

# HOW TO GET OPEN DATA IN THE HANDS OF ACTIVISTS

**Aslam Khan**  
*@aslamkhn*

Activism

Open Data

# Activist by default

if you lived on the receiving end of apartheid in South Africa

1977

8y

School  
Protest



1985

16

State of  
Emergency



1986

17

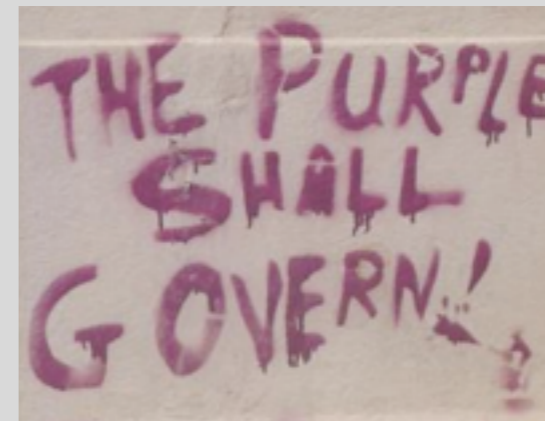
Detention  
without trial



1988

19

Worker &  
Student Pressure



1993

23

Brink of  
Civil War



# Would data have been valuable to me - in both eras?



1969

born

23 years

1992

22

21 years

2013

now

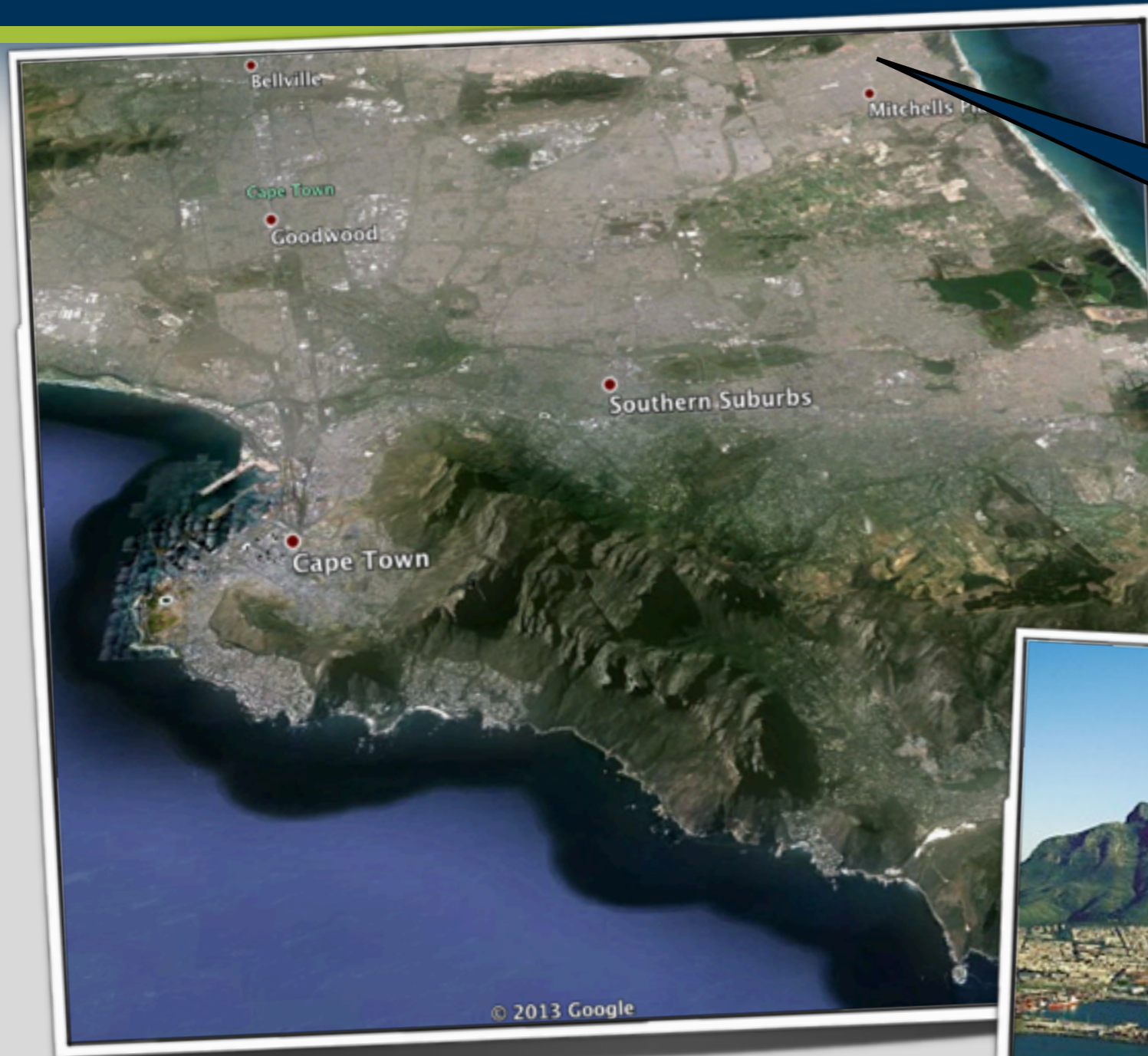
I want to believe so

but

I'm not sure



# This is Cape Town, South Africa



Khayelitsha





# This is Khayelitsha, Cape Town

It means New Home in isiXhosa







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Image © 2013 DigitalGlobe

Google

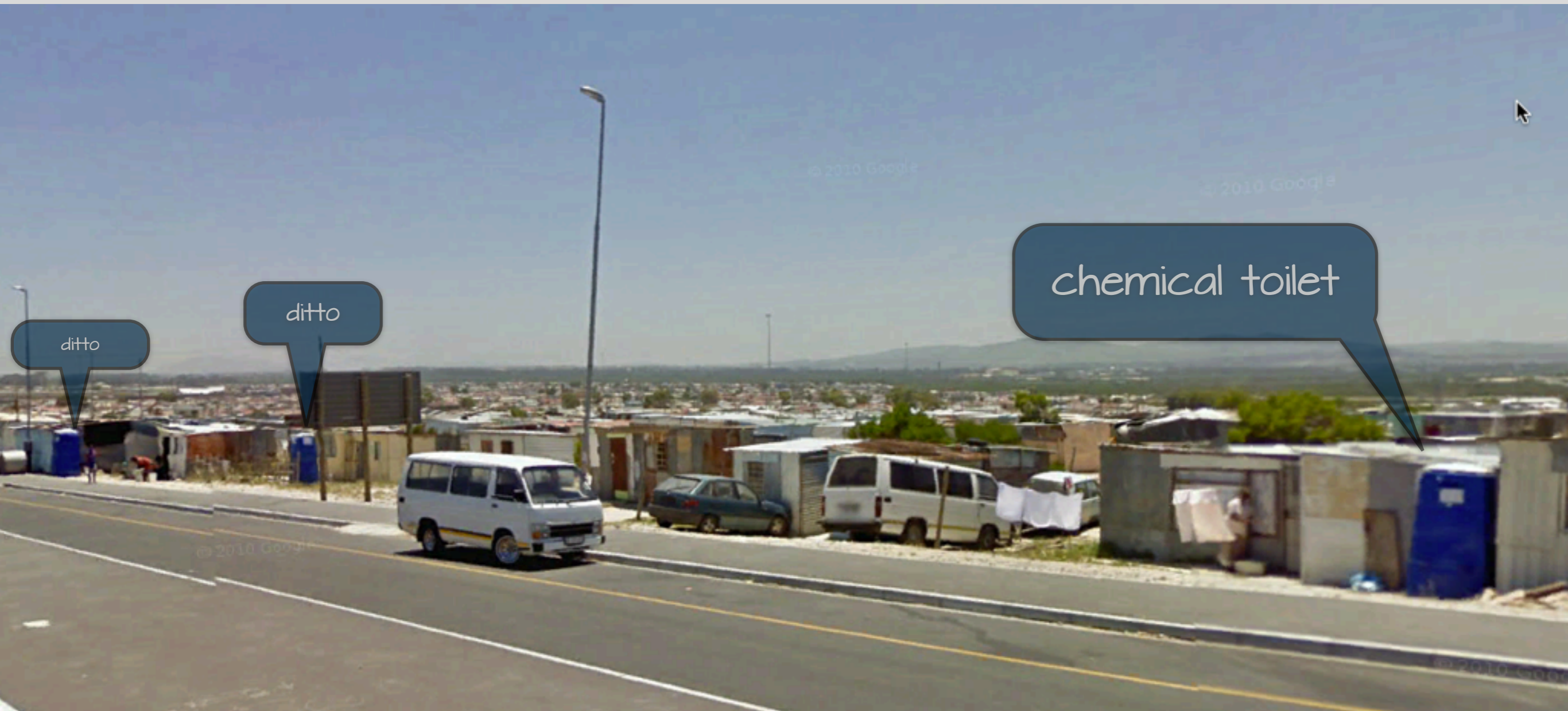


satellite dish





# There is (almost) no bulk sewage





# People protested

using the most shocking means imaginable



source: ewn.co.za



## [ANC suspends 'poo war' ringleaders](#)

Eyewitness News - Sep 3, 2013

The City of Cape Town alleges that Sibusiso Zonke was behind the ... suspend some of its members involved in the so-called 'poo wars'.

[+ Show more](#)



## ['Poo wars' ringleader hits out at Zille](#)

Eyewitness News - Sep 5, 2013

'Poo wars' ringleader hits out at Zille ... CAPE TOWN - A controversial activist, who has admitted involvement in Cape Town's so-called ...

## [BBC News - Cape Town 'poo wars': Mass arrests in South Africa](#)

[www.bbc.co.uk/news/world-africa-22853095](http://www.bbc.co.uk/news/world-africa-22853095)

Jun 11, 2013 - At least 180 people are arrested, some carrying bags of human waste, ahead of a planned protest over the lack of proper sanitation in the ...

## [Eyewitness News: CT to expose those behind poo wars](#)

[ewn.co.za/2013/08/29/CT-to-expose-those-behind-poo-wars](http://ewn.co.za/2013/08/29/CT-to-expose-those-behind-poo-wars)

Aug 29, 2013 - The City of Cape Town maintains that some ANC members are behind the so-called poo wars.

## [Eyewitness News: ANC not threatened by footage – poo wars](#)

[ewn.co.za/2013/08/31/ANC-not-threatened-by-footage](http://ewn.co.za/2013/08/31/ANC-not-threatened-by-footage)

Aug 31, 2013 - Go Fullscreen. The City of Cape Town alleges that Sibusiso Zonke was behind the so-called poo wars. Picture: Carmel Loggenberg/EWN ...

## [Poo war flares again in Cape Town - Crime & Courts | IOL News ...](#)

[www.iol.co.za/news/crime-.../poo-war-flares-again-in-cape-town-1.15581...](http://www.iol.co.za/news/crime-.../poo-war-flares-again-in-cape-town-1.15581...)

Aug 6, 2013 - South Africa's Premier Online News Source. Discover the world of IOL, News South Africa, Sport, Business, Financial, World News, ...

## [Cape Town 'poo wars': 180 protesters arrested in south Africa ...](#)

[www.globalpost.com](http://www.globalpost.com) > GlobalPost Blog > Weird Wide Web

Jun 11, 2013 - At least 180 people were arrested on Monday, some carrying bags of human waste, ahead of a planned protest dubbed the "poo wars" over the ...

## [DA deplores latest 'poo wars' delivery | National | BDlive](#)

[www.bdlive.co.za/national/2013/.../da-deplores-latest-poo-wars-delivery](http://www.bdlive.co.za/national/2013/.../da-deplores-latest-poo-wars-delivery)

Aug 6, 2013 - Since the first incident in June, the so-called poo wars have dominated headlines in Cape Town, as some opponents oppose the DA-governed ...

## [South Africa's 'poo wars' see arrests of poo packing protestors](#)

[digitaljournal.com/article/352016](http://digitaljournal.com/article/352016)

Jun 11, 2013 - Cape Town - Protesters carrying bags reportedly full of human feces ... More about poo wars, cape town sanitation, Helen zille, African national ...

## [Cape Town "Poo Wars" Lead to Arrests - Reagan Plus Cats](#)

[reaganpluscats.com/cape-town-poo-wars-lead-to-arrests/](http://reaganpluscats.com/cape-town-poo-wars-lead-to-arrests/)

Jun 11, 2013 - 180 people have been arrested ahead of a planned protest over the lack of proper sanitation, which local media has dubbed the poo wars in ...

## [Poo Wars, Cape Town, South Africa | Portable Sanitation ...](#)

[psai.org/the-poo-wars-in-cape-town-south-africa/](http://psai.org/the-poo-wars-in-cape-town-south-africa/)

The "Poo Wars" in Cape Town, South Africa have escalated. El-Logo The "Poo Wars" in Cape Town, South Africa have escalated since June when members of ...

## [Poo protesters strike again: Cape Town International Airport | The ...](#)

[www.thesouthafrican.com](http://www.thesouthafrican.com) > News

Jun 26, 2013 - Poo protesters strike again: Cape Town International Airport. In the latest chapter of what has been termed the "poo wars" in Cape Town, a of ...

## More Importantly...

Why did nearly 4 million residents of Cape Town not know about this issue?

How wide spread is this problem?

Why did we let this degrade into a battle for political points?

because it was just noisy people  
(perception!)



# Look at the data behind the protest

This touches the mind first, then the heart (a little)



Khayelitsha

29 sq.km

400,00 people

13.7k people/sq.km

2000 people share  
eleven flush toilets

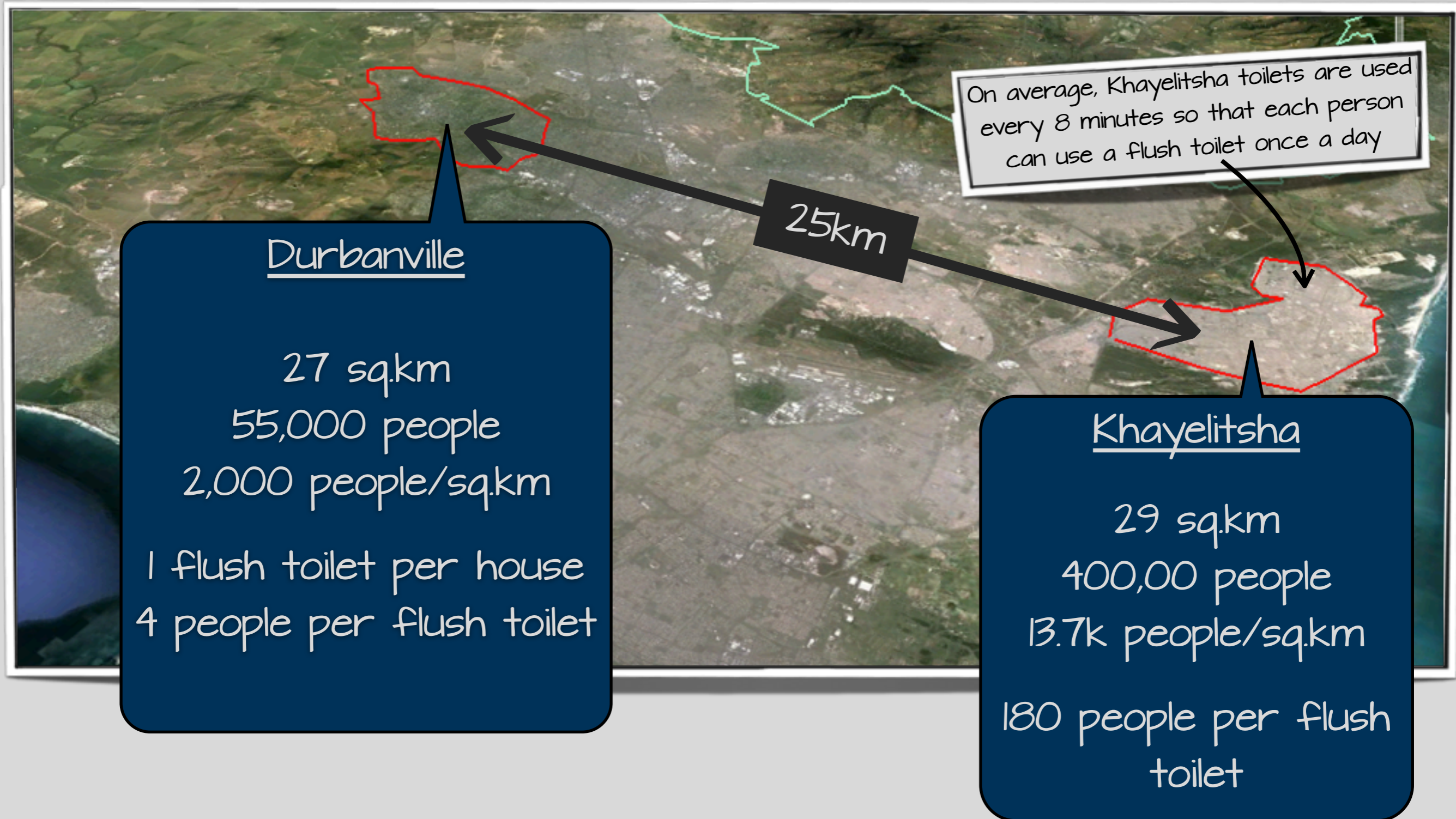
Everyone in Denmark  
will live into about 400  
sq.km not 43k sq.km

all figures are approximate



# Facts stick when it touches hearts

make it concrete and tangible so that it appeals to everyone, not just the disenfranchised



# Where did I find these facts?

There is data available, but it is scattered, and not all open data

Statistics South Africa

Report of the Khayelitsha  
'Mshengu' Toilet Social Audit

Open Data for Africa

Wikipedia

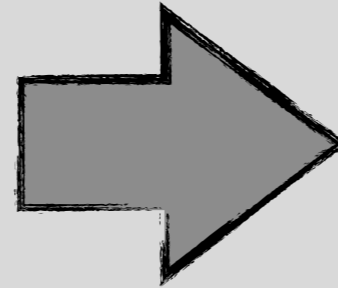
various news web sites

What would we do differently  
if we had access to data?



# Offering data to social activists has little value

We need to distill data into facts that are simple, precise and easily understood that appeals to hearts and minds



Digital activists  
need to discover

Social activists  
need to share

we need tools to  
discover facts in data  
and publish discoveries

we need tools to  
access discoveries  
and distribute widely

# What tools do digital activists need?

Digital activists do not need campaign tools



open data

freedom to discover

frictionless sharing of data sets

ability to "mix-in" and explore varied data sets

location independence of data sets

# Pre-requisites

Normally codified in licenses

## software freedoms

freedom to execute and modify

freedom to distribute

freedom to share changes

## data freedoms

free to access, reuse, redistribute

available as a whole

machine readable



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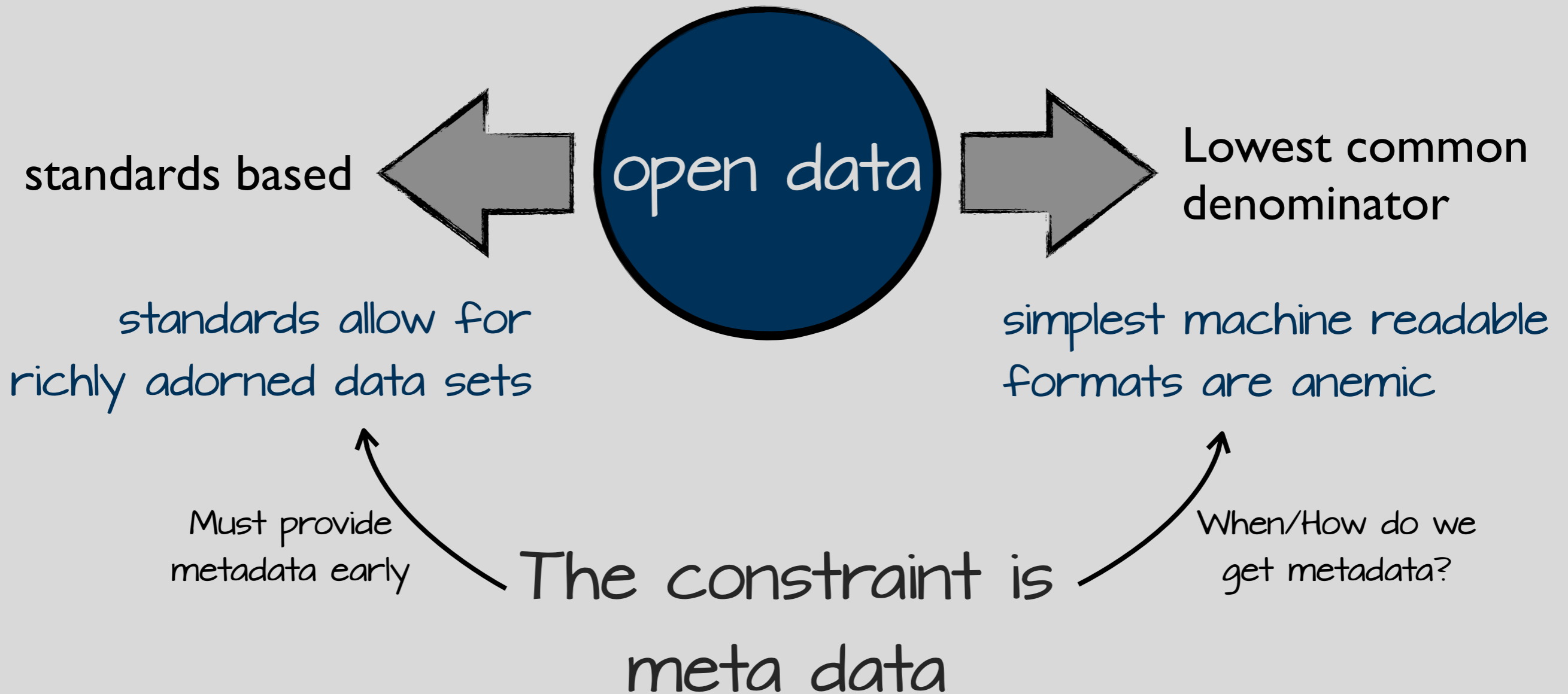
freedom to discover

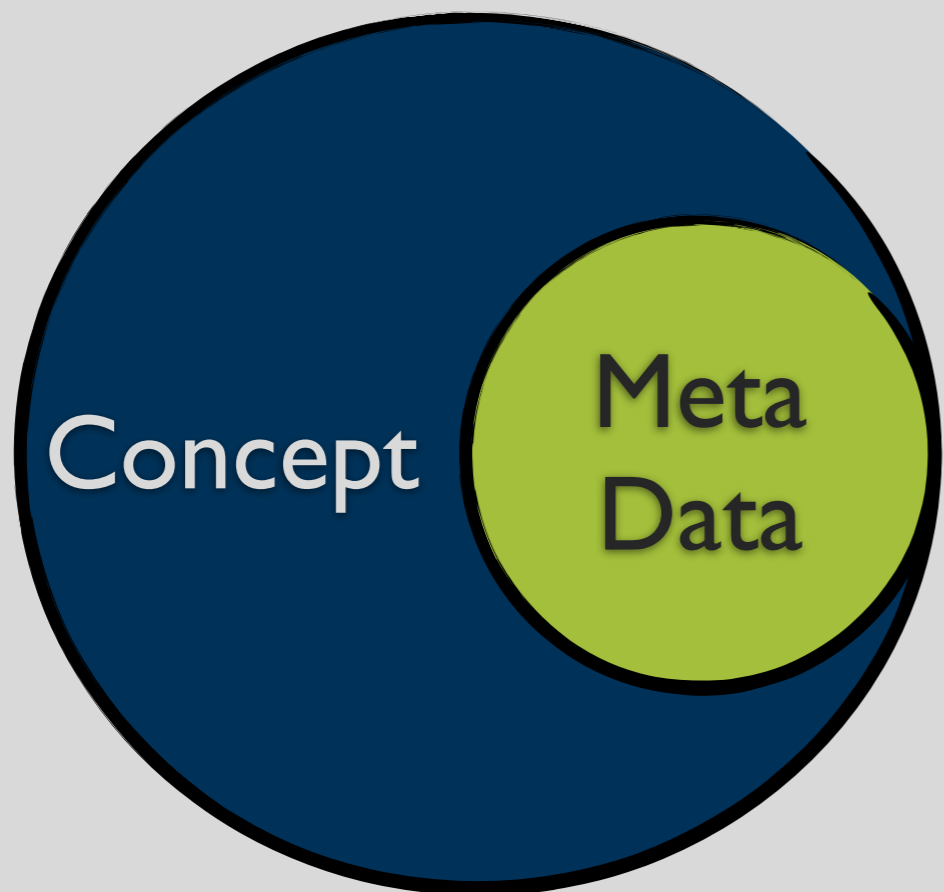
frictionless sharing of data sets

ability to "mix-in" and explore varied data sets

location independence of data sets

# Frictionless Data Sharing





semantics

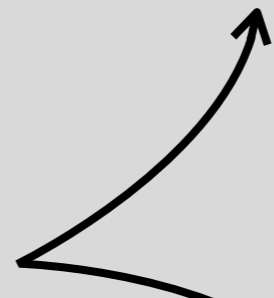
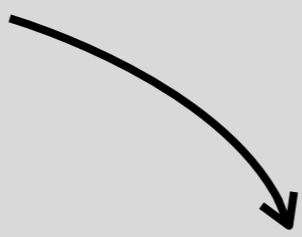
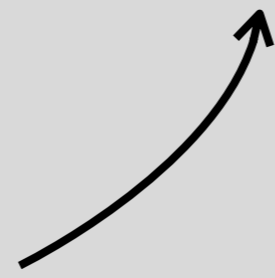
context

definition

variables

domain

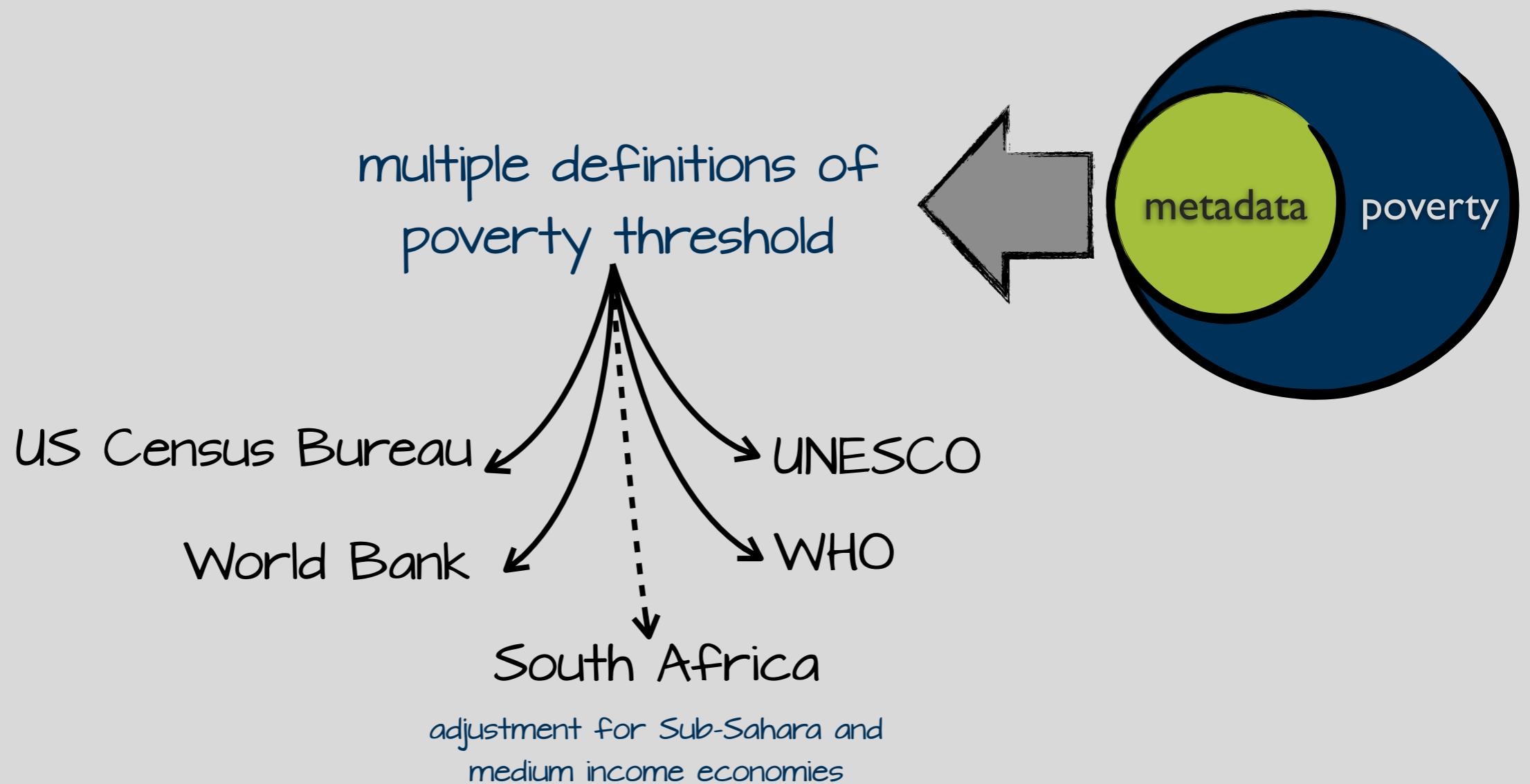
classification



# Why metadata is the biggest constraint

mostly because of changes in context and time

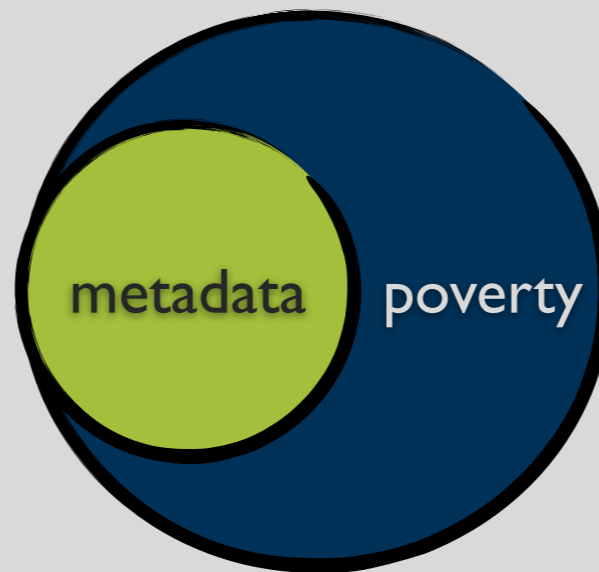
Can we compare poverty between countries?





# No metadata, No analysis

Can we compare poverty between countries?

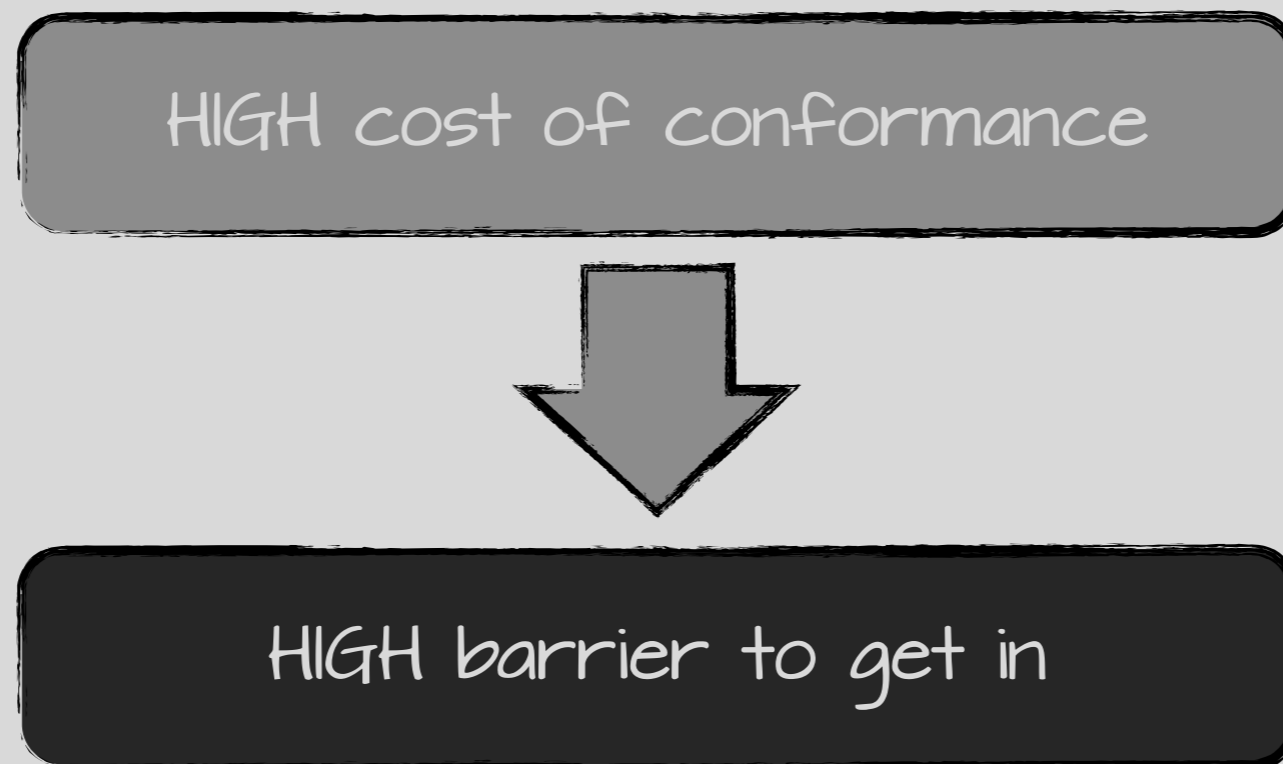


It's difficult to compare  
because the metadata is different for each country

BUT without metadata it is impossible

# The problem with a strict standard format

The problem with any standard is that compliance is a choice



But the cost of metadata remains, regardless of compliance

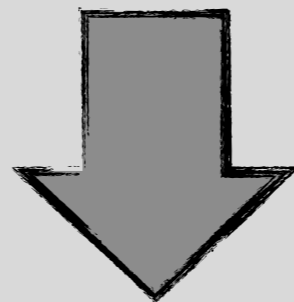
# Frictionless Data Sharing

I doubt we can ever remove the cost of metadata completely



Open Knowledge Foundation's  
Data Package Standard is a  
step in the right direction

<http://data.okfn.org/standards/data-package>



JSON for metadata  
+  
CSV for tabular data

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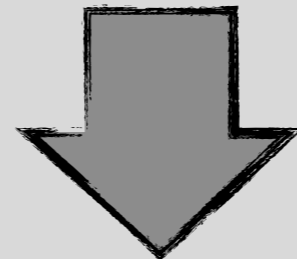
ability to "mix-in" and explore varied data sets

location independence of data sets



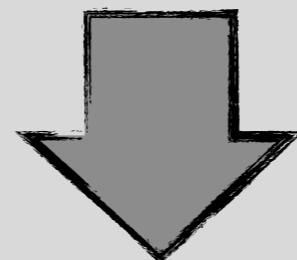
# Why do we need data exploration tools?

LOW barrier to get in  
(frictionless data sharing)



constraint shifts

What is the effort  
to get knowledge out?



Cost of computation (analysis)

# Why do we need to compose data sets?

because that is where the interesting and relevant facts lurk

## When is *per capita income* interesting?

Correlation between infant mortality and per capita income?

... between parent to child HIV infections and per capita income?

Digital activists are in the business of data science - not campaigning

# What do we need for discovering facts?

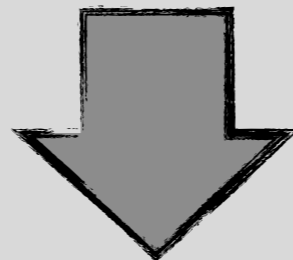
Split into individual columns and  
compose columns ad-lib

treat every column  
as a data set

&

Find all other occurrences of a  
single value

remove all duplications  
in every column and  
join on "value"



how?!?

I DON'T KNOW

Set-based? Graph-based? something else?

then look for trends

if we make the above easy  
then  
the cost is mental effort

Is there such a data discovery tool?

QlikView

<http://www.qlikview.com/>

*fails freedom pre-requisites*



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# Why do we need location independence?

*for the same reason that bit torrent is popular*



Peer-to-peer software, if we could make it work, would seem to give the best of both worlds:

the freedom to modify how a program functions on our local computers as well as the ability to share and collaborate with others across the Internet.

*-- Aaron Swartz*

*A Programmable Web: An Unfinished Work*

<http://www.morganclaypool.com/doi/abs/10.2200/S00481ED1V01Y201302WBE005>

# The attraction of peer to peer

but I think we need a more research to make this work

the publisher is relieved of the burden to share

distribution is the responsibility of those that want it

we get location independence for free



# To turn Open Data into Common Knowledge

so that we can spend our effort almost exclusively on the mental (analysis) battle

simple data  
format

extensible meta  
data format

compose into  
new data sets

compute power  
to discover

peer to peer  
distribution

lower the cost of participation

lower the cost of discovery

lower the cost of sharing

# What tools do social activists need?

*Social activists also need tools for campaigning*



common  
knowledge



freedom to distribute

knowledge close at hand

ability to reach people

ability to receive feedback

# Reminder

this applies regardless of scale - from few to thousands to millions of people

activism is a call  
for a gathering of people  
to exert pressure  
for  
(social, political, environmental, economic)  
change



Most commonly...

to stop exploitation

(in other words)

to alleviate under-development

under-development is the result of unfair  
agreements for access to resources

Activism is an effort to ...

...establish new relationships.

A balancing via fair and equal agreements

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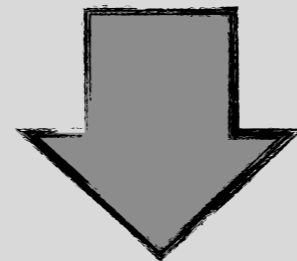
# How can we make knowledge accessible?

*overlaps with location independence for digital activists*

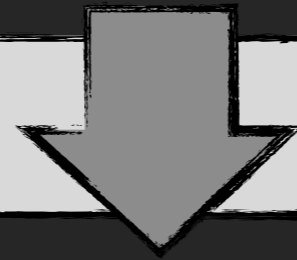
## federated wikis is an interesting development

<https://github.com/WardCunningham/Smallest-Federated-Wiki>

*Wiki is centralised with many editors*



*Federated wiki belongs to a single person*



*Sharing is achieved between wikis*

# What tools do social activists need?

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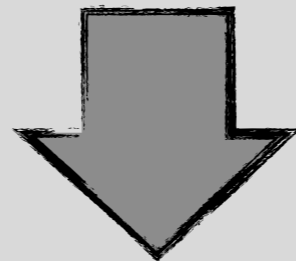
ability to reach people

ability to receive feedback

# How can we reach people?

this is not about about twitter and social media

NOT shotgun marketing



Very specific and targeted messages

lots of marketing strategy involved

It can be private too!

Awareness is the first stage of involvement for activists



# What tools do social activists need?

*Social activists also need tools for campaigning*

common  
knowledge

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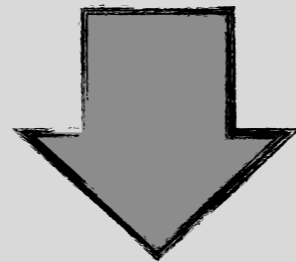
ability to reach people

ability to receive feedback

# How can we receive feedback?

this starts overlapping with campaign tools quite quickly

The channel you reach out is not necessarily the channel for feedback



about shifting people through various stages from being aware to organiser

# Open Data is NOT the end game

it is just a pre-requisite for us to carve out new social relationships

frictionless data sets

makes it easier to

to compose new data sets at will

so that we can

discover new facts

that can be shared

independent of where it is located

so that social activists

can distribute it

and eventually

it becomes common knowledge



# Common knowledge is valuable

It is valuable to any person that values living together

call for economic  
boycott



fight against  
corruption

1992

Why must we sacrifice  
for freedom?

What pressure will our  
sacrifice have on the  
ruling white minority?

How much is being  
siphoned off?

What is the money trail?  
At what cost to our  
people?

# Ideologically speaking...

This is important in the bigger picture of digital activism

How soon before Open Data is used for exploitation instead of good?

What are the consequences if we consider data as a "natural" resource?

In the internet of things  
privacy is the next freedom.

“ Magic machine cannot match  
Human being human being  
African idea -- make the future clear

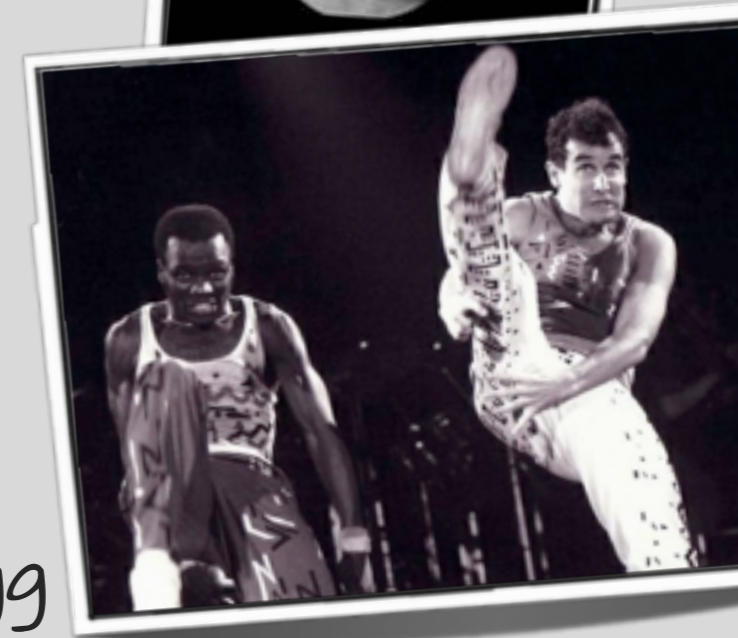
They are the scatterlings of Africa  
Each uprooted one

On the road to Phelamanga\*  
Beneath the copper sun

And for the scatterlings of Africa  
The journey has begun

-- Johnny Clegg  
Scatterlings of Africa

\*The place at the end of lies. It is the place beyond  
our imagination where ultimate truth prevails.





# Activism

Common  
Knowledge