



Future technologies, future implications, future data subjects – can we regulate their relationships *now*?

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If prediction is so difficult...

(especially if it's about the future)

How can we regulate something we don't know yet exactly?

Situations, relationships we can't fully foresee?

Subjects of regulation who/which do not exist yet?

► Instead:

Try to create an environment in which

“the future” can develop in a good direction, (or at least can avoid worst scenarios) by using regulation, together with other instruments, in order to influence the future

(not less ambitious aim)



What will be Good and Bad in the future?

Does regulation need to reflect values? (yes)

If yes, does privacy belong to these values? (yes)

If yes, is it a constant value? (no)

- ▶ The content and extent of privacy is constantly changing but there are fundamental values and fundamental rights behind – at least in democratic, rule-of-law Western societies



Can we expect global norms and values?

Science, technology, economy, social networks (perhaps behavioral patterns, too) are increasingly being globalized...

However,

World Law (like World Money, World Ethics, World Culture, World Police, World Court) is still an illusion;

- ▶ only some universal principles and their legal representations may be expected at the global level

(and would be rather undesirable)



Do we/will we have a common European set of values?

“The Union is founded on the indivisible, universal values of human dignity, freedom, equality and solidarity; it is based on the principles of democracy and the rule of law”

*(Charter of
Fundamental
Rights)*

- ▶ These fundamental values, as well as the principles distilled from these values form the cornerstones of European democracies



Will FETs change our values?

(see "the tyranny of convenience")

Our values are influenced by (and reflected in) technology

Our values can change, sometimes rapidly

But our fundamental values do *not* change

(or change only very slowly)

- ▶ and we *need* to regard them unalterable



“People are not interested in privacy anymore”

Can regulation be based on the opinion of the majority?

- ▶ Regulation should take people's opinion into consideration
- ▶ Sometimes minority has to be protected from the majority
- ▶ Sometimes society has to be protected from its members

*(are people interested
in their health?)*



Regulating the intersection of privacy and FETs

- ▶ Dignity
 - ↳ Privacy
 - ↳ Data protection
 - ↳ Sector- and technology-specific DP
 - ↳ the “code” (PETs)

- ▶ Freedom of scientific research
 - ↳ R&D
 - ↳ Application and use
 - ↳ application areas
 - ↳ the “code” (FETs)



The Code is the Law

(if Lessig is right)

Is it worth regulating "the code"?

In general **no** (we don't understand it, it is developing too fast)

In specific cases **yes** (if the coders would otherwise make things unchangeable)

But: we cannot regulate the use of FETs only on the basis of general principles, because there will be life situations specific to the use of that very technology

- ▶ Empirical study 2010: EU law does not even try to deal with FETs



Rights as metaphors

The right to be forgotten

“nothing new” – but now everybody is aware of it

- ▶ It will be difficult to implement
(cf. the Cloud, the Internet of Things etc.)
but it will be easy to understand



Network-based technologies (ambient intelligence, cloud computing, future internet...)

- ➔ *Extending the already existing and elaborated legal frameworks*
(such as the general rules and principles of data protection)
 - ▶ Extending the principle of purpose-limitation to FETs at a general level
 - ▶ Defining the scope and purpose of the use of such technologies (and avoid a situation where technology itself justifies the purpose)
 - ▶ Defining the responsibilities of data controllers/processors
 - ▶ Enhancing transparency
 - ▶ Enhancing the freely given and informed characteristics of consent



Artificial intelligence based technologies (artificial intelligence, cognitive systems, advanced robotics, affective computing...)

- ➔ *Alterations in several branches of law*
- ▶ Legal guarantees for human users to distinguish humans from machines or artificial intelligence
- ▶ Use of visual or other type markers in virtual situations
- ▶ Emergency shutdown systems
- ▶ The law should define the characteristics of advanced humanoid or animal-like robots and the ways users may treat them (irrespectively of whether such robots are regarded as entities in possession of rights)



Interface technologies (human-machine symbiosis, neuroelectronics, bioelectronics, virtual/augmented reality...)

- ➔ *Extended interpretation of fundamental rights*
- ▶ Dignity and personal integrity: protection from harmful interventions (in special cases from the individuals themselves, too)
- ▶ Equality: Human and human must not significantly differ from each other.
- ▶ The law has to regulate interdisciplinary fields (incl. computer science, cognitive science, neurosurgery and biomedical engineering etc.)



Some general suggestions

Legal regulation is but an ultimate instrument

If we use it:

- do not contain restrictions only
- concentrate on principles and functions
- provide solutions

- ▶ The time of intervention by legal regulation has special importance



Predictive learning models of regulation

▶ Hypothetical tests

Scenarios

“Ethical hacking”, misuse of regulation

Predictive assessment methodologies

Regular feedback

Regularly enhancing, developing (future) regulation

*(inviting virtual
safe-breakers)*



Sister instruments

- ▶ Self-regulation (in an anticipatory manner)

Policy instruments

e.g. EU programs and support

Education, formation

(incl. IT professionals)

EU excellence vs. rest of the world

Influencing the *values* of stakeholders

(an EU-based cloud network?)



Future regulators, future data subjects

Who will make regulation in the future?

Lawyers are using “robots” even today

Will once enhanced (human) lawyers write the rules?

Will once robots or avatars regulate virtual relationships?

Human relationships?

- ▶ Can avatars become data subjects? Can they have privacy?

Some of these questions may seem absurd and paradox today...

(Now we have some hope of making progress)

Thank you for your attention!

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