

Taking conviviality seriously

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About me

- ▶ Background in formal methods for real-time systems
- ▶ Redirecting my research since 2018 towards the complex relationship between ICT and the Anthropocene
- ▶ Co-creator with *Éric Tannier* of the SEnS workshops
<https://sens-gra.gitlabpages.inria.fr/atelier-impacts-recherche/>
- ▶ Co-organizer with *Clément Marquet* of the CIS-PEN seminar
<https://cis.cnrs.fr/politiques-environnementales-du-numerique/>

Outline

What is conviviality?

The nonconviviality of today's digital technologies

Designing digital systems for conviviality

Conclusion

Conviviality: What is this about?

Tools for conviviality, by Ivan Illich, 1973.

“The hypothesis was that machines can replace slaves. The evidence shows that, used for this purpose, machines enslave men.”

“Only within limits can machines take the place of slaves.”

“[People] need technology to make the most of the energy and imagination each has, rather than more well-programmed energy slaves.”

Conviviality: Who cares?

- ▶ *“As we see it, conviviality will lead to fairer tools”* in *A bare minimal computer for everyone* by Lucas Chaloyard, Florent de Dinechin, Marie-Pierre Escudié, Lionel Morel, UCS'24.
- ▶ *“We investigate a way to build a convivial plant identification tool”* in *Back to the trees: Identifying plants with Human Intelligence* by Simon Castellan, Jos Käfer and Éric Tannier, LIMITS'23.
- ▶ *Changer de métrique: vers un traitement du signal convivial?* by Romain Couillet, GRETSI'22.
- ▶ Marc Chantreux (convivialisme et informatique post-personnelle), Aurélien Tabard (convivial informatics)...

What is a convivial society?

A **convivial society** is one which would:

- ▶ support *“the autonomous and creative intercourse among persons, and the intercourse of persons with their environment”*
- ▶ *“guarantee for each member the most ample and free access to the tools of the community and limit this freedom only in favour of another member’s equal freedom”*
- ▶ *“allow all its members the most autonomous action by means of tools least controlled by others”*

What is a convivial tool?

“Tools foster conviviality to the extent to which they can be easily used, by anybody, as often or as seldom as desired, for the accomplishment of a purpose chosen by the user.”

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Threats to conviviality

- ▶ **Biological degradation:** *“The precarious balance between man and the biosphere has been recognized and has suddenly begun to worry many people.”*
- ▶ **Radical monopoly:** *“When people give up their native ability to do what they can do for themselves and for each other, in exchange for something 'better' that can be done for them only by a major tool.”*
- ▶ **Overprogramming:** *“The overprogramming of man for the new environment deadens his creative imagination.”*
- ▶ **Polarization:** *“Under the pressure of an expanding mega-machine, power is concentrated in a few hands.”*
- ▶ **Obsolescence:** *“Enforced obsolescence threatens the right to tradition.”*

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State of the art

How to take values into account in system design?

Sustainability design, socially response design, ... ¹

Value sensitive design : shaping technology with moral imagination
by Batya Friedman and David Hendry, 2019.

- ▶ Take values explicitly into account during design
- ▶ Involve all actors and stakeholders
- ▶ Three steps: conceptual, empirical and technical investigation

¹For an overview ask Ludmila Courtillat-Piazza's report on the topic.

Back to conviviality

Limits of the VSD approach:

- ▶ Lack of an overarching ethical framework
- ▶ Insufficient critical stance on technology

Design for conviviality:

- ▶ A convivial society as a horizon
- ▶ The five threats to conviviality as an analysis framework

A framework for the integration of the conviviality concept in the design process by Iban Lizarralde and Benjamin Tyl, 2018.

A research agenda

- ▶ An Illichean analysis of current ICT
- ▶ What could convivial ICT look like?
- ▶ What could a convivial society look like?
- ▶ Question the conviviality concept, in particular regarding:
 - principles and connection to ongoing political debates, e.g. around degrowth and postgrowth
 - complexity and scale: how is the telephone system from the 1970's a convivial tool?
- ▶ Designing convivial digital infrastructures as commons

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- ▶ Illich's ideas around convivial tools seem nowadays to resonate well within the computer science and engineering community.
- ▶ Is it really the case? And why? Because the nonconvivial nature of the tools we built is so obvious?
- ▶ A useful starting point for discussion and collaboration between computing and science and technology scholars?

A few additional references

Do artifacts have politics?, by Langdon Winner (1986).

Introduction à la pensée complexe, by Edgar Morin (1990).

Of the various forms of technical democracy, by Michel Callon (1998).

The value of values in climate science, by Karoliina Pulkkinen, Sabine Undorf, Frida Bender, Per Wikman-Svahn, et al (2022).

Do artifacts have politics?

The things we call “technologies” are ways of building order in our world. Many technical devices and systems important in everyday life contain possibilities for many different ways of ordering human activity. [...] Technological innovations are similar to legislative acts or political foundings that establish a framework for public order that will endure over many generations. For that reason the same careful attention one would give to the rules, roles, and relationships of politics must also be given to such things as the building of highways, the creation of television networks, and the tailoring of seemingly insignificant features on new machines. The issues that divide or unite people in society are settled not only in the institutions and practices of politics proper, but also, and less obviously, in tangible arrangements of steel and concrete, wires and semiconductors, nuts and bolts.

Merci !