

Contexts are Political: Field Theory and Privacy

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Outline

- **Problem:** Two theoretical gaps in Contextual Integrity
 - TG.I: Cross context information flows
 - Implications for computer science applications
 - Implications for legal relevance of CI
 - TG.II: Social adaptation and the source(s) of normativity
 - Computer scientists use policy compliance, threat modeling, user expectations and behavior to source norms.
 - Adaptive systems need to address how norms form socially.
- **Solution:** (proposed, in progress) Fill gaps with *field theory*, from sociology
 - CI already draws on field theory.
 - Field theory ideas addresses adaptivity and relations *between* and *within* contexts:
 - Forms of capital: Bourdieu.
 - Isomorphism.: DiMaggio and Powell.
 - Field theory enables CI to express more political narratives about uses of personal data.

Theoretical Gap I: Cross-context information flows

A society has many social contexts.

A context C has:

- *Roles* (e.g. parent, child, doctor, teacher)
- *Information types* (e.g. SSN, health record, grades)
- *Information Norms*

A norm is defined with:

- *Sender* of information (Role)
- *Receiver* of information (Role)
- *Subject* of information (Role)
- *Attribute* (Information type)
- *Transmission principle*. (Confidentiality,

Application: How should we design information flows in technology, T?

- 1) Identify context of technology use
 $C = C(T)$
- 2) Design T to:
 - a) Identify inputs and outputs as user roles (C.Roles)
 - b) Identify data types upon input or during operation (C.Types)
 - c) Use Access-Control Lists and other PETs to ensure compliance with norms C.Norms.

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Application: How should we design information flows in technology, T?

1) Identify context of technology use:

$$C_1, C_2, C_3 \dots = C(T)$$

2) Design T to:

- a) Identify inputs and outputs as user roles (C_x .Roles)
- b) Identify data types upon input or during operation (C_x .Types)
- c) Use Access-Control Lists and other PETs to ensure compliance with norms C_x .Norms

Is information flow from C_1 .Role₁ to C_2 .Role₁ permitted? CI has no answer.

Theoretical Gap I: Cross-context information flows

- The practical reality is that there is now pervasive “smart” technology that is used in multiple social contexts. *From ICT’s to Information and Communication Infrastructure (ICI).**
- *Context collapse*** is widely acknowledged source of inappropriate information flow.
- CI has never had an answer to this case, and filling this gap would be a boon to computer science applications.***

* Hildebrandt, 2015.

** Marwick and Boyd, 2011; Vitak, 2012; Davis and Jurgenson, 2013.

*** Benthall, Gürses, and Nissenbaum, 2017.

Theoretical Gap I: Cross-context information flows

- This is not just a problem for computer scientists. It matters to lawyers, too.
- *Interlocutor: ICI has raised ethical, moral, and legal problems not sufficiently addressed by Contextual Integrity.*
- *Interlocutor: Globally enforced and legislatively inspiring European Union style omnibus data protection laws do address these concerns.**
- They have a different theoretical basis. This is an *intellectual challenge* to the relevance of CI to today's debates about personal information law.

TG.I: Contextual Integrity ...

- Privacy is *appropriate information flow*
- Appropriateness is alignment with social norms grounded in social context.
- These contexts and norms are the result of social adaptation, balancing:
 - Individual ends (savings, treatment)
 - Contextual purposes (public health)
 - Societal values (freedom)
- Implementing privacy means identifying and complying with contextual (sectoral) norms in situated technical application.

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(Nissenbaum, *Privacy in Context*, 2009)

- Data protection is a fundamental human right, related to the right to autonomy.
 - Freedom from unlawful interference
 - Obligations for data providers
- Information and Communication Infrastructure (ICI) extends throughout society as a whole. (Not sectoral)
- Implementing data protection means complying with *purpose binding obligations* while operating ICI.

(Hildebrandt, *Smart Technologies and the End(s) of Law*, 2015)

TG.II: Adaptation and Normativity

CI is specific about where norms come from: *social adaptation within differentiated spheres of society.*

Few CS papers used this as a source of normativity. Instead, they used others.*

- **Compliance and Policy.** Goal of the system is to comply with existing laws and policies.
- **Threats.** System is designed with a Threat Model, typical of security research.
- **User preferences and expectations.** Individual user preferences and expectations solicited.
- **Engagement.** Users interact with system to determine norms dynamically

* Benthall, Gürses, and Nissenbaum, 2017.

TG.II: Adaptation and Normativity

Where do norms come from?

CI currently provides an answer distilled from social and political theory.

But computer scientists do not know how to operationalize social adaptation as a source of normativity. CI needs more detail here.*

As CI technology becomes more *responsive to social adaptation*** , it's not sufficient to treat norms statically. They must be machine-learnt.

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* Benthall, Gürses, and Nissenbaum, 2017. ** e.g. Criado and Such, 2015.

Contextual Integrity and Field Theory

Contextual Integrity's idea of *context* is drawn from many sources, including:

- Walzer, *Spheres of Justice*. Political theory. Social goods form in distinct social spheres (family, workplace, schools, etc.).
- Schatzki, “Practice Mind-ed Orders”. Continental philosophy. Social order is practices arranged in “teleoaffective” structure.
- Field theory. Various. Sociology. Society is organized into political fields, shaped by external forces and motivations of those within, characterized by social roles.
 - Bourdieu, 1984. DiMaggio and Powell, 1983. Martin, 2003.

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Contextual Integrity and Field Theory

Field theory can fill theoretical gaps in CI by addressing:

- I. How do contexts relate to each other?
- II. Why and how do contexts change internally?

We draw on:

- Bourdieu (I)
- DiMaggio and Powell (II)

for insight into these questions.

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Field Theory: Bourdieu

What is Field Theory?

Pierre Bourdieu : reproduction of social action and power in society.

One's relations to social others matters.

Privacy

Field Theory (I)

Social interactions takes place within “Fields.”

Power relations between and within fields structure human behavior.

To exist socially is to exist relationally.

Actors or agents act within a field based on the assessment of the behavior of other agents in the field.

Bourdieu's Definition (II)

“A field is a field of forces within which the agents occupy positions that statistically determine the positions they will take with respect to the field, these position takings being aimed either at the structure of relations of forces that is constituent of the field.”

Filling in the Gaps (III)

Sociologists Paul DiMaggio and Walter Powell have talked about “organizational fields” and **INSTITUTIONAL ISOMORPHISM** that takes place among organizations within a field.

Field Theory: Implications???

Hegemonic Norms of Privacy determined by early/first adopters so that norms become fixed and hard to change.

Next Steps

- Further review and summarize contributions from Field Theory
- Assess compatibility with CI social theory
 - What about power dynamics within a context?
 - If group/role A has power over group/role B, and norms of the context favor group A, that may be stable but not “normative’ in the thick sense.
 - What about power dynamics between social goods/contextual interests/forms of capital over ICI?
 - If business interests surrounding economic capital (“Big Tech”) can capture ICI, does this erode the relative ability of other spheres (e.g., health, family, education) to maintain themselves as social structures?
- Operationalize theory into implications for “smart” infrastructure design.
 - May require social/organizational/political/legal, in addition to ‘computer science’, solutions.

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