

Socrates, 496 – 399 b.C.



Socrates was wrong...

**... but how much on the decline is
our privacy really ?**

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- TV usage
- CCTV recordings
- web cams
- credit card usage
- highway toll
- bank transfers
- cash withdrawal
- cell phone movements
- internet usage
- loyalty purchases

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**Web Crawling
Data Mining**



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**Information fusion
Profiling
Automated analysis
Outlier Detection**

More and more data are subject ...

... to more and more intelligent automated analysis!

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1 page of text
= **10 KB**

© sanja gjenero, SXC



1 folder
= 100 pages
= **1 MB**

© Vangelis Thomaidis, SXC



1 shelf
= 100 folders
= 10.000 pages
= **0.1 GB**

© Michal Zacharzewski, SXC



A memory stick
= 20 shelves
= 2.000 folders
= 200.000 pages
= **2 GB**

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A DVD
= 7000 shelves
= 700.000 folders
= 70.000.000 pages
= **700 GB**

Today, we can carry away in our pocket...

... the equivalent of 7 tons of paper!

- full access rights
- high technical qualification
- plenty of idle time
- minimum technical supervision

- limited personal interactions
- shift work
- screen work, limited daylight
- limited eating / drinking
- limited possibilities for breaks



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IT administrators do not always have perfect working conditions

Top 30 outsourcing countries

Americas: Argentina, Brazil, Canada, Chile, Costa Rica, Mexico, Panama

Asia/Pacific: Australia, China, India, Malaysia, New Zealand, Pakistan, the Philippines, Singapore, Thailand and Vietnam

EMEA: Czech Republic, Egypt, Hungary, Ireland, Israel, Morocco, Poland, Romania, Russia, Slovakia, South Africa, Spain and Ukraine

Data security was only one of 10 assessment criteria

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Access by the owner only

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Access by

- data center operator (rack space)
- application owner (legal owner)
- software vendor (maintenance)
- hardware vendor (maintenance)
- outsourcing partner (operations)
- cleaning company
- security guards

A data center can be quite a busy place !

- In contrast to physical items, the value of data is a semantic one.
- For data, read almost equals copy.
- Data can be copied many times easily.
- Data can spread very fast.

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<http://www.dubbelklikdesign.nl>



The “items” to be protected are very special

Data Guards



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Expert?

Outsourcing partner?

Remote third party?

Sector

- Police
- Public administration
- Bank
- Telephone Company
- Internet Service Provider
- Pay TV
- Hotel
- Airline
- Online shop
- Community network operator
- Search engine provider
- Software provider

**highly
competitive
cost driven,
IT based,
online market**

Good protection can be expensive – sometimes too expensive!

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Policeman

© Hans Thoursie, SXC



Guard

© Bariek Ambrozik, SXC



Admin

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<http://www.sxc.hu/profile/tz>



Manager

Technical knowledge

limited

limited

high

limited

Access to data

limited

limited

high

limited

Financial gain

medium

high

high

medium

Capability of
wiping traces

low

limited

high

low

Criminal energy

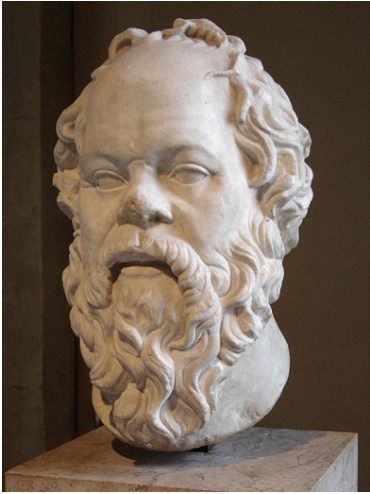
low

?

?

?

Temptation will increase further



Socrates, 496 – 399 b.C.

“Who guards these guards?”

According to Socrates, the guards are protected by a “noble lie”.

Today, the noble lie might not work any more!

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- Employee of a Liechtenstein bank in 2002 steals client data of
 - 700 German clients
 - 800 other clients (UK, US, Italy, ...)

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- In 2006 Germany buys the data for about \$ 7.2 million
- Purchase is considered legal (the theft wasn't, of course!)
- Evaded taxes of around \$400 million are recovered
- Prominent arrests are made February 2008 in Germany

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Large scale data theft is not a theoretical issue!

- Dealing stolen physical goods is a criminal offence in Germany, but data are not considered physical goods.
- The Liechtenstein Bank Client Secrecy is waived under criminal acts, but tax evasion is only considered an administrative offence, not a criminal act.
- In a German (!) routine money laundering control the thief's payment appeared. His name leaked out to press immediately, so not even his privacy was granted.

IT considerations alone will not solve the problem

- 300 client files of Swiss bank handed over to US IRS in February 2008 on request
- Bank stock price drops by 23% within two days
- IRS asked 52.000 additional clients' data
- Charges were filed, long disputes and negotiations
- Switzerland and US sign international agreement
- August 2009: Deferred Prosecution Agreement reached
 - data on 4.450 suspected tax fraud cases handed in
 - \$ 780 million fine paid
 - Offshore banking model stopped in 2008

Total damage can reach hundreds of millions

- 2008 data transmission had to be based on bankruptcy protection(!) paragraph
- 2008 data transmission declared illegal by Swiss courts in January 2010
- Contradicting international laws created a catch 22 for bankers
- Deferred Prosecution Agreement solved one case only

**International agreements helped a lot –
but were signed only late**

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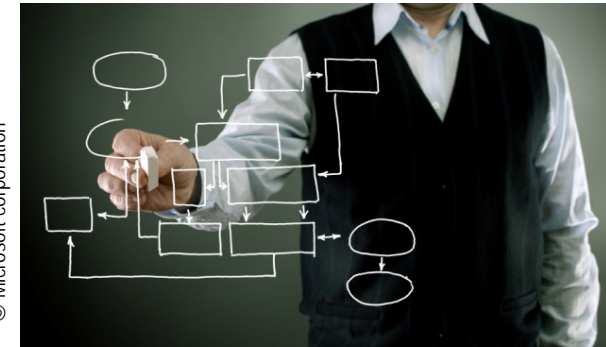
Physical Protection

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IT Security measures

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Organisational means

All protection needs to be implemented by guards, IT-administrators and managers

Technical:

- **Seamless accountability**
- **Data origin authentication**

Organisational:

- **Segregation of duties**
- **Four-eye-principle**

General:

- **Awareness**
- **International harmonization**
- **Interdisciplinary collaboration**

- **Showing off in social networks**
- **A fully networked, mobile society**
- **Data Protection more and more legally excavated**
- **The society becomes transparent**



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Privacy issues will get bigger, not smaller

“MI6 boss in Facebook entry row” (from the BBC web site July 5, 2000)

UK foreign secretary David Millband denied claims security had been compromised, saying: *“You know he wears a Speedo swimsuit. That’s not a state secret.”*

“Liverpool see red as Riise’s payslip hits internet”

(from the Sidney Morning Herald website November 1, 2007)

Data thieves: whistleblowers or criminals?

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1980: hacking for fun

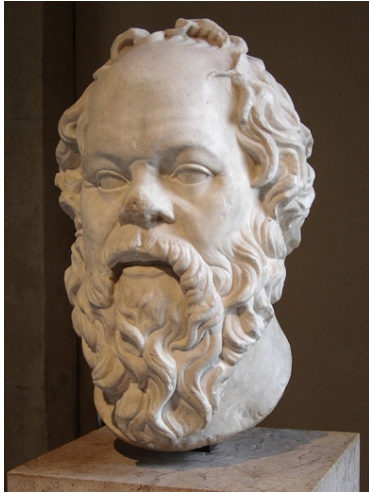
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2010: data theft for fame and money

Data theft has become a criminal business model!

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Socrates, 496 – 399 b.C.

***“I am not an Athenian or a Greek,
but a **citizen of the world.**”***

Source:

Plutarch, “On Banishment,” *Plutarch’s Morals*