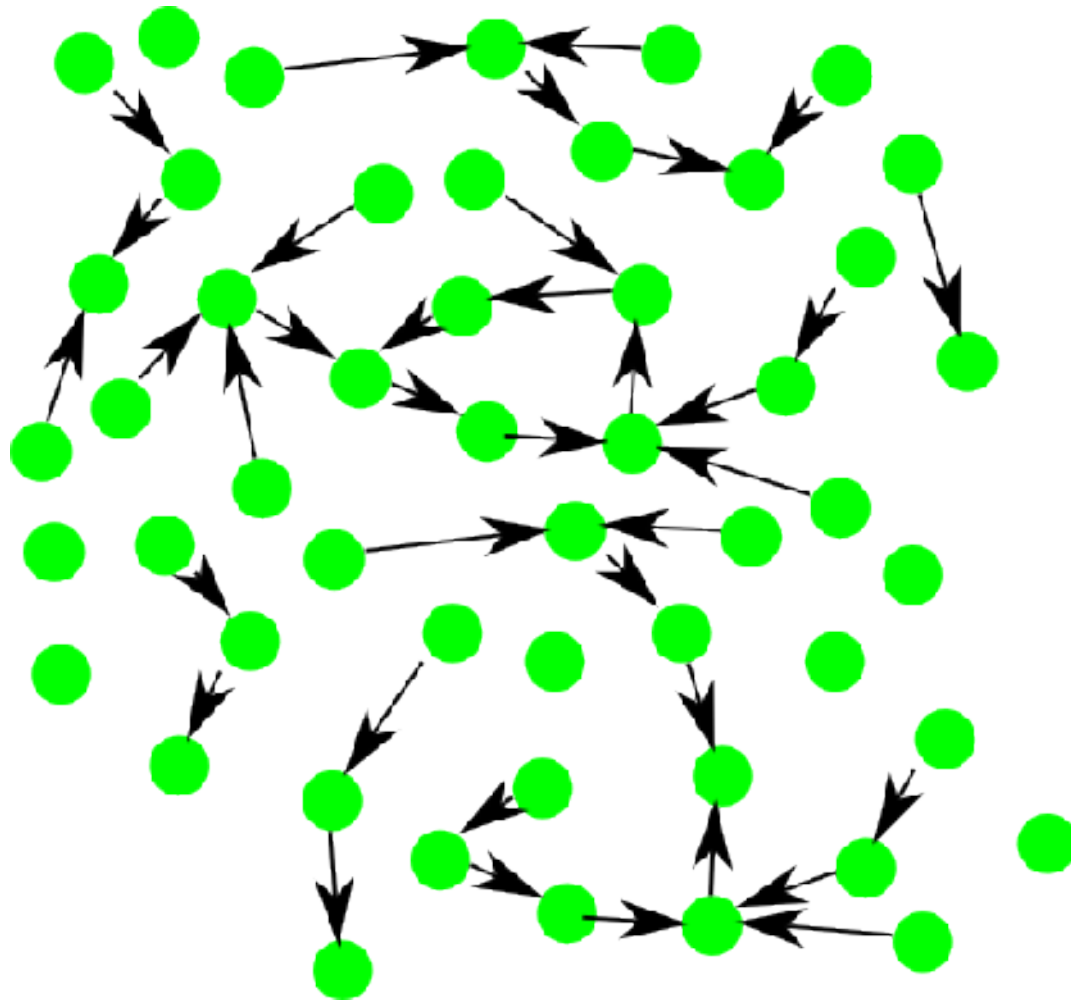


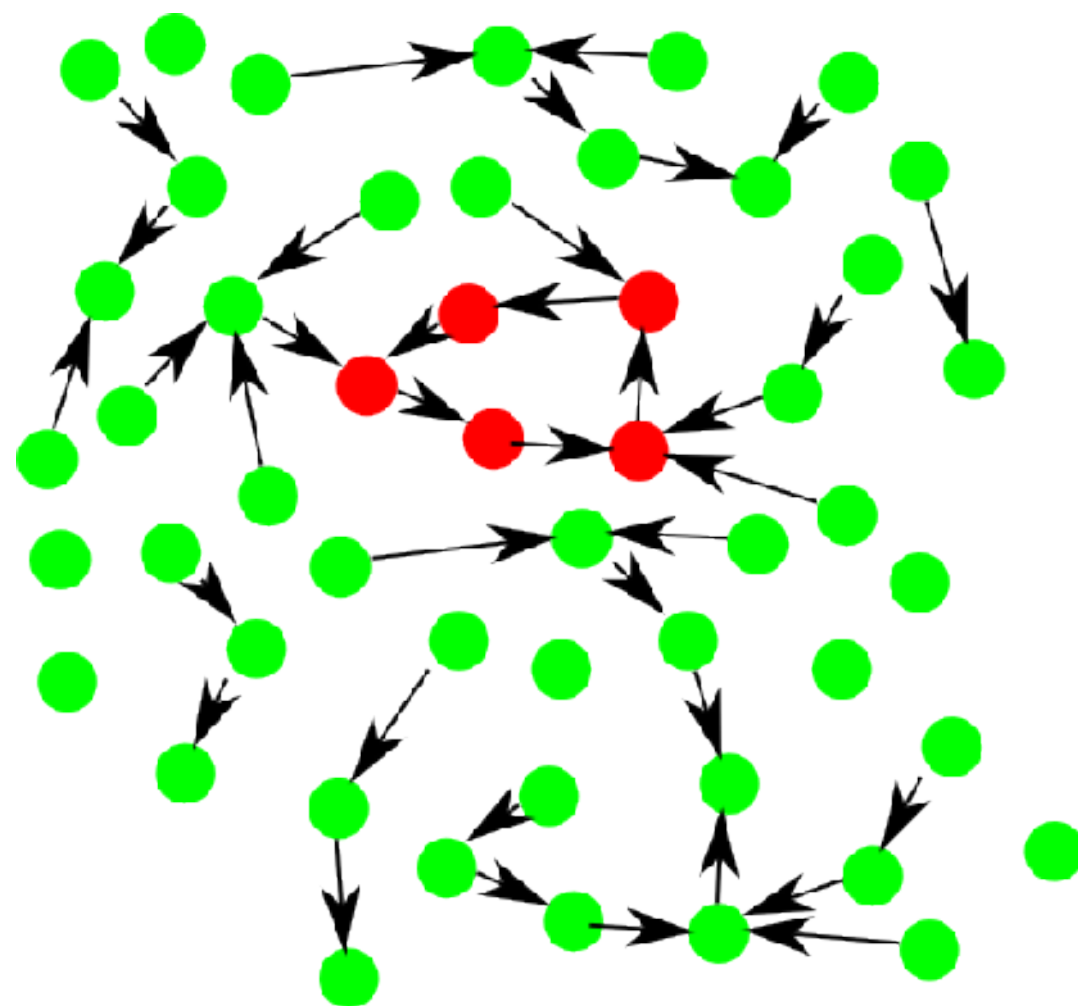
# Case study: Iceland

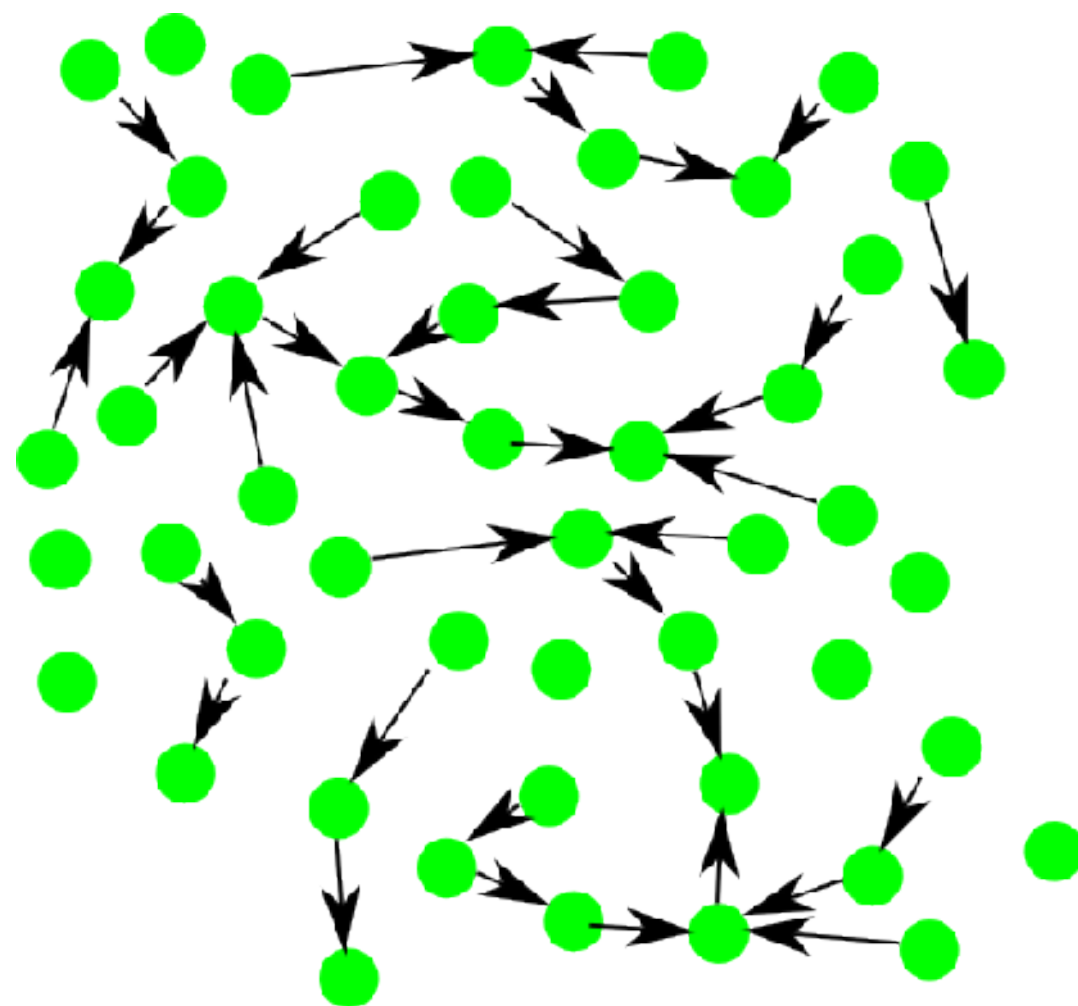


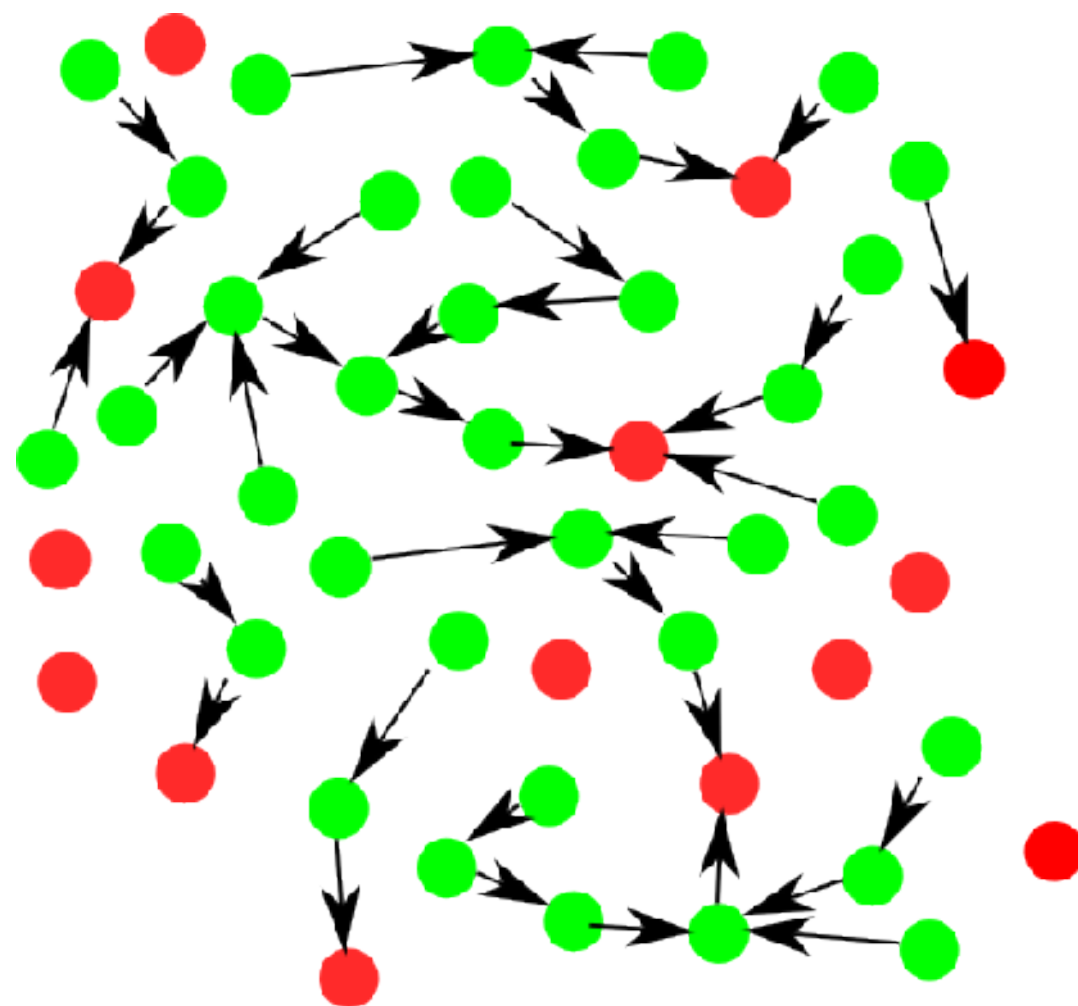


# What about this?











# Changing your mind

- To change one's mind is *human*
  - Modern democratic systems don't assume it's possible to change one's mind
  - In fact, it's not technically possible!
  - But public key crypto makes it *easy*
- By allowing people to change their minds, to follow their convictions irrespective of instant, we get lots of free features...

# #1

No longer can opinions be forced on people.

# #2

Changes in trust lead to changes in structure

#3

Democracy evolves over time



<http://direct.democracy.is>



# Who gets to make motions?

Why not everybody?

# Who gets to make motions?

- Anybody can raise a motion
  - The legal code becomes like a Wiki where the “official version” is decided by vote
- A free market of motions – everybody can participate.
- Popularity roundoff: good motions bubble up, poor ones receive less attention.

# How long to motions stay open?

Why put arbitrary limits?



# How long do motions stay open?

- Motions become law when they have enough support. (>50%?)
- Laws stop being law when they lose support. (<50%?)
  - A dampening rule can be put in place to ensure that laws don't fluctuate in and out of existence.
  - This is **very** unlikely, and grows increasingly unlikely as the society grows.
  - Polarization on issues gives hints as to larger problems in the society

# Who can vote?

How about everybody who's *alive*?

# Who can vote?

- We can discuss at length whether or not children have a right to have opinions...
- More importantly: votes of the deceased stop counting.

# *Living law*

- The oldest laws currently in force in Iceland are from 1275.
  - No living Icelander has agreed to this law
  - A recent “poll” suggested that most people think it's an absurd piece of legal code
  - And most people simply don't know what the law says

# More responsive society

- It is important for plutocrats and bureaucrats that most people don't understand the law, much less know what the law is.
- Direct democracy means that people *must* be well informed about what the laws are
  - And maybe are more willing to obide by them?



# Fork motions

- If significant disagreement exists on a matter, demographic distribution might suggest forking a good idea.
  - Different geographical regions completely polarized
  - Different SIGs wanting different legal code
  - Microstates emergent, possibly franchises.



Money?

# How do we democratize money?

Turns out, it's easy

FBCH1034  
Jorgen Cederlof  
<jc@lysator.liu.se>

DEE229 Marcus Fr <marcus.f	50064181 Paul van <paul@luo	DDDFE83 Marc Mu <mutz@k	202 Car <cn	258D87E1 Michael B <michael.	876 Sjo <sj	E10F5023 Marcus Fr <protagon	DD2 And <di	00D8CD16 Alexander <alexande	A3FA17FF Roland Bauo <bauerscr@p	D 3 1 J 7 E < < <	F5C75256 Russell Coker <russell@cok
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E8FD549F Martin Michlmayr <bm@cyrius.com>	474E206C Joachim B <mail@joa	94C09C7F Peter Palfrader	C5C Eve <co	9ED1D1BF Michael B <mbanck@d	2 F <	5C03C7E Joachim <joe@mc	DA4 Ber <be	D 0 C B P D < < <	9E9457F0 Joost van Baa <joostvb@mdcc	1 J <
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135EA668  
Richard Stallman (Chief GNUisance)  
<rms@gnu.org>

# Money has a few features

1. Geographically defined



# Money has a few features

2. Money is created from nothing

# Money has a few features

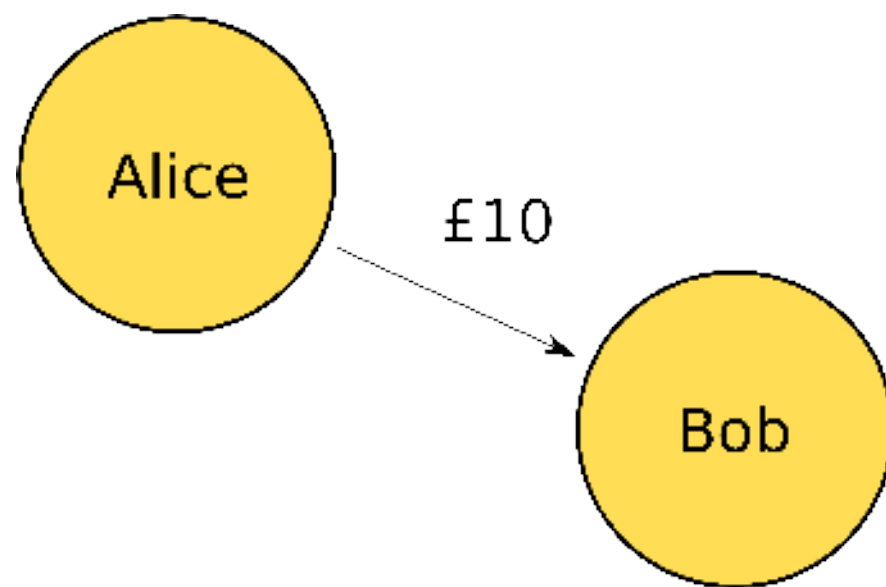
3. It is created through loans

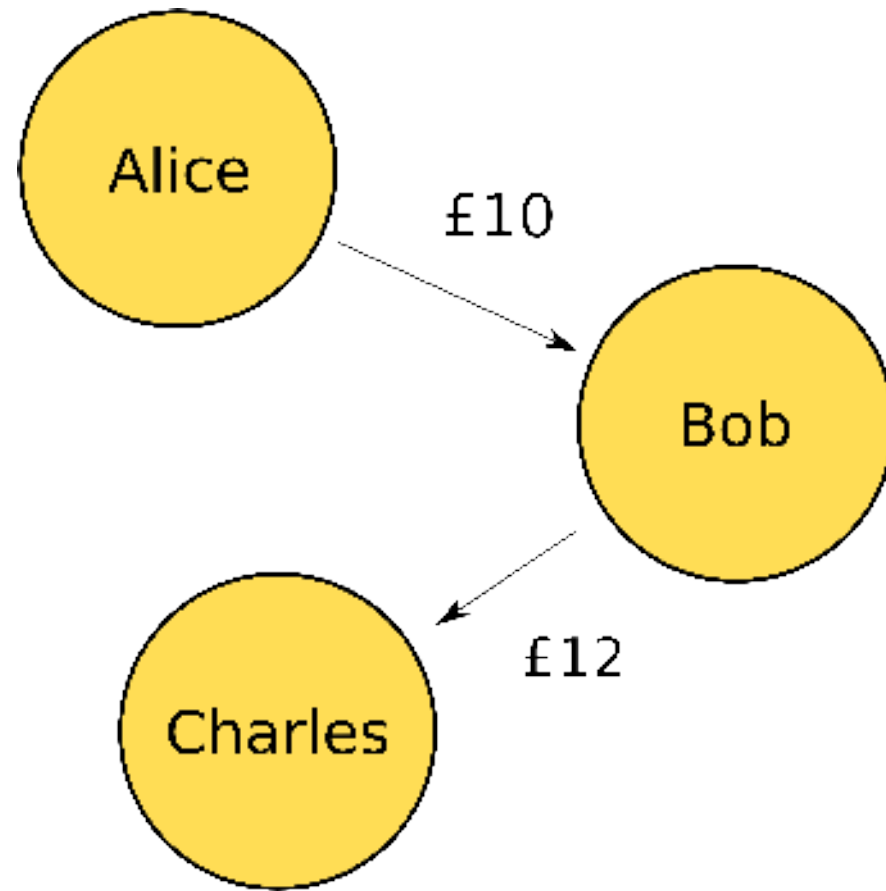
# Money has a few features

4. Interest is payed on debt

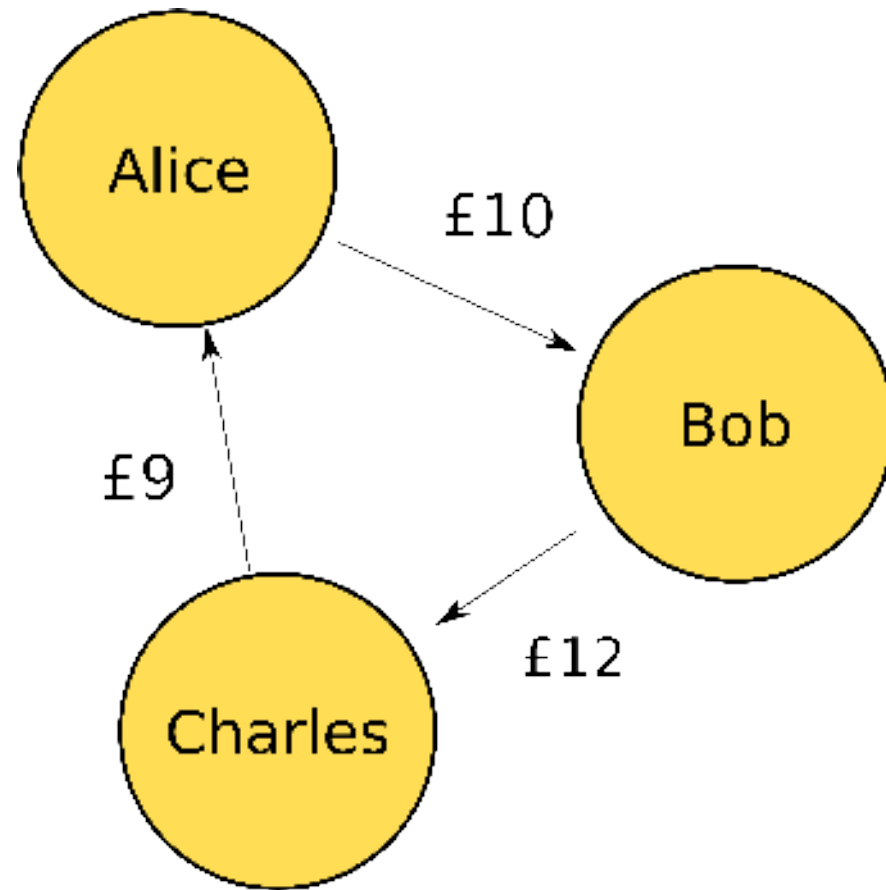
# What happens if we change that?

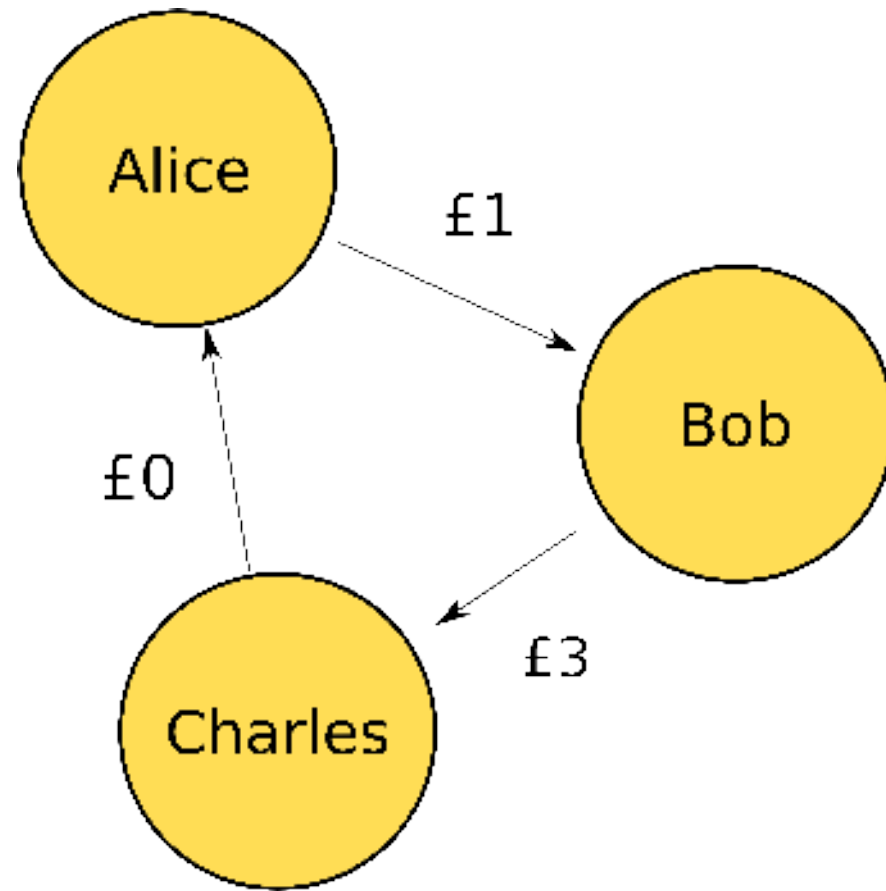
How about this...







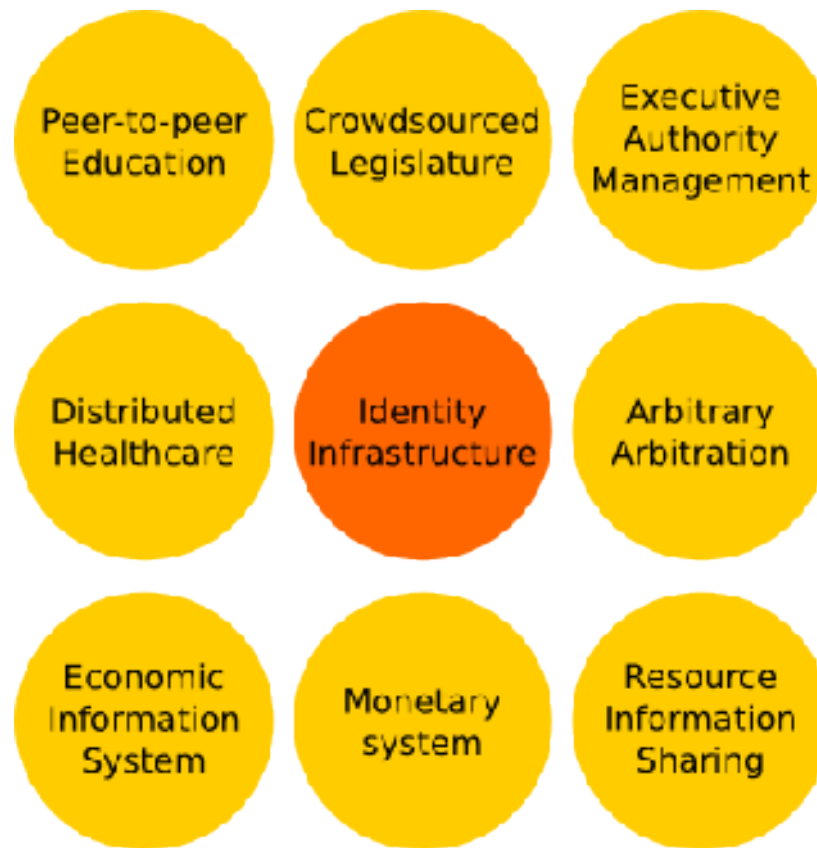




So how does this work?



I'm going to let you in on a little secret





# (A few books)

- Post-Scarcity Anarchism by Murray Bookchin
- The Second Industrial Divide by Michael Fiore & al
- The Wealth of Networks by Yochai Benkler
- Democratizing Innovation by Eric von Hippel
- Ephemeralization by R. Buckminster Fuller
- [www.globalswadeshi.net](http://www.globalswadeshi.net)
- [www.openfarmtech.org](http://www.openfarmtech.org)