

GEO-ETHICS : PAST, PRESENT, FUTURE



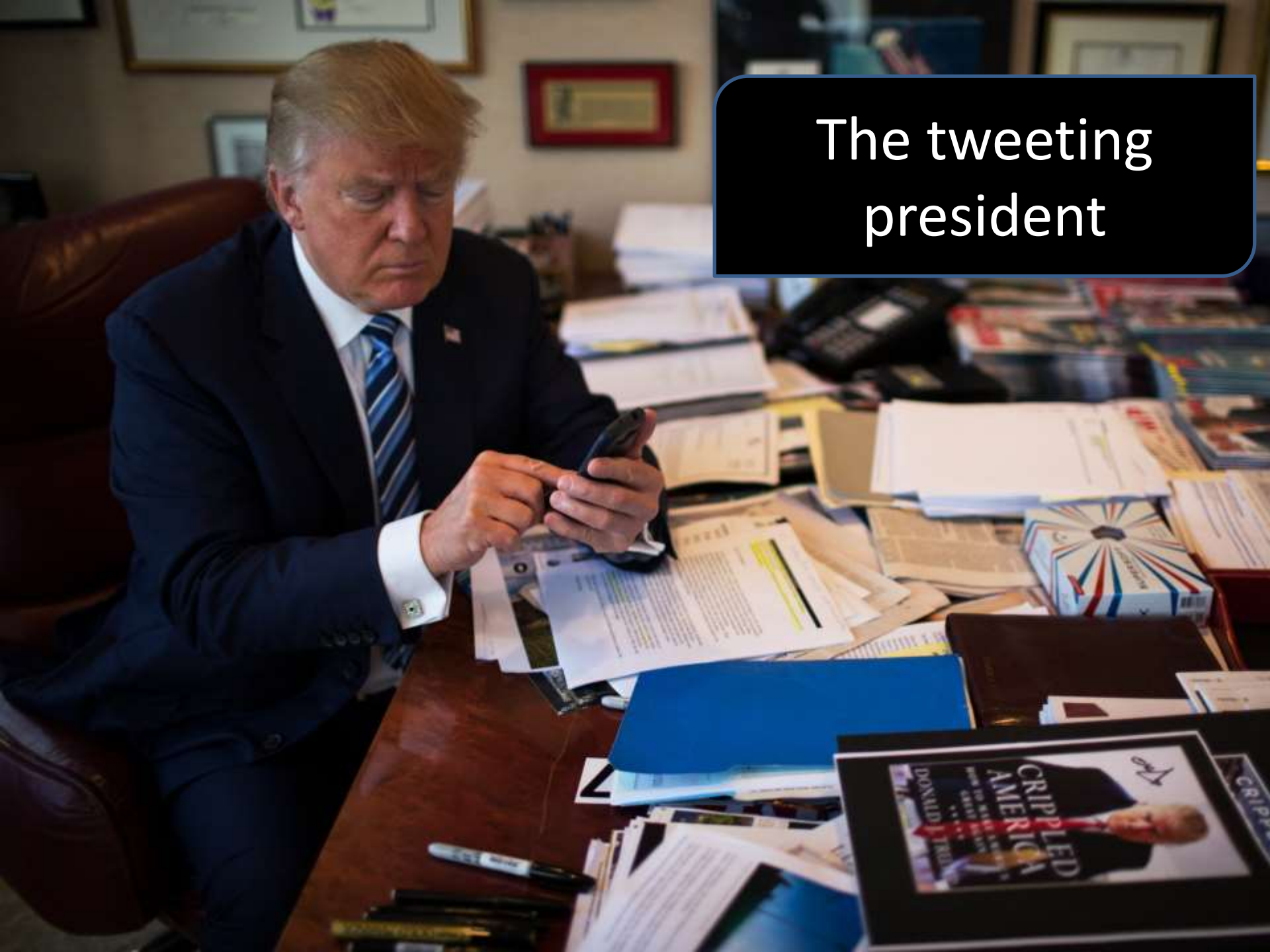
Yola Georgiadou

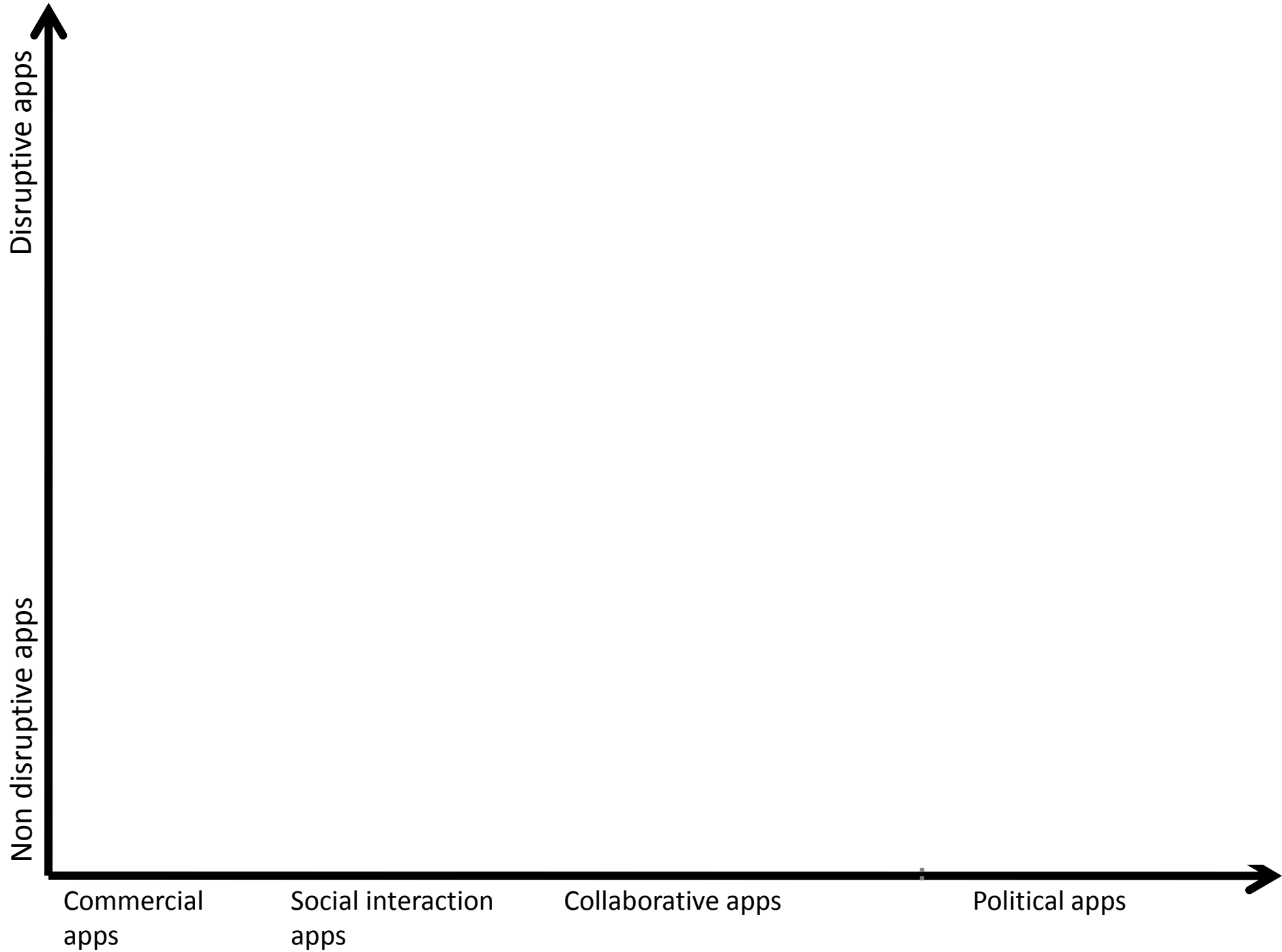
UNIVERSITY OF TWENTE.

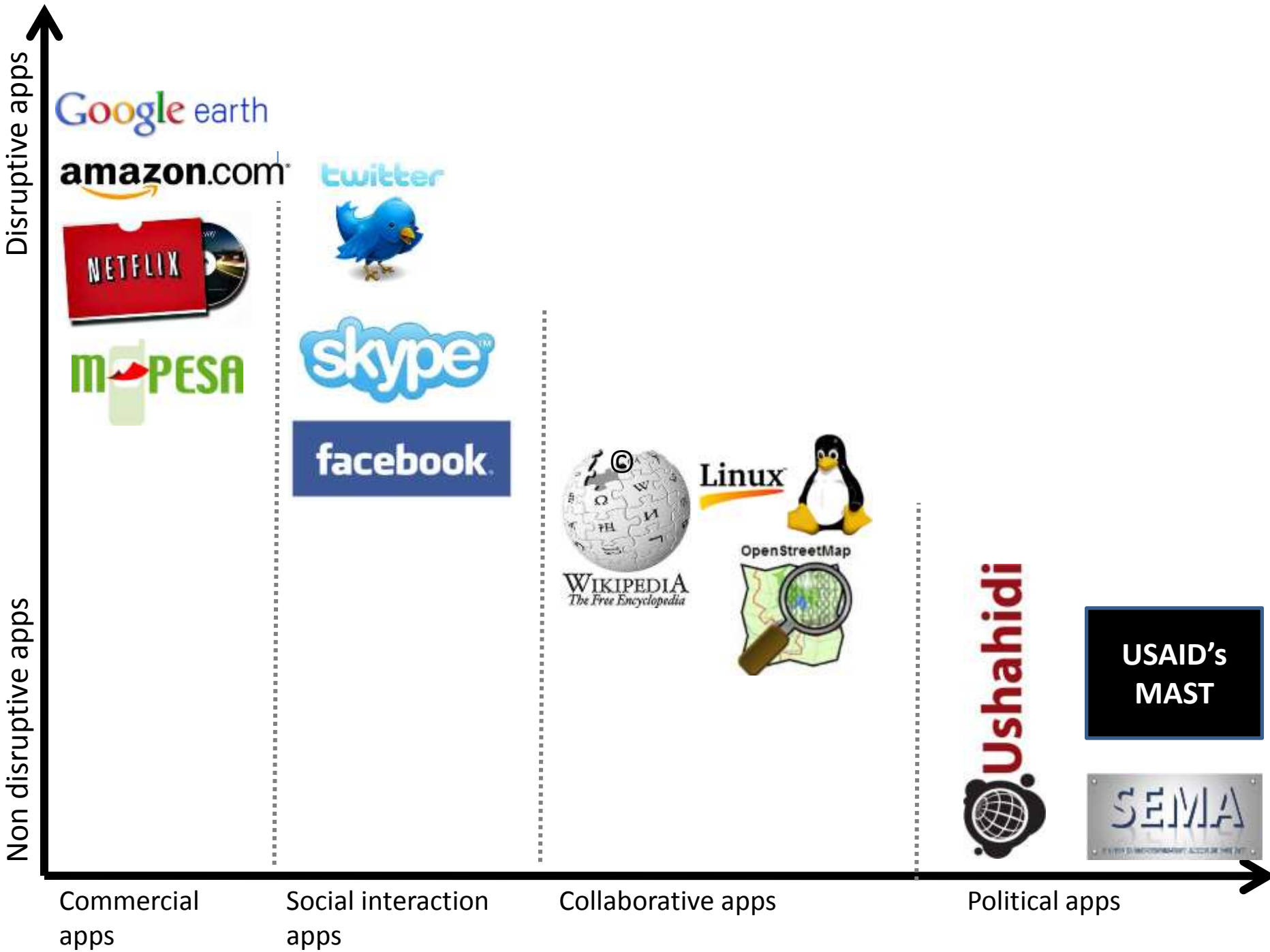
PROLOGUE



The tweeting
president







Google earth

amazon.com



twitter



Linux



OpenStreetMap

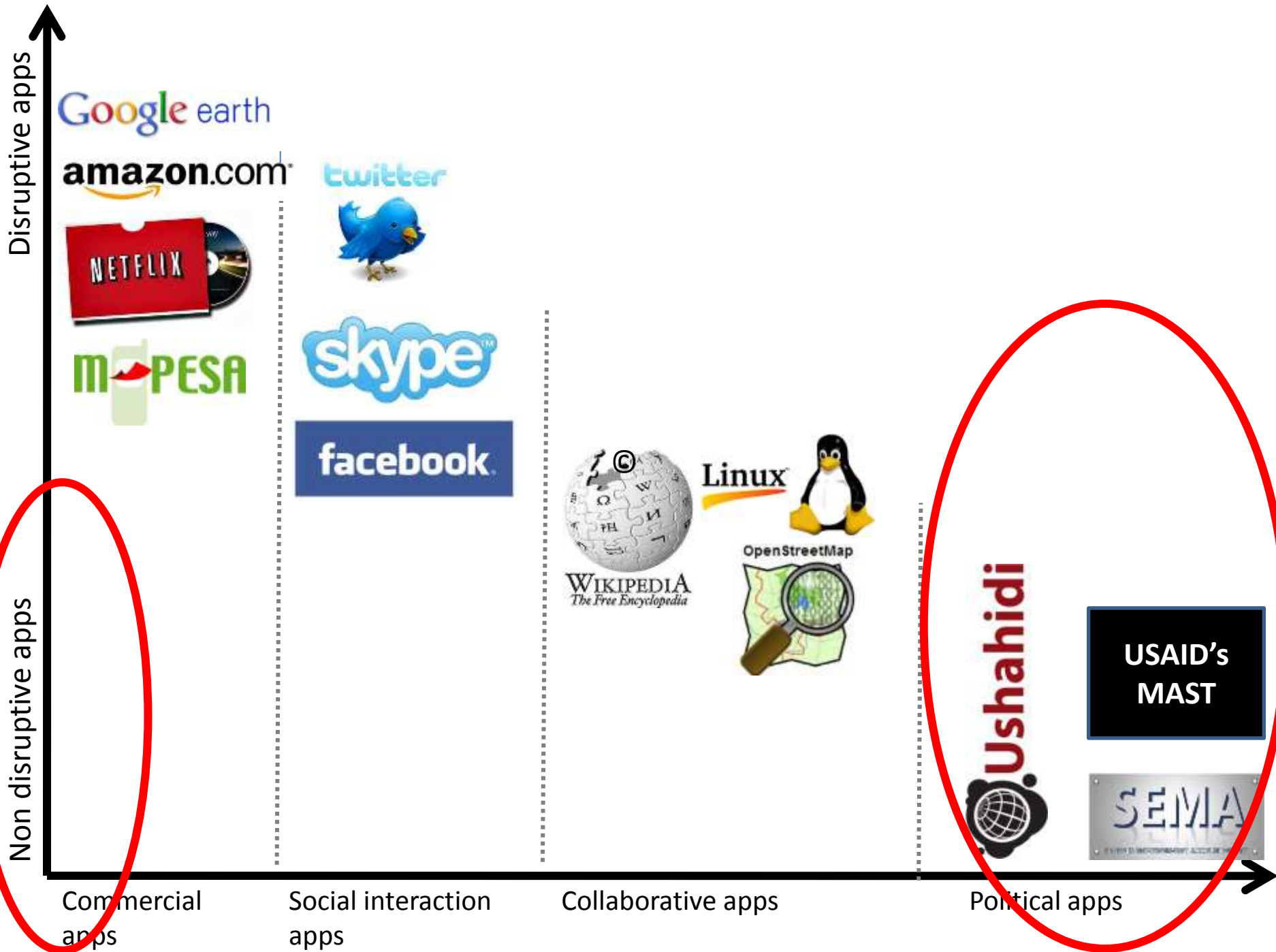


Commercial apps

Social interaction apps

Collaborative apps

Political apps



Durable

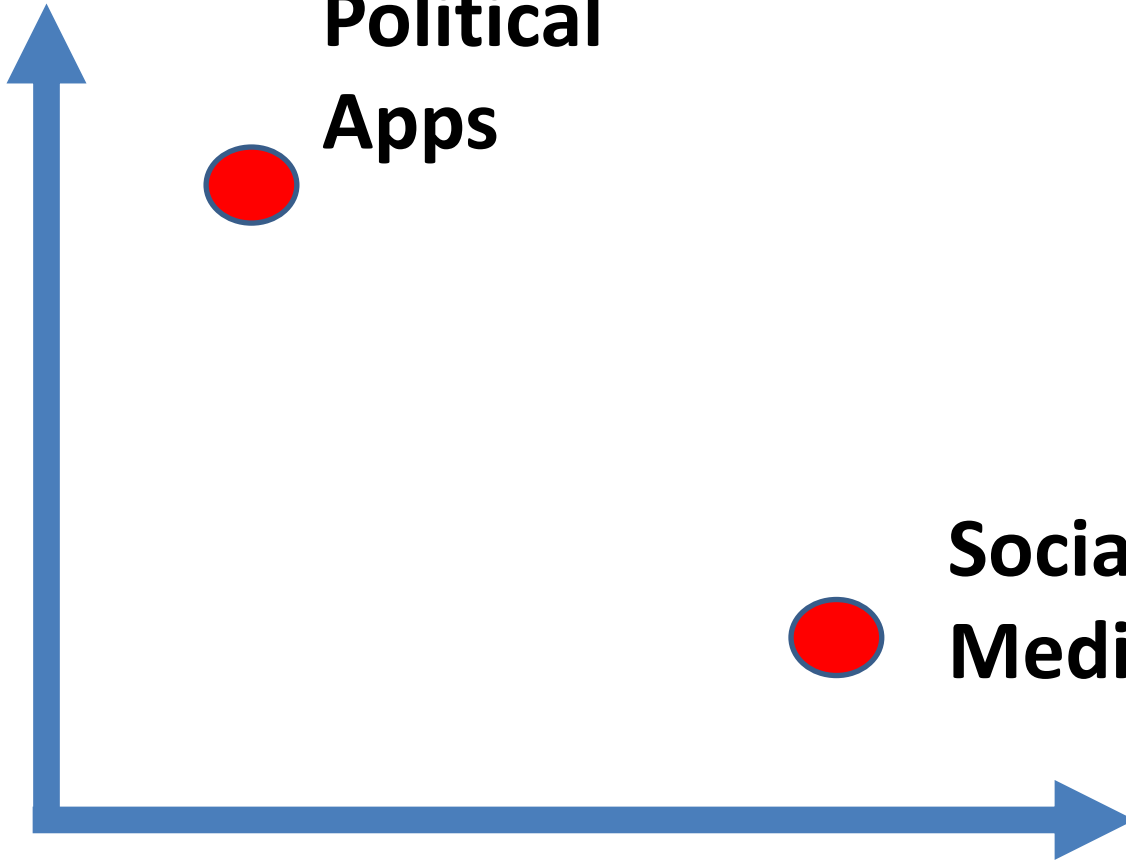
**Political
Apps**



**Social
Media**



Disruptive



EMERGENCE OF GEO-ETHICS

GEO

What can **my**
data tell **me**
about **here**?

Geo-ethics

What can **my**
data tell **you**
about **me**?

Who is “you”?

What can my
data tell you
about me?

State

Data

companies

Who is “you”?

What can my
data tell you
about me?

State

Data

companies

The state must ...

1. classify

2. decide

–Is the classification legitimate ?

–Are the inferences legitimate ?



But citizens can mobilise



Don't count us, count your days!

Berlin 1987



The state says this a forest?



Who is “you”?

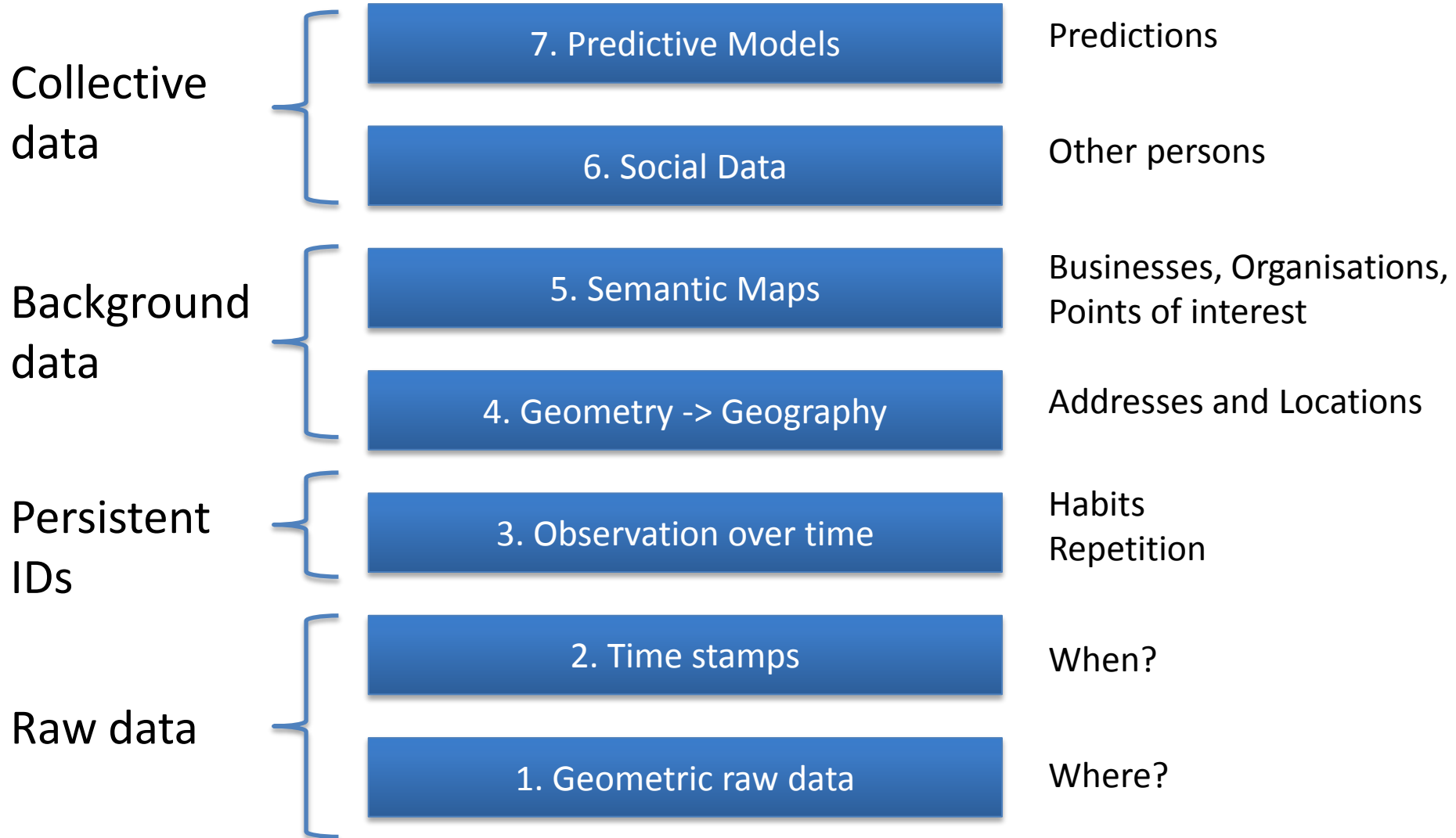
What can my
data tell you
about me?

❑ State

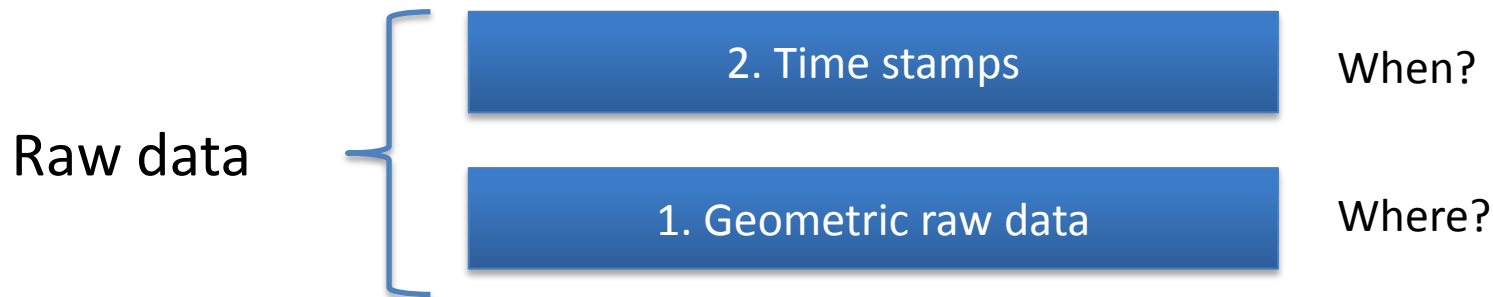
❑ Data

companies

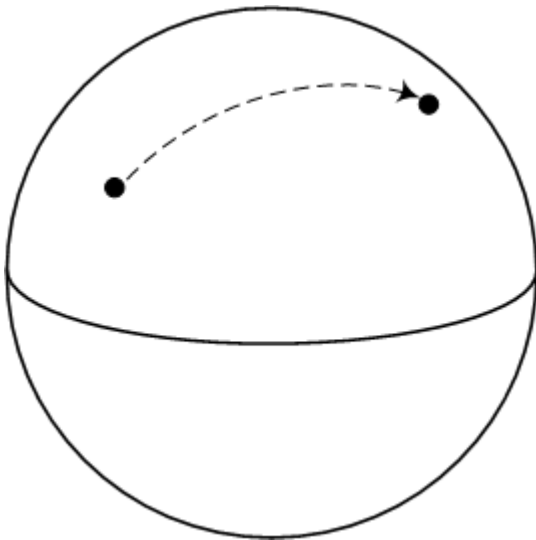
Hofmann's step model



Hofmann's step model



Geometric raw data



Latitude	Longitude
+47.661222	+9.176919
+47.661150	+9.176900
+47.661171	+9.177096
+47.661183	+9.177116
+47.661225	+9.177177
+47.661201	+9.177336
+47.661201	+9.177402
+47.661267	+9.177446
+47.661376	+9.177352
+47.661365	+9.177256
+47.661153	+9.176823
+47.661149	+9.176795
+47.661108	+9.176713
+47.661038	+9.176459
+47.661004	+9.175972
+47.660999	+9.175868
+47.661030	+9.175663

What do my data tell you about me?

„I moved along a trajectory (measured in discrete intervals) on the globe from A to B.“

A = +47.6612222, +9.176919

B = ...

What is my action radius?

Straight ahead or round about?

+ Time stamps

Timestamp	Latitude	Longitude
15 May 2013, 09:35:51 am +0200	+47.661222	+9.176919
15 May 2013, 09:37:01 am +0200	+47.661150	+9.176900
15 May 2013, 09:37:11 am +0200	+47.661171	+9.177096
15 May 2013, 09:37:12 am +0200	+47.661183	+9.177116
15 May 2013, 09:37:16 am +0200	+47.661225	+9.177177
15 May 2013, 09:37:22 am +0200	+47.661201	+9.177336
15 May 2013, 09:37:24 am +0200	+47.661201	+9.177402
15 May 2013, 09:37:29 am +0200	+47.661267	+9.177446
15 May 2013, 09:37:36 am +0200	+47.661376	+9.177352
15 May 2013, 09:37:40 am +0200	+47.661365	+9.177256
15 May 2013, 09:37:57 am +0200	+47.661153	+9.176823
15 May 2013, 09:37:59 am +0200	+47.661149	+9.176795
15 May 2013, 09:38:03 am +0200	+47.661108	+9.176713
15 May 2013, 09:38:14 am +0200	+47.661038	+9.176459
15 May 2013, 09:38:29 am +0200	+47.661004	+9.175972
15 May 2013, 09:38:32 am +0200	+47.660999	+9.175868
15 May 2013, 09:38:39 am +0200	+47.661030	+9.175663

11.61 km/h
16.44 km/h
14.22 km/h
12.99 km/h

?



What do my data tell you about me?

„I moved with an average speed of 14 km/h from A to B. Possibly on a bike.“

How athletic am I?

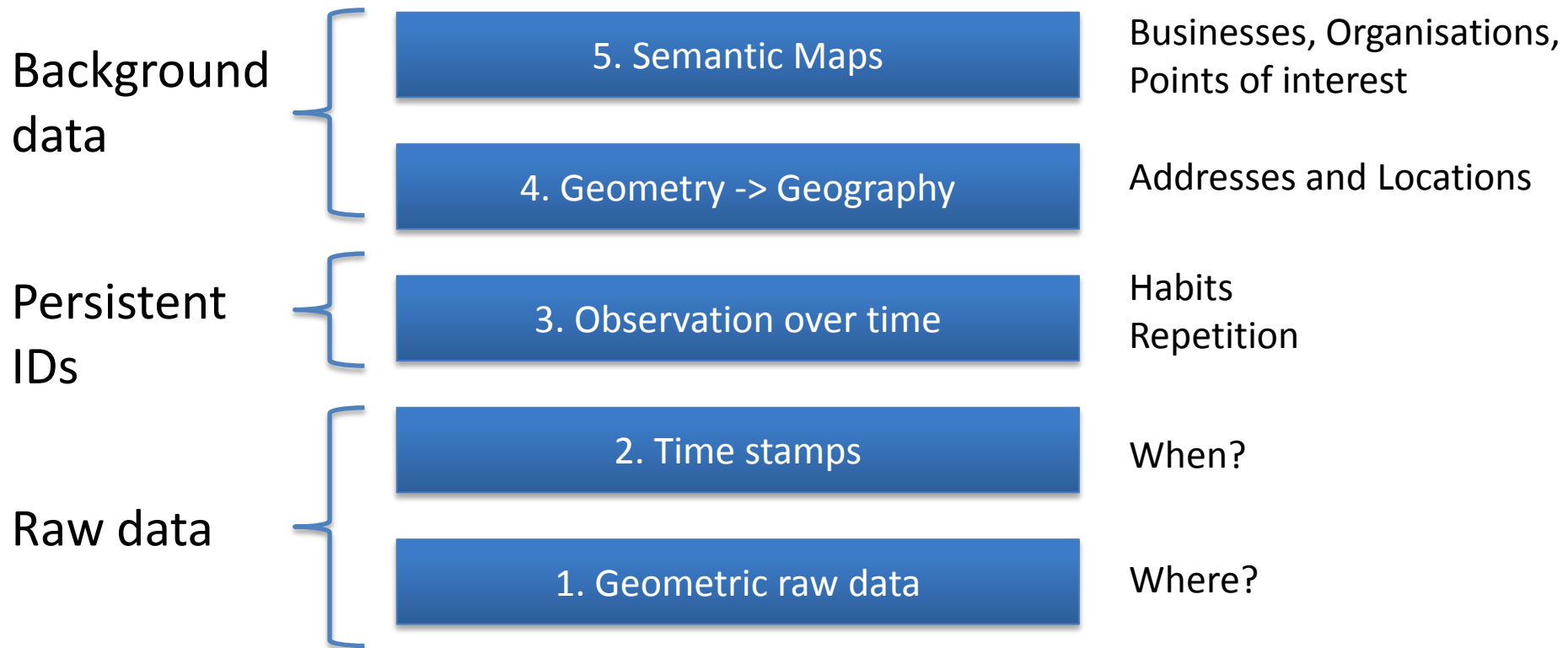
How fit am I?

Did I stop?

Do I own a bike?

Did I get lost?

Hofmann's step model



What do my data tell you about me?

„This week I visited my house doctor XY three times.“

„This week I spent 3 hours at Café Henrici.“

„I spent 30 minutes at Ochsner Sport in the Bahnhofstrasse.“

„On Friday at 7:00 I saw the movie Still Life in Arthouse.“

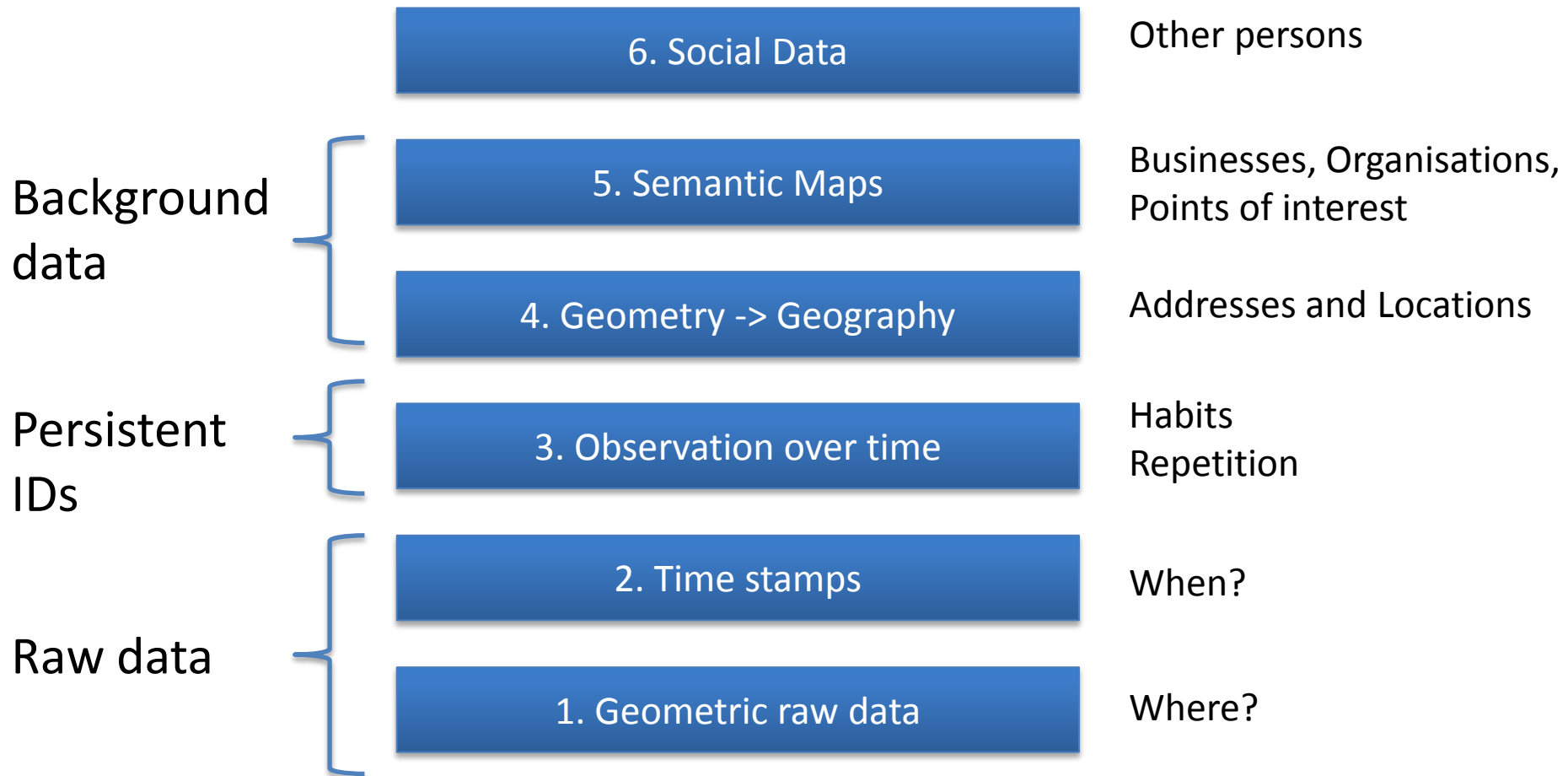
„This week I went to the City Pool for swimming twice for approx. 50 minutes.“

„Saturday evening I was at Club Hive until 3:00am.“

„Monday to Thursday I stop at 8:00am at Kindergarten XXX.“

„Within 3 days I visited the Police Station in Pfäffikon twice.“

Hofmann's step model



+ Social Graph

Assumptions:

- Wall-to-wall data collection for large part of population
- Essential addresses inferred for every user
- Data connected via Social Graph =(e.g. Facebook)



Then motion data at a social level can be interpreted

What do my data tell you about me?

„How often do I meet my son, when and where?“

„With whom do I often go hiking or biking ?“

„How much time do I spend with my spouse? How does my marriage fare?“

„Who are my colleagues?“

„Do I still see friends from school?“

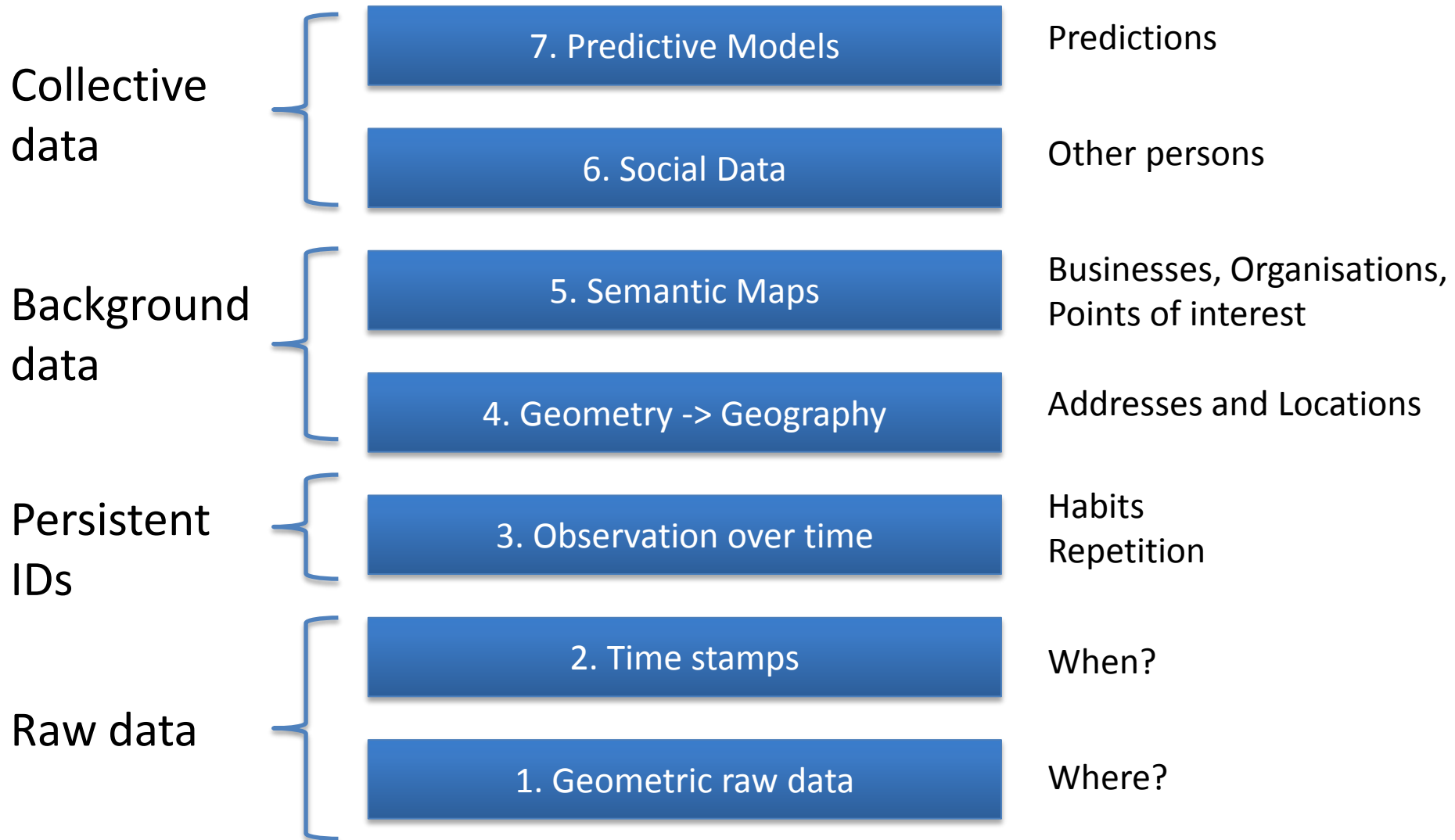
„Are there persons, who I meet very often lately?“

„Did I make any friends during vacation?“

„Am I active in clubs or other organisations (e.g. political parties)?“

„Is it possible to derive from all my traces, that you are here and are listening to this presentation?“

Hofmann's step model



What can you **infer** about me?

„How probable is it that I react to an advertisement? ..., that I conclude a purchase?“

„Which could be my next travel destinations?“

„When will I be on the road with my car?“

„Am I receptive to religious or political propaganda?“

„How interesting could another person be for me?“ (Dating, Partnering)

„Am I trustworthy?“

Location-based classification...Inferences ?



HOW IS PRIVACY DEFENDED IN EU?

EU - Personal data processing ...

1. Ethics

- Information flows in a specific **context**, governed by certain norms



EU - Personal data processing ...

1. Ethics

- Information flows in a specific **context**, governed by certain norms

2. Law

- based on a specific **purpose** made explicit by the data controller
- allowed if the subject has given **consent** to the processing for one or more specific purposes

KEY SERVICES - AFRICA



SANDI SAHILI
L1 L2 L3 L4
L5 L6 L7 L8
L9 L10 L11 L12
L13 L14 L15 L16
L17 L18 L19 L20
L21 L22 L23 L24
L25 L26 L27 L28
L29 L30 L31 L32
L33 L34 L35 L36
L37 L38 L39 L40
L41 L42 L43 L44
L45 L46 L47 L48
L49 L50 L51 L52
L53 L54 L55 L56
L57 L58 L59 L60
L61 L62 L63 L64
L65 L66 L67 L68
L69 L70 L71 L72
L73 L74 L75 L76
L77 L78 L79 L80
L81 L82 L83 L84
L85 L86 L87 L88
L89 L90 L91 L92
L93 L94 L95 L96
L97 L98 L99 L100

RIGHTS AND RESPONSIBILITIES
KIRIWA





WHO DEFENDS PRIVACY IN AFRICA?

personal data processing

Context: local and national bureaucracy where (in)formal rules and procedures either compete or are complementary

Purpose: Who will guarantee the purpose of data processing?

Consent: Can villagers give their informed consent?

Context

Education

Health

Water

Tenure

security

USAID

Mobile Application to Secure Tenure (MAST)



MAST Framework



The key component of MAST Framework is an Android-based **Mobile Data Capture Application** that captures land rights information

Data collected and stored on the users' handheld device

Data sent to the cloud

Context

2. Procedures and rules

1. Adjusting STDM to AF and CCRO

**3. Outreach and training;
Field adjudication
and data processing**

**4. Dispute resolution;
data verification and
validation**

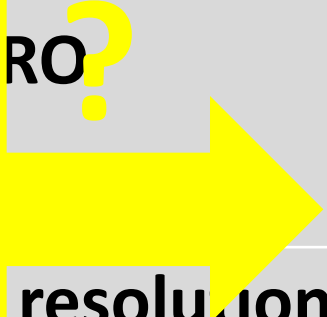
		DISCRETION	
		Little	A lot of
TRANSACTIONS	Few	<p>2. Procedures and rules</p>	<p>1. Adjusting STDM to AF and CCRO</p>
	Many	<p>3. Outreach and training; Field adjudication and data processing</p>	<p>4. Dispute resolution; data verification and validation</p>

		DISCRETION	
		Little	A lot of
TRANSACTIONS			
Few	<p>2. Procedures and rules (e.g. printing!)</p>	<p>1. Adjusting STDM to AF and CCRO</p>	
Many	<p>3. Outreach and training;</p> <p>Field adjudication and data processing</p>	<p>4. Dispute resolution; data verification and validation</p>	



		DISCRETION	
		Little	A lot of
TRANSACTIONS			
Few		2. Procedures and rules (e.g. printing!)	1. Adjusting STDM to AF and CCRO?
	Many	3. Outreach and training; Field adjudication and data processing	4. Dispute resolution; data verification and validation

ICT



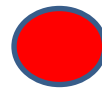
Durable

Political
Apps

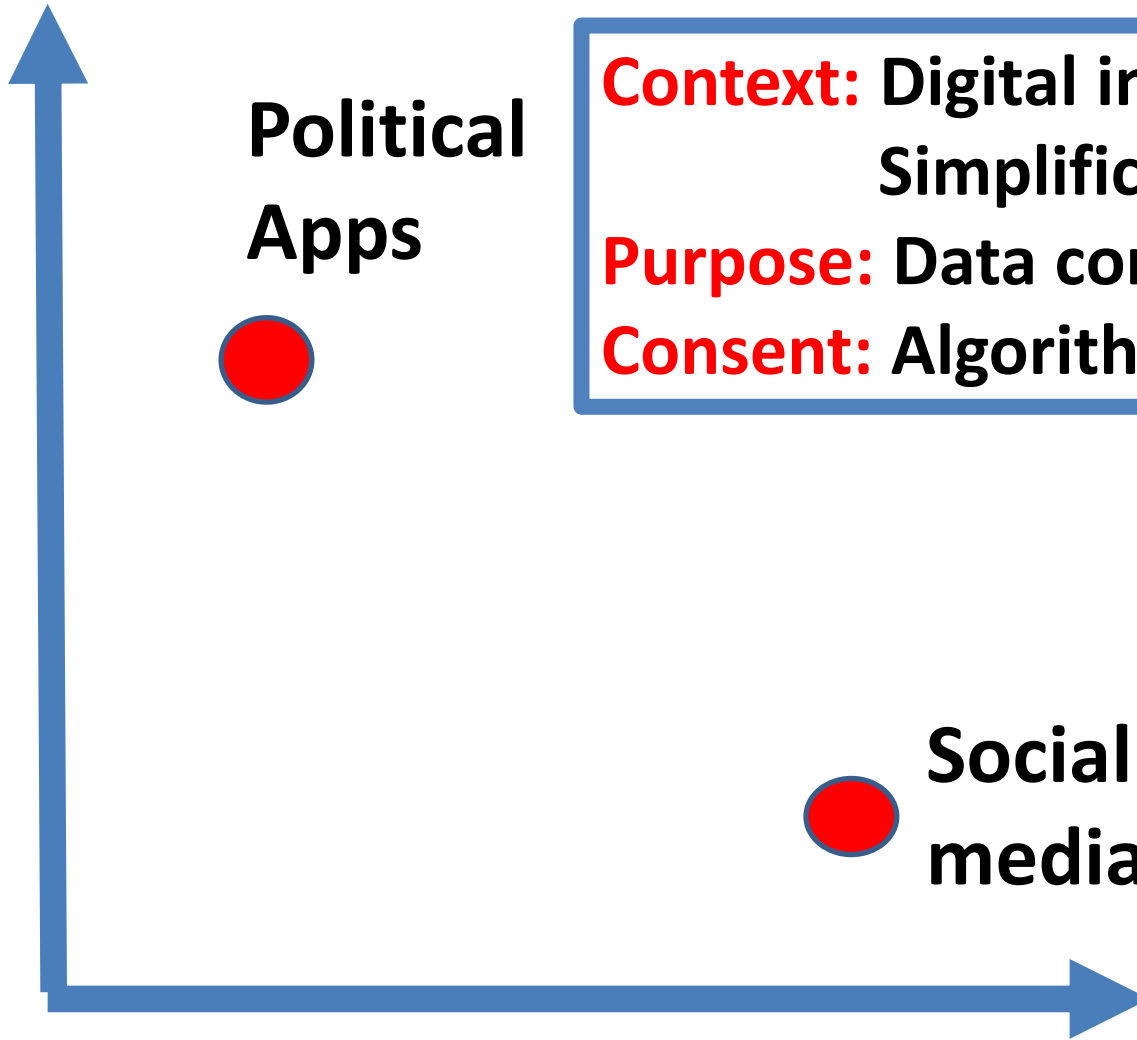


Context: Digital incrementalism
Simplification of rules
Purpose: Data controller liable
Consent: Algorithmic transparency

Social
media



Disruptive



Summary

Countries	Who classifies?	Who is classified?	Who defends privacy?
High income (e.g. EU)	Nation-state Data companies	Population and territory People and location	Trias politica EU DPD (1995) EU GDPR (2016)

Summary

Countries	Who classifies?	Who is classified?	Who defends privacy?
High income (e.g. EU)	Nation-state Data companies	Population and territory People and location	Trias politica EU DPD (1995) EU GDPR (2016)
Low income (e.g. Africa)	Donors Nation state (?) Data companies	People and territory	Who thinks about: <ul style="list-style-type: none">- Context?- Consent?- Purpose binding?

GEO-ETHICS IN AFRICA?



Surveyors?
+
Lawyers?
+
Ethicists?