# Introduction to Privacy and Course organization

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Privacy, Security and ethical aspects of data

Université Cote d'Azur

# Timing of the lecture

**Today's class**

- 13:30 – 15:00 Introduction to privacy

- 15:00 – 15:15 Break

- 15:15 – 16:30 General Data Protection Regulation (GDPR)

# Today's class

- Course staff introduction
- Student introductions

# Who am I



- **Nataliia Bielova**, PhD CS 2011

- **Research scientist at Inria**
  - INRIA = the National Institute in Informatics and Automation

- **Inter-disciplinary approach to privacy**
  - Studying legal GDPR and ePrivacy requirements for web tracking and consent
  - Detecting new web tracking technologies
  - Measuring web privacy in large scale experiments
  - Detecting privacy vulnerabilities in Web browsers and websites
  - Informing policy makers of gaps between law and technology

- … See more information and motivational "About" page on [my LinkedIn page](my LinkedIn page)

**Who are you?**

**Why did you choose to follow this course?**

# Security, privacy and ethical aspects of data

COURSE ORGANISATION

# Logistics

- Updated syllabus is always available on the course web page:
  - http://www-sop.inria.fr/members/Nataliia.Bielova/teaching/privacyDS2021/

- Alternatively, search "Nataliia Bielova"
  - Chose menu → Teaching → 2020-2021 → **Privacy, Security and ethical aspects of data**

# Evaluation

- Projects on privacy policies in groups

- Submit your projects to
  - Subject: [PrivacyDS2020] NAME SURNAME
  - Email: nataliia.bielova@inria.fr
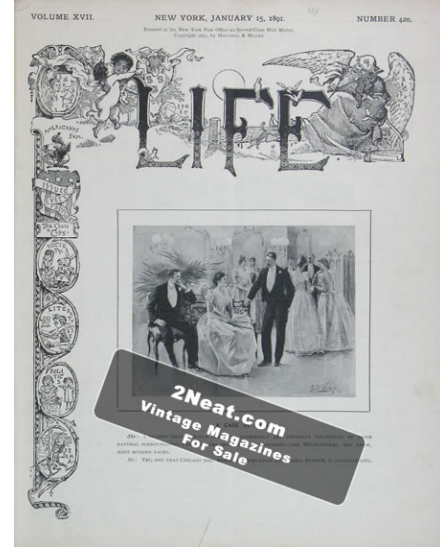
- Deadline: TBD

# What is Privacy?

# What is Privacy?

- A couple of popular definitions:
  - « The right to be left alone »
    - Focus on freedom from intrusion
  - « Informational self-determination »
    - Focus on control

# What is privacy?

- Abstract and subjective concept

- Depends on
    - Study discipline
    - Social norms and expectations
    - Context

# 1890*



"The right to be let alone"

*Warren & Brandeis (1890)*

*The first advertising agency was established in 1890 as well!

1953

# European Convention on Human Rights

- Emerged as a response to the excesses of totalitarian states in the 30s and 40s (entered into force in 1953)
    - Spirit: protect **citizens** from an overbearing/intrusive **state**
    - During the cold war: 'western' states would distinguish themselves from the 'eastern block' in that the population was not subject to pervasive surveillance

# European Convention on Human Rights

*Article 8 – Right to respect for private and family life*

1. **Everyone** has the **right** to respect for his private and family life, his *home* and his *correspondence*.
2. There shall be no interference by a public authority with the exercise of this right **except**
   - such as is in accordance with the law and is necessary in a democratic society in the interests of *national security*, *public safety* or the *economic well-being of the country*, for the *prevention of disorder or crime*, for *the protection of health or morals*, or for the protection of the rights and freedoms of others.

# 1970
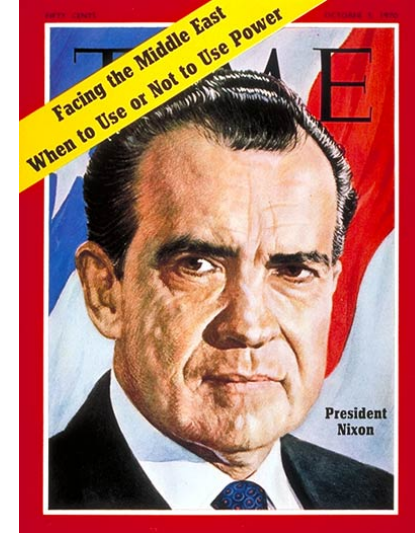


"The right of the individual to decide what information about himself should be communicated to others and under what circumstances"

*Westin (1970)*

# 1978



- Definition of "personal data ": any information relating to an individual
- "It's prohibited to collect and process personal data from racial, ethnic, political, philosophical or religious type, and data related to health or sexual orientation"

*Privacy and informatics law, France*
*"Loi informatique et liberte" (1978)*

**Basically is the basis of GDPR!**

# Data Protection

- EU Data Protection Directive (1995)

- General Data Protection Regulation, GDPR (2018)

    - Defines and applies to "**Personal data**"

# **Privacy is more than Personal Data Protection**

- Privacy is often considered as similar to Personal Data Protection


- But it is also
  - Control
  - Transparency
  - Lack of interference (censorship...)
  - Autonomy
  - ...

# Popular Arguments against Privacy

- "I've got nothing to hide!"
  - "I'm not embarrassed or humiliated by this information. If anybody asks me, I'll gladly give it to them! »
  - Really???

# PRIVACY ≠ SECRECY

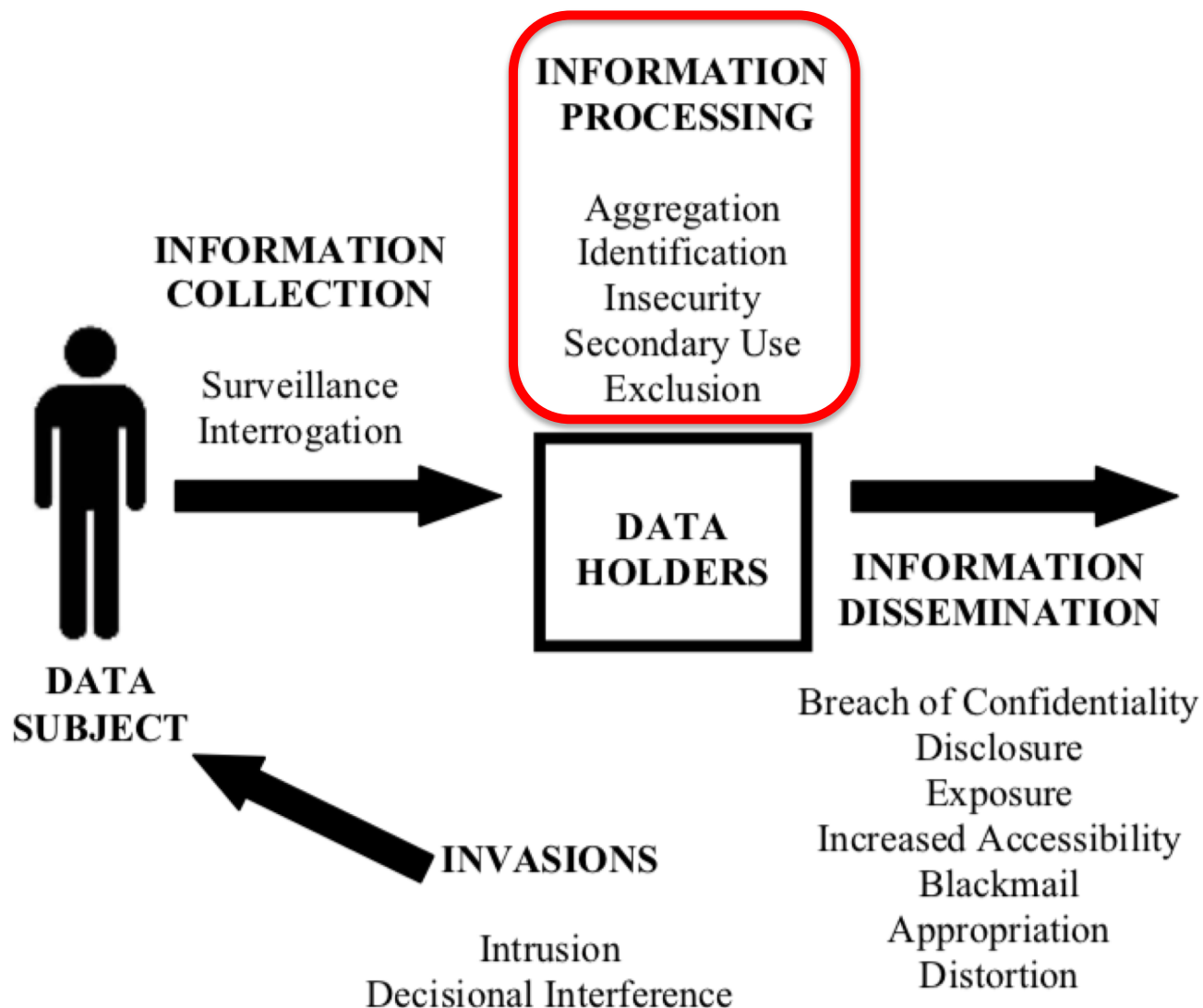# This information is not necessarily secret, but do you want to disclose it?

- **Identity attributes** :Name, age, gender, race, IQ, marital status, place of birth, address, phone number, ID number…
- **Location**: Where you are at a certain point in time, movement patterns
- **Interests / preferences** : Books you read, music you listen, films you like, sports you practice
- **Political affiliation, religious beliefs, sexual ori**entation
**Behavior:** Personality type, what you eat, what you shop, how
- you behave and interact with others
**Health data**: Medical issues, treatments you follow, DNA, health
- risk factors
**Social network**: Who your friends are, who you meet when,
- your different social circles
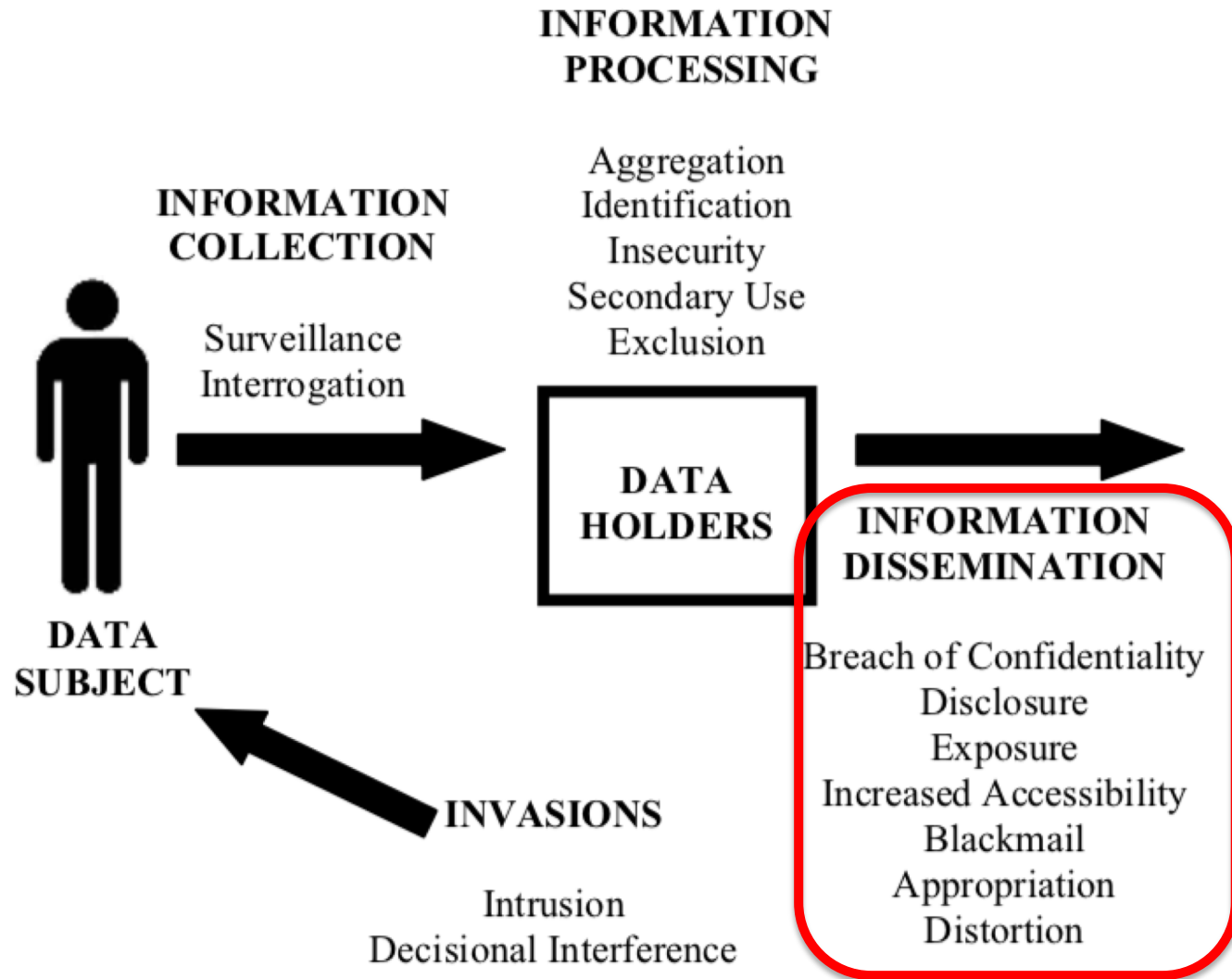**Financial data**: How much you earn, how you spend your
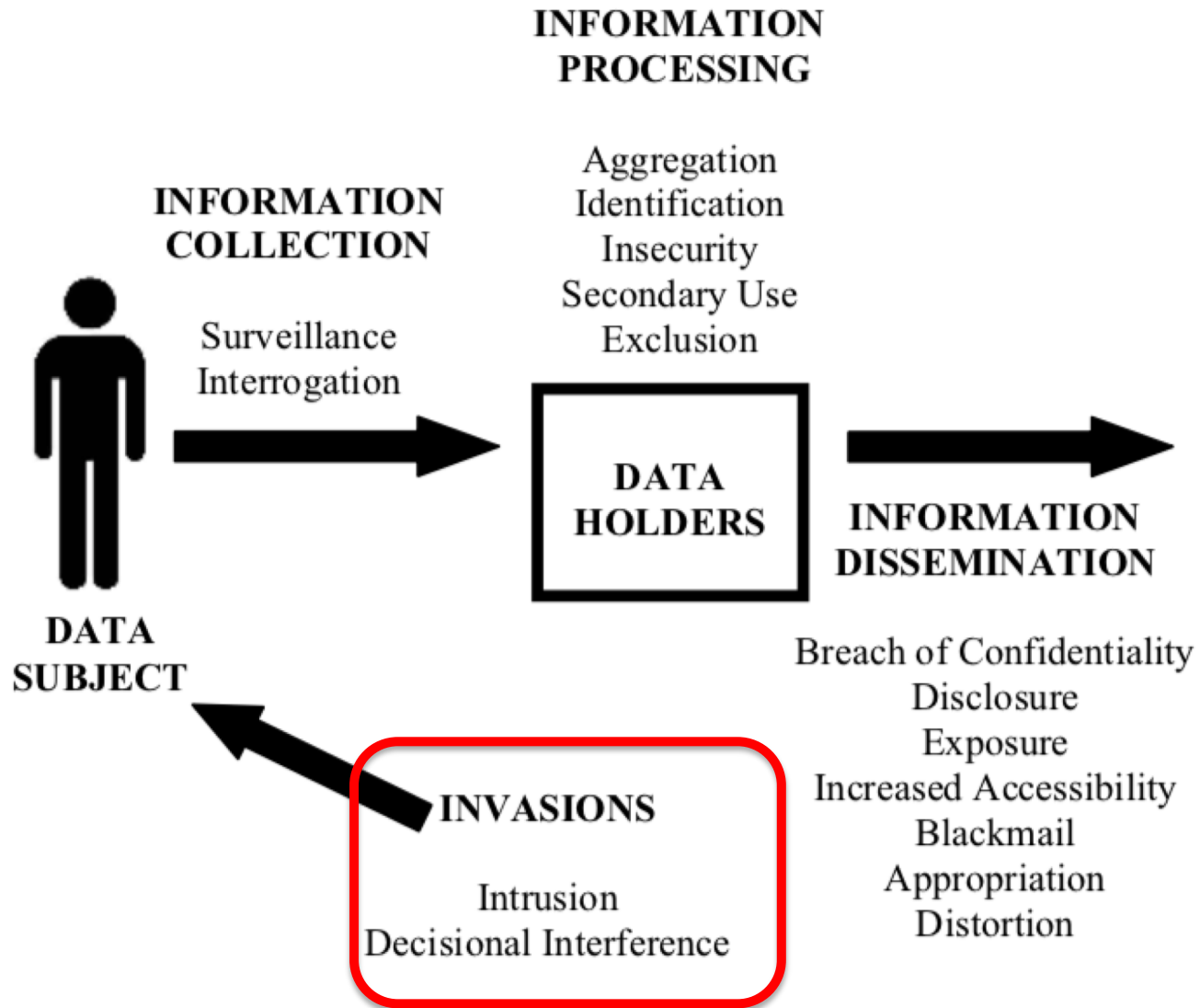- money, credit card number,…
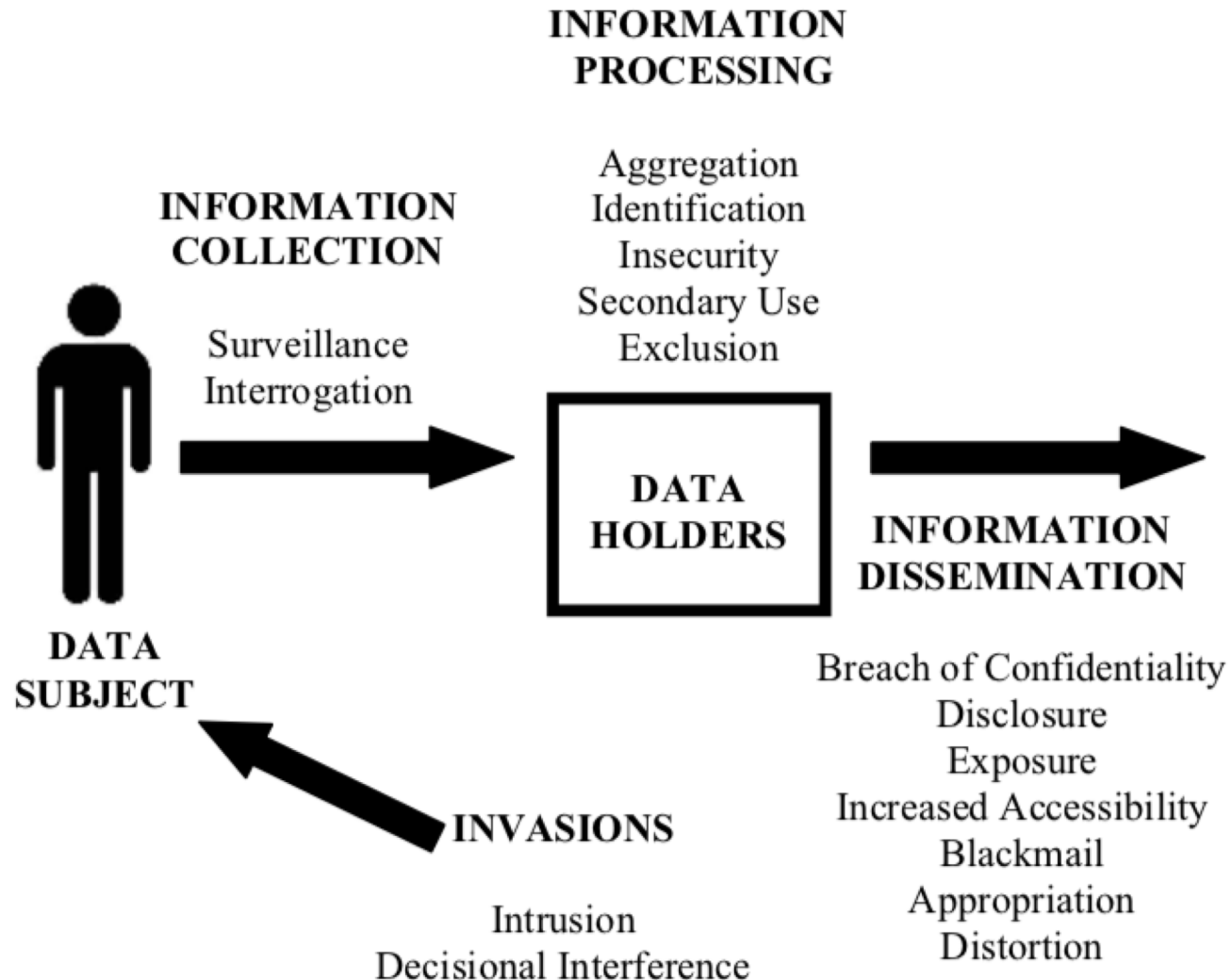
*A Taxonomy of Privacy by Daniel Solove*
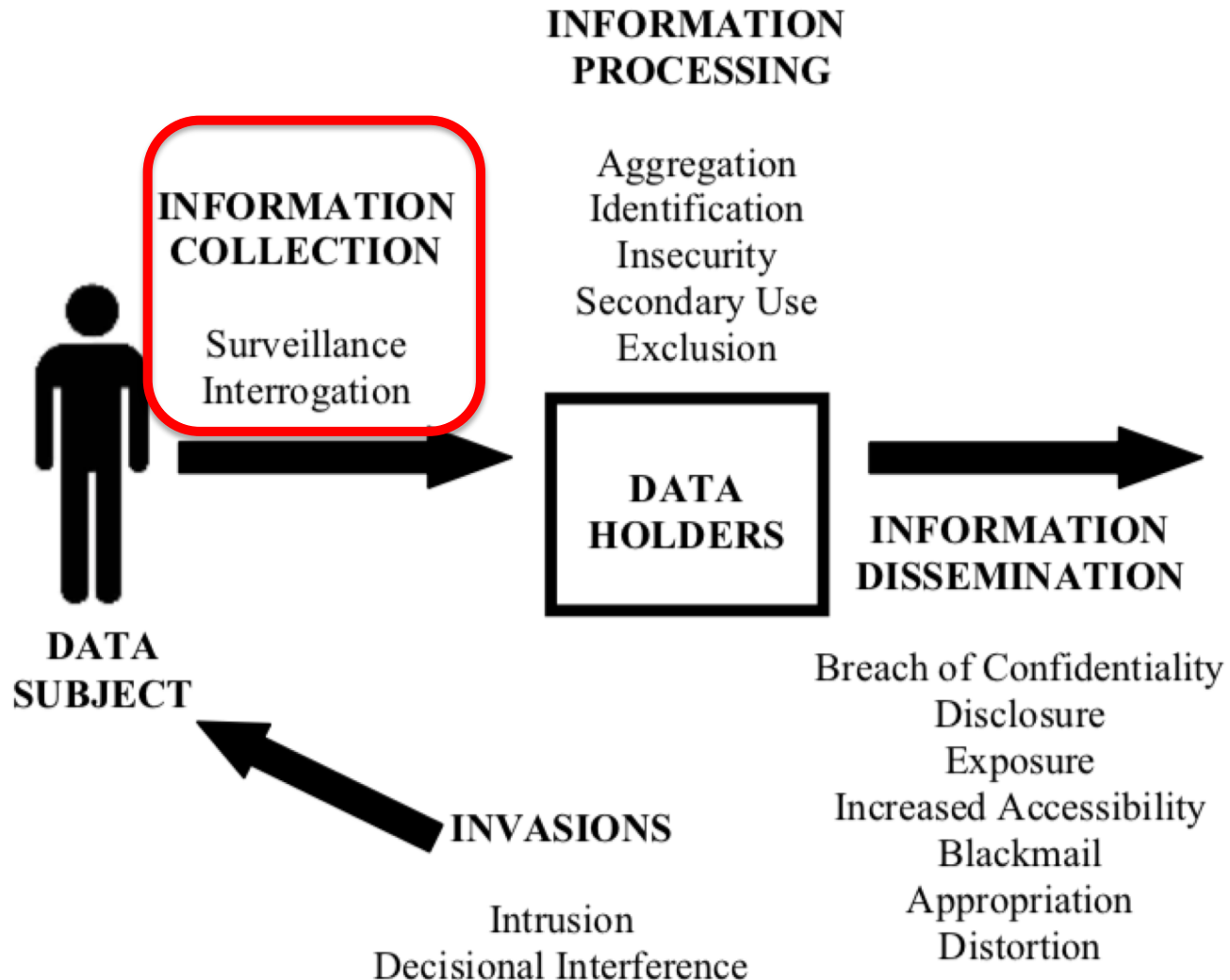
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**INFORMATION PROCESSING**

Aggregation
Identification
Insecurity
Secondary Use
Exclusion

**INFORMATION COLLECTION**

Surveillance
Interrogation

**DATA HOLDERS**

**INFORMATION DISSEMINATION**

Breach of Confidentiality
Disclosure
Exposure
Increased Accessibility
Blackmail
Appropriation
Distortion

**DATA SUBJECT**

**INVASIONS**

Intrusion
Decisional Interference

*A Taxonomy of Privacy by Daniel Solove*

# From Surveillance to Dataveillance

- More and more data generated and collected (with its benefits)...
- Today the smallest details of our daily lives are tracked and traced more closely than ever before (**liquid** surveillance or **Dataveillance**)!
- We leak data, leave traces when we browse the web or use our phones…
  - On the visible web
  - On the invisible web
- Things got worse since 9/11, recent attacks!
  - See New French Law on SIGINT (Signal Intelligence) [P15]
- With IoT, it will even get worse [R15]

[P15] J. Parra-Arnau, C. Castelluccia, "Dataveillance and the false-positive paradox," in Proc. 1st International Workshop on Privacy and Inference, (PrInf 2015)

[R15] Ron Deibert, The Geopolitics of the Cyberspace After Snowden

# Dataveillance on the « Visible » Web

- Foursquare knows where you are

- Flickr knows what you see

- Facebook knows what you do

- Linkedin knows what you've done

- Twitter knows what you say

- Amazon knows what you buy

- Google knows what you think

# Dataveillance on the "Invisible" Web

- **"Meta-data"** (as opposed to data/content)

- Tags, Web bugs, pixels and beacons that appear on Websites to track and profile users

- Allows trackers to **build profiles of users (mostly for advertisers!).**

# Dataveillance on the "Invisible" Web