

# **New Technology, New Data, New Privacy**

**Mark Elliot, Elaine Mackey: University of Manchester  
Karen McCullagh University of Manchester**

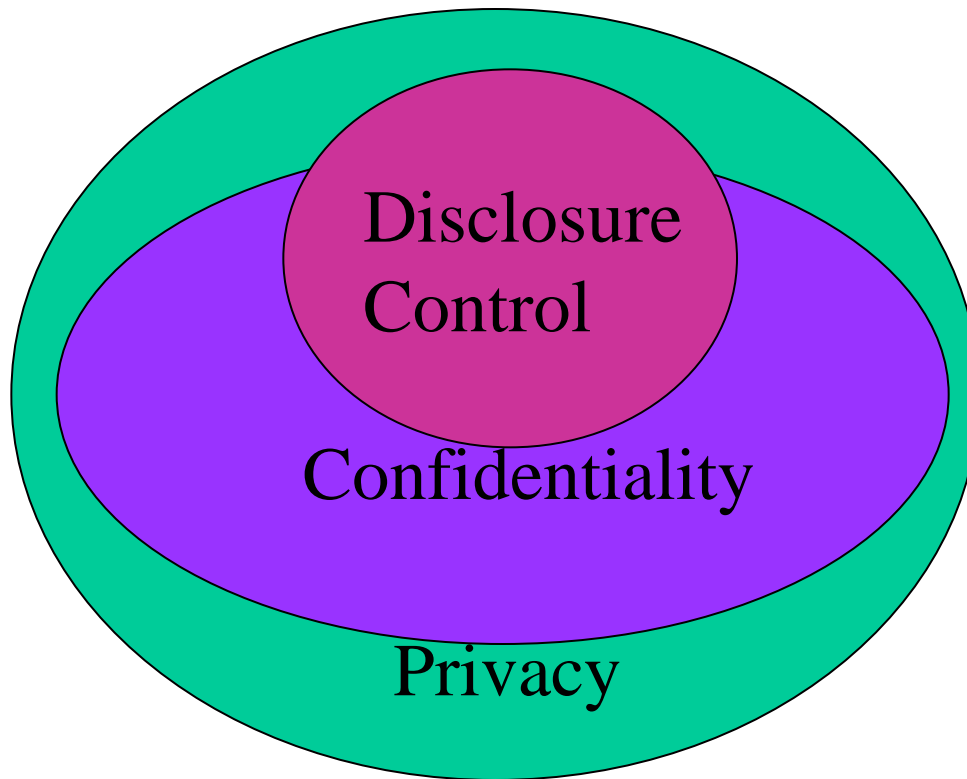
**[Mark.Elliot@manchester.ac.uk](mailto:Mark.Elliot@manchester.ac.uk)**

**Cathie Marsh Centre for Census and Survey Research  
& Social Statistics Discipline Area  
University of Manchester**

# Outline

- What is privacy?
- What do we do about it at the moment.
- What will new technology bring?
- What is the privacy opportunity?

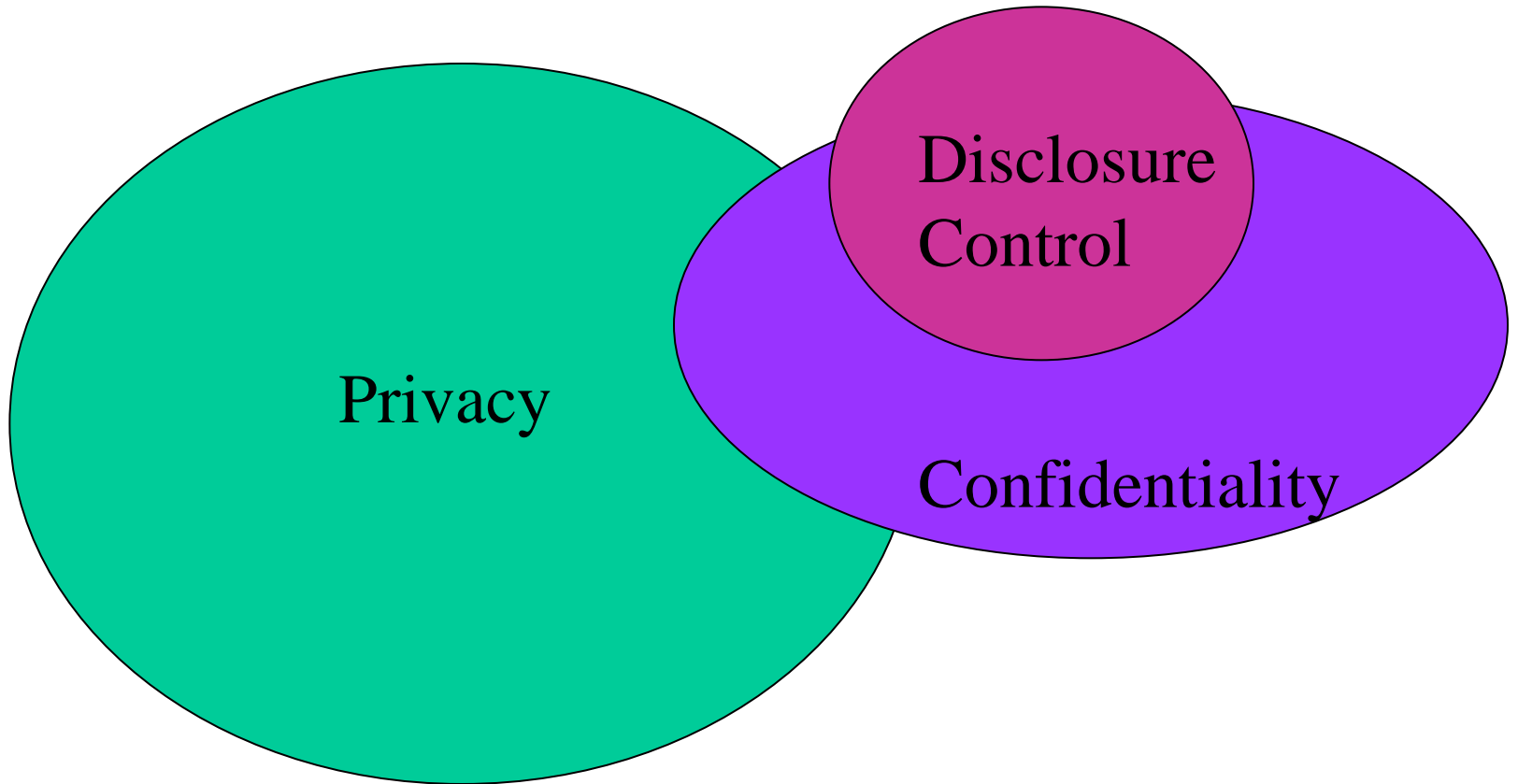
# Privacy, Confidentiality and Disclosure



# Protecting privacy?

- Information security measures
- Data protection legislation
- Disclosure Control and related anonymisation

# Privacy, Confidentiality and Disclosure



# Privacy is Polysemous?

- Privacy as Secrecy
  - “The right to conceal facts about oneself”; Posner
  - “An outcome of a person’s wish to withhold from others certain knowledge as to his past and present experience and action and his intentions for the future”; Jouard G(1966)

# Privacy is Polysemous?

- Privacy as The right to be left alone
  - Warren and Brandeis (1890)
  - A response to the development and proliferation of Kodak instant cameras

# Privacy is Polysemous?

- Privacy as Limitations of access
  - “A degree of inaccessibility is an important necessary condition for the apt application of privacy”; Allen(1966)
  - Privacy may be regarded as “limited access to an individual’s life experience and engagements”; O’Brain (1980)



# Privacy is Polysemous?

- Privacy as Control over ones personal information; Westin, Parker, Miller
  - “Privacy is not simply the absence of information about us in the minds of others it is the control we have over information about ourselves”; Fried(1968)

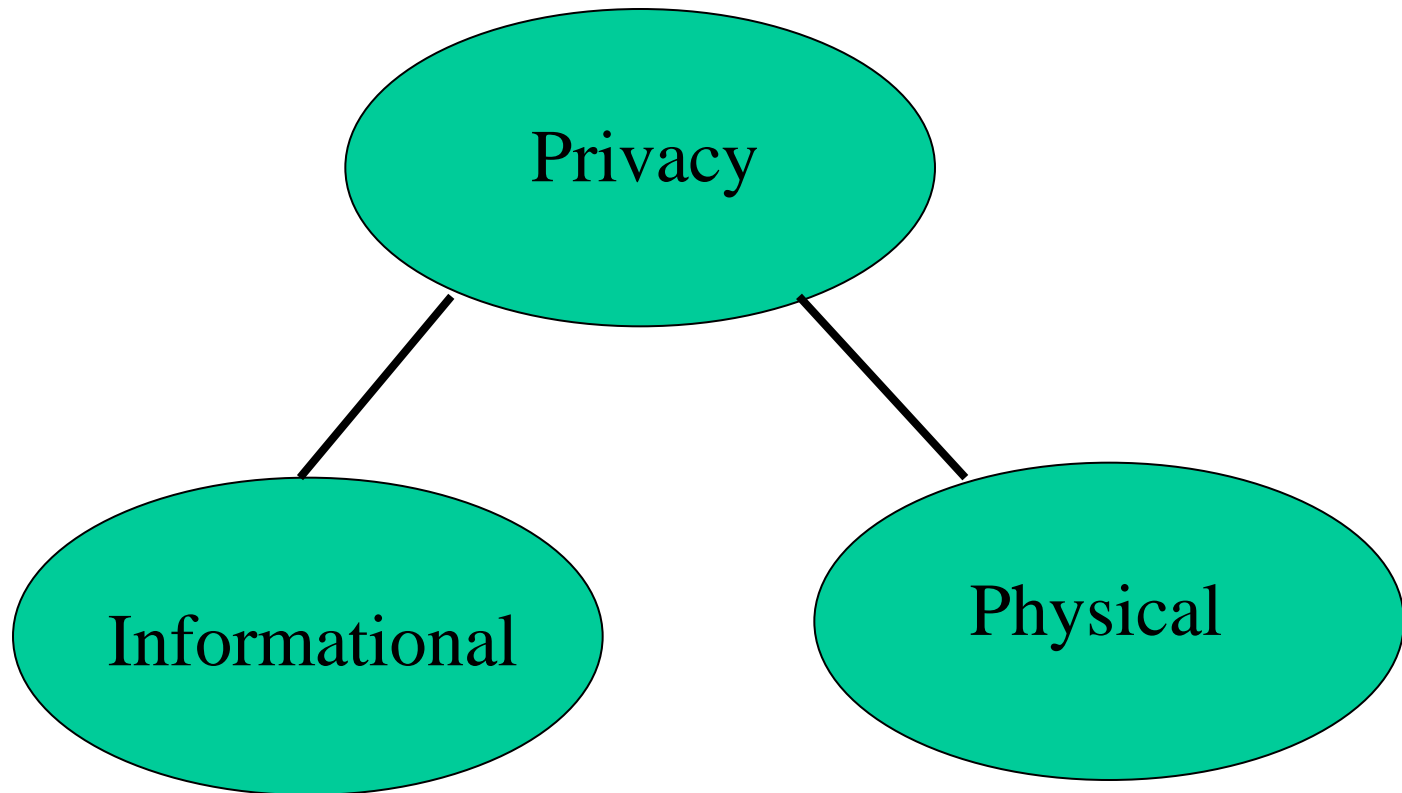
# Privacy is Polysemous?

- **Privacy as Intimacy**
  - Sharing of information as an act of intimacy; Inness, Farber

# Privacy is Polysemous?

- Solove (2008) argues that privacy is a Wittgenstienian family of ideas
- I disagree and believe that
- Privacy as key process of autonomy which can be understood only with reference to both disclosure and identity.

# A distinction



**BUT...**

**BUT...**

**BUT...**

# Privacy

- Informational and physical privacy have always been entwined. Consider:
  - A diary
  - A burglary
  - And now in Cyberspace
    - The distinction between our identities and our information has become blurred



# The apparent Paradox of Privacy

- Privacy is a social construct;  
Solove(2008)
  - It is indeed culturally mediated and varies enormously in its importance ideologically, culturally and historically.

# The apparent Paradox of Privacy

- A strong democratic society is a necessary condition for any form of privacy; Iverson (2006)
  - And a strong democratic information society needs information!
- Privacy is a necessary pre-condition of a strong democratic society; Domingo-Ferrer(2010)



# Data Sensitivity/Targets

- What are the targets?
- What is sensitive?
- How do we decide if some form or type of data is sensitive?

% persons indicating that a given data type was sensitive, very sensitive or extremely sensitive. Data source: the ICO annual track survey 2005; Taken from McCullagh 2007

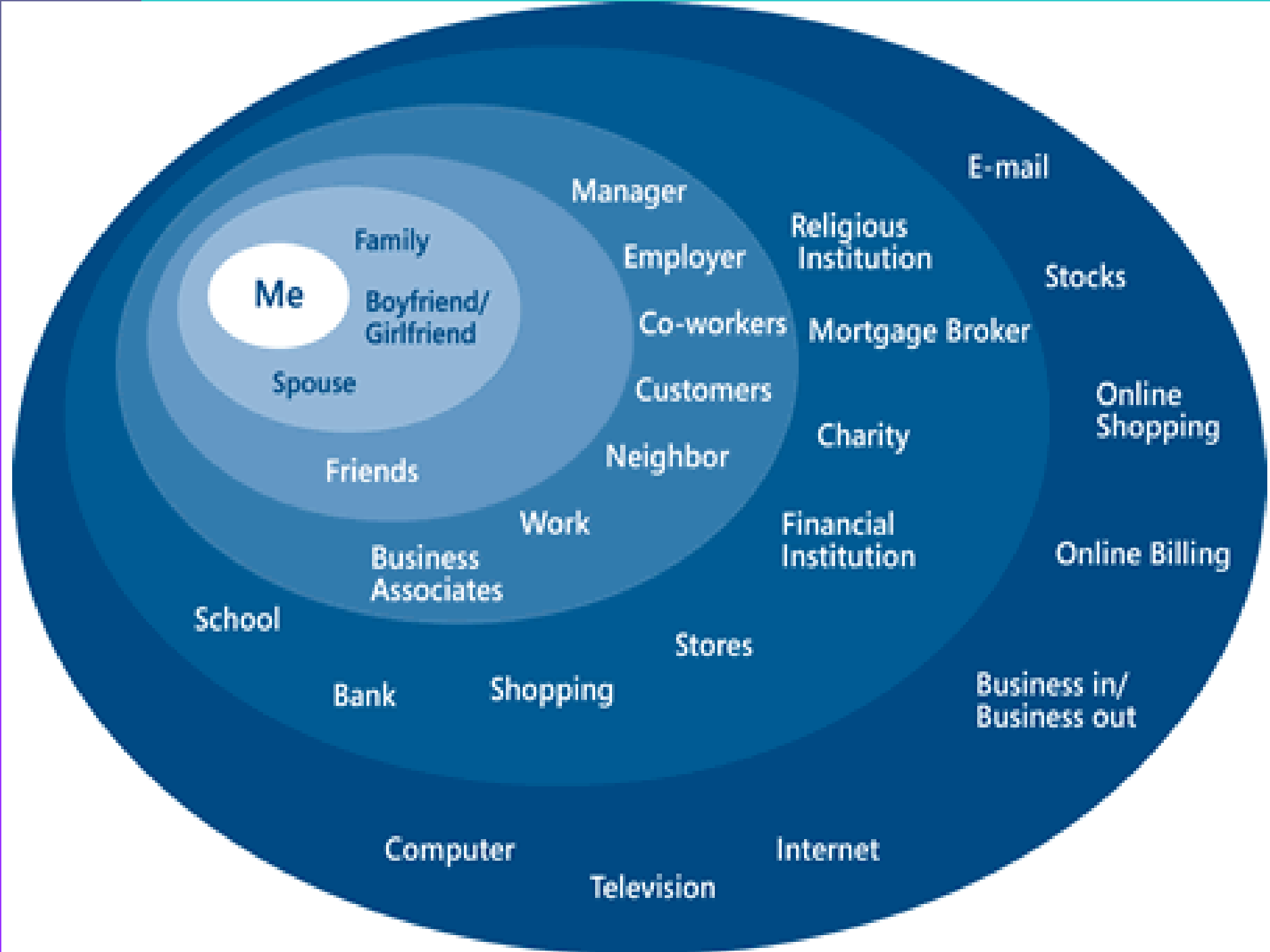
Employment History	70.80%
Qualifications	71.00%
Political Party Membership	67.60%
Click stream data	70.10%
Personal Contact Details	85.40%
Genetic Information	83.30%
Biometric Information	80.50%
Financial data	95.00%

# Sensitivity

- There is no type data which is not sensitive for some population unit
  - e. g. Name and address
    - Witness protection...
  - Conversely
    - A money launderer would regard their financial information as sensitive
  - **So sensitivity is neither a necessary nor sufficient condition for saying that information should be regarded as needing “protection”.**

**A step back:**

**What is Disclosure?**





# A step back

- The mechanism by which we operate our privacy.
  - This rather than the information itself is why statistical disclosure is potentially problematic.

**OK,**

**So what's happening next?**

# Future Internet

- Cloud Computing
- The Internet of things
- Smart Everything, particularly cities
  - Smart cities
  - Smart transport
  - Smart energy
  - Smart health
  - Etc etc...

# Future Internet

- **Interconnectivity**
- **Intelligence**
- **Interactivity**
- **Instrumentation**

# Future Internet

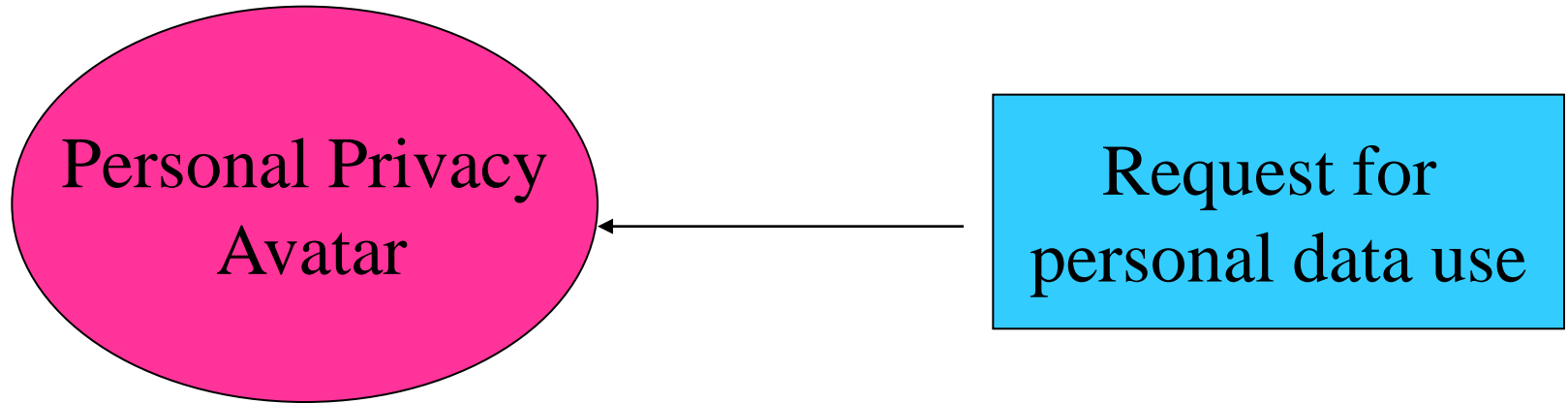
- The implications for
  - How we collect social data
  - Do social research
- Are huge

# Privacy and the Future Internet

- The threat of to privacy of the future Internet is self evident
  - More information
  - More surveillance
  - Etc. etc.

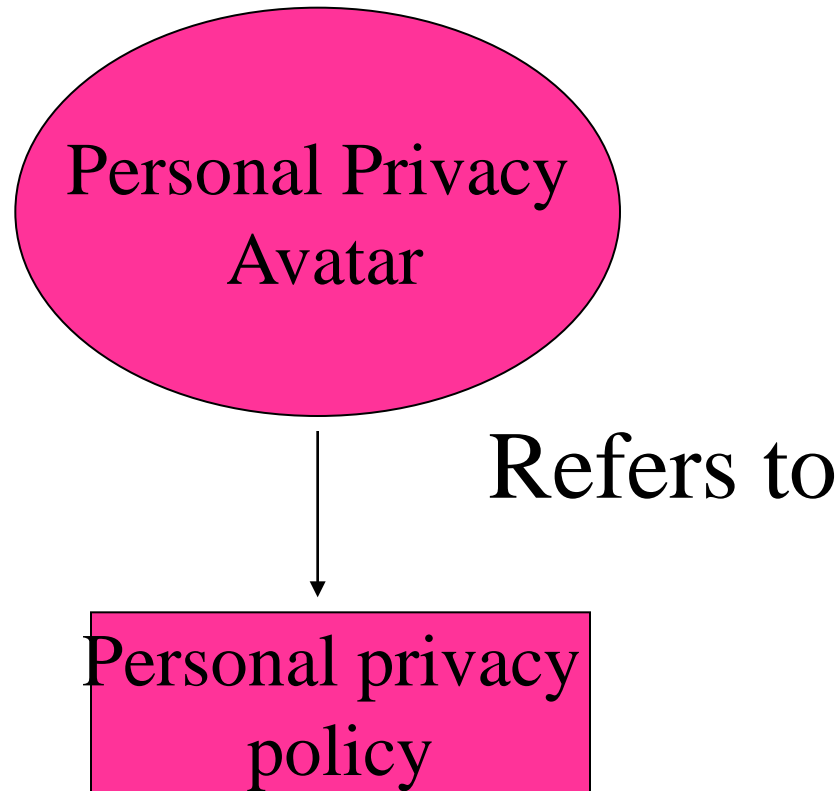
# Privacy and the Future Internet

## Just in time consent



# Privacy and the Future Internet

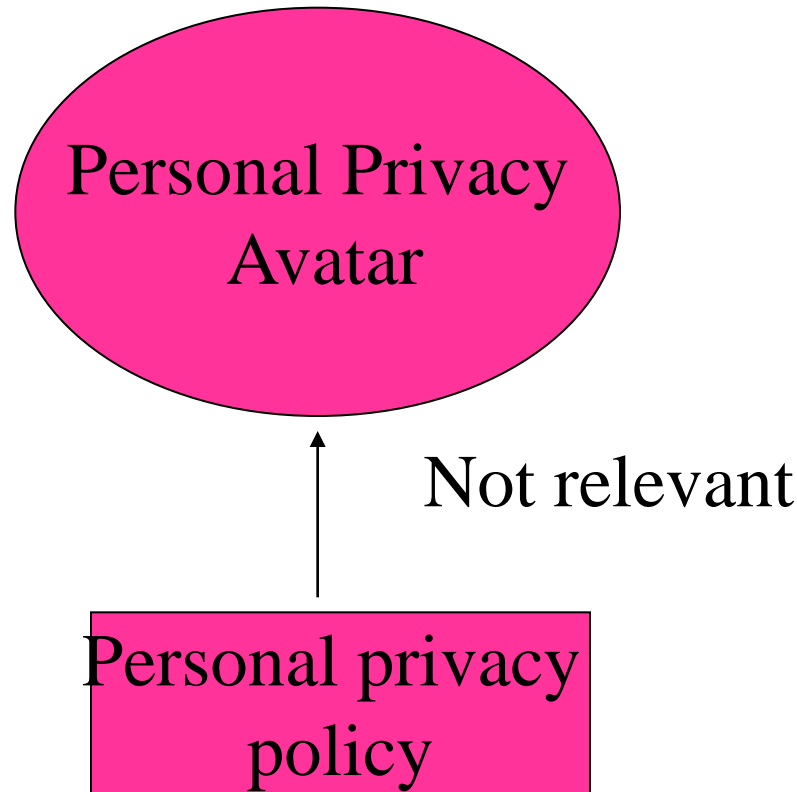
## Just in time consent





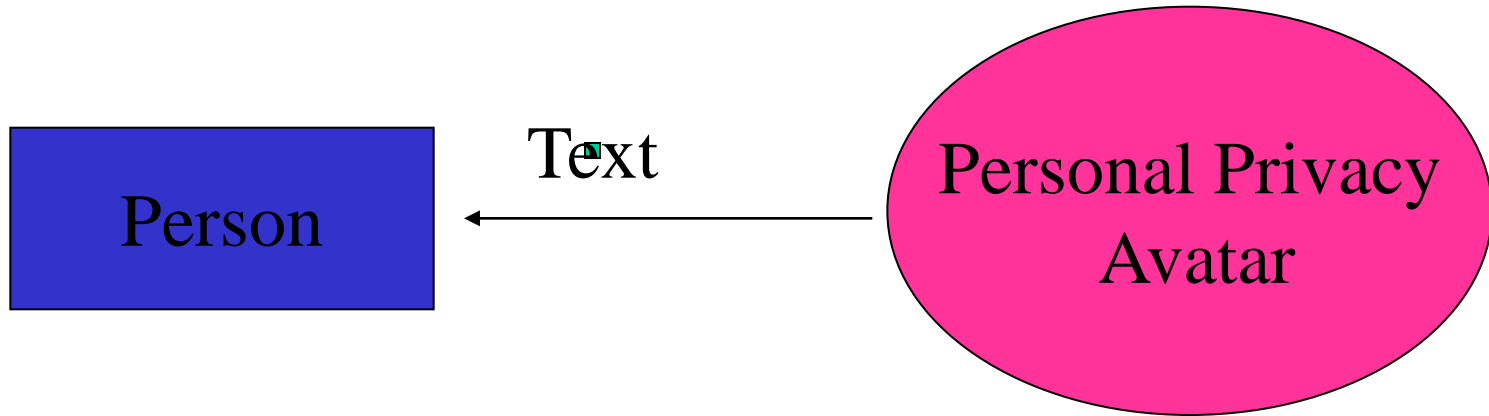
# Privacy and the Future Internet

## Just in time consent



# Privacy and the Future Internet

## Just in time consent



**BUT...**

**BUT...**

**BUT...**

# A technical solution?

## Use the Automatic During the Convention



Make the Automatic Telephone Station at the Coliseum *your* headquarters. A reception room, booths and uniformed pages at your service on the main floor of the Annex.

Let us facilitate your work—and let us demonstrate to you the *wonderful efficiency* of the Automatic telephone—

### *The ONE Phone* *That Gives* **SECRET SERVICE**

Automatic Telephone Service is pulling the biggest popular vote in history! Local Chicago traffic has more than doubled, and long distance increased 80%, since January 1, 1912.

Because of its very low cost, its instantaneous connections, its secrecy, its splendid carrying powers, the Automatic is *the only logical telephone*. By all means take advantage of this special convention service.

### **Local Calls 5c**

*Long distance calls at remarkably low rates*

**Illinois Telephone & Telegraph Co.**

(Successor to Illinois Tunnel Co.  
Telephone Department)

**162 W. Monroe St.**

Commercial  
Dept.  
33-111

Information  
892

Long Distance  
Call (O)  
on the Dial

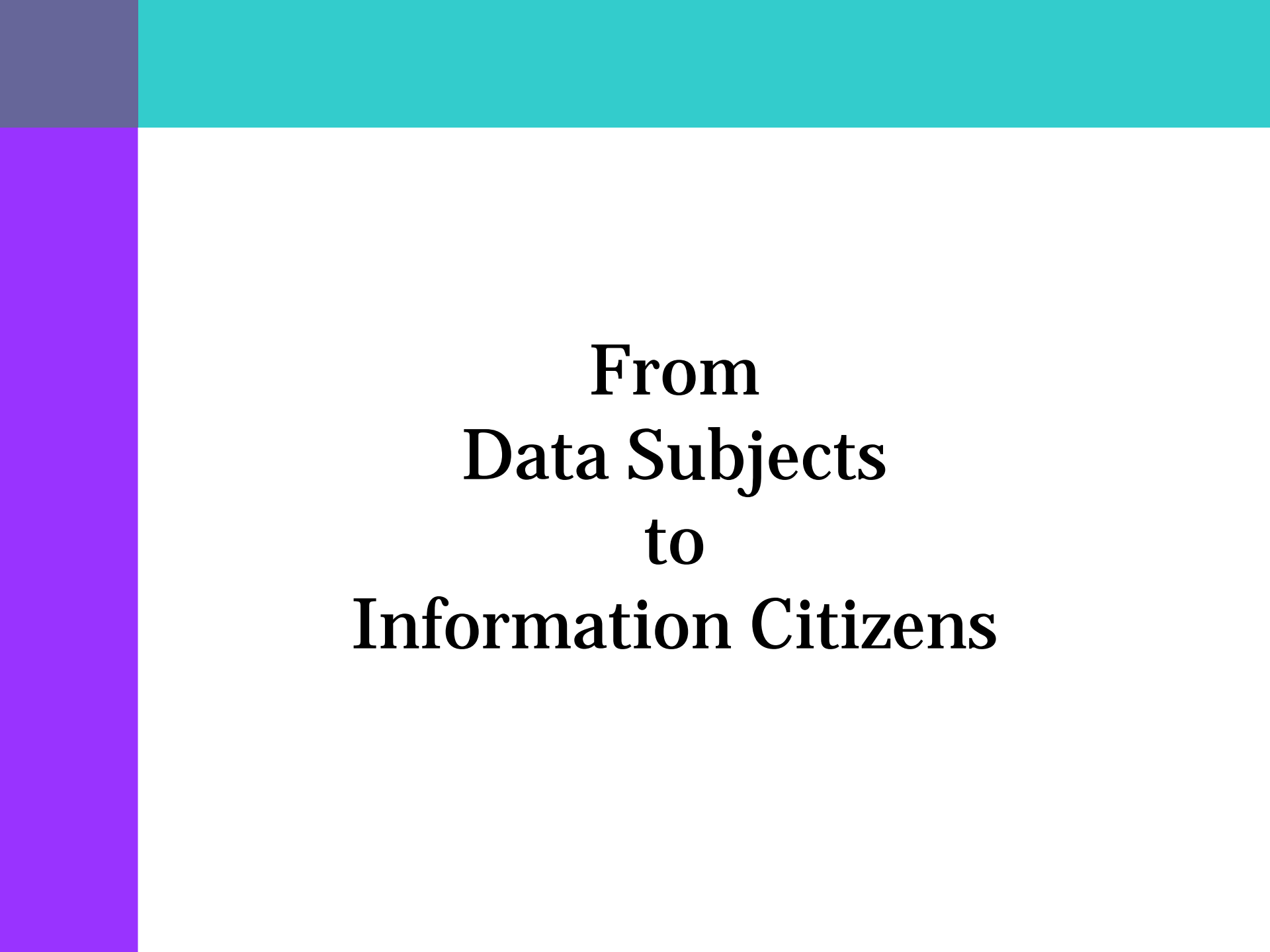


(118)

- Call information is has since 1979 been regarded as mineable data.
  - Smith vs. Maryland case

# Finally a strap line...

- The notion of a privacy solution driven by individual autonomy suggests a move...



**From  
Data Subjects  
to  
Information Citizens**