Designing for Quality of Life





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What is our QoL?

QoL is now about the **globe's life**, not individual life –
 see these recent publications:



- Economic inequality (<u>Ekbia & Nardi, 2017</u>) need for democratic economy & just global world order
- Climate change (<u>Latour</u>, <u>2017</u>) need for ecological sustainability
- Fake news (Trump, 2017) need for knowledgebuilding communities (<u>Bereiter & Scardamalia, 2018</u>) and deliberative reasoning (<u>Schwarz & Baker, 2017</u>)

Consequences of: technology design &/or of capitalism?

- Automation leads to unemployment for many & unimaginable wealth for a couple of CEOs
- Climate change is a consequence of industrialization
- Fake news is the new communication by social media
- Automation is driven by the attempt to minimize labor time in production
- Climate change is an external cost of capitalist production and consumption
- Fake news is a phenomenon of fetishism of commodities and the ideology of individualism (including destruction of global world order)

Beyond CSCL's affordances

- Cindy's impressive cataloging
 of affordances researched by CSCL to date!
- ΒυΤ: How to respond to major issues of our world, which determine our QoL?
- BUT: Vision of CSCL for the world of the future?
- BUT: Philosophical response to Pelle Ehn's call for decentering and thinging?
- BUT: Methods to analyze impact of the CSCL tools Cindy & Heisawn compiled, for our QoL?

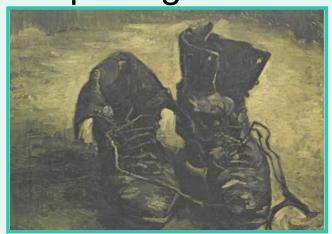
CSCL for Group Cognition

- Knowledge Forum writing and inscriptions as building knowledge collaboratively – support for collaborative knowledge building (<u>Bereiter & Scardamalia, 2018</u>)
- Argunaut & Digalo support for deliberative discourse in various historical cultures through argumentation (<u>Schwarz & Baker, 2017</u>)
- Virtual Math Teams (VMT) support for collaborative dynamic geometry as contemporary form of classic reasoning about dependencies in world (<u>Stahl</u>, <u>2017</u>)

A diversity of theory & methods

- Decentering away from individual unit of analysis
 Latour actor network theory look at temporal sequences of words, gestures, configurations of visible artifacts, group practices, active roles of artifacts, inscriptions, immutable mobiles, practices, knowledge artifacts
- Not just mental representations, but new causality and agency thru group interaction, group practices. Technological artifacts as "ANT agents", as "used instruments", as "thinging things"

 Analyzing how things act as agents – not affordances as Aristotelian attributes, but as opening worlds of activity





- Thing-ing in VMT, KF, Argunat: Discourse has life of its own. Structuring into perspectives, forums, arguments, drawings creates meaning. Dynamic-geometry app provides feedback about design of mathematical constructions, entering into dialog with learners and introducing knowledge from before Euclid

Design-Based Research

- Not design by designer intentions or models of learner psychology, but by how agents actually take up designed world in DBR
- Each kind of actor can be analyzed by some methodology: establishment of tacit group practices through explicit negotiation, conversation analysis, sequential analysis, animations of drawings, ANT....
- Conversation Analysis of discourse and gesture as artifacts/agents.
 Interactions among semantics or affordances etc.. Reception or take up.
 Open-ended and ambiguous meaning-making processes
- Group practices as tacit behaviors at group unit of analysis
- Instrumental genesis (<u>Rabardel & Beguin, 2005</u>;
 <u>Rabardel & Bourmaud, 2003</u>)
- The thing-ing of socio-material assemblies that evolve over time.
- User dialogs with "the materials of the design situation" (Schön, 1992)
- In CSCL, shared group practices for using new artifacts and meanings mediate between individual and social units of analysis or the construction of social order thru structuration (<u>Giddens, 1984</u>). See Essays in Philosophy of Group Cognition (<u>Stahl, 2015</u>).

CSCL to understand our world

- Knowledge Forum involves and models deep collaborative knowledge building
- Argumentation software structures democratic communicative competence (Dewey, Habermas)
- List of 60+ group practices of collaboration & math thinking & dependencies in the world – adopted in VMT (<u>Stahl, 2016</u>)
- CSCL collaborative learning may help prepare groups for surviving in a world of global economic interdependencies, climatic ecologies and obfuscatory fake news

Conclusions

- Our QoL is subject to global forces and crises. Traditional philosophy, technology and design do not escape these forces, but are part of them. To improve our QoL, CSCL must help us understand our world in networked groups by supporting critical, insightful "group cognition" (Stahl, 2006) and shared understanding of complex global issues.
- CSCL needs a 21st century theoretical framework, incorporating Heidegger's ontology of thing-ing, Latour's actor-network theory, group-cognition....
- This involves more than simply selecting from existing CSCL technological affordances exploring ways to support group cognition using many forms of fine-grained analysis of real-world instrumental genesis, including tracking the adoption of valuable group practices during design-based CSCL research (Stahl, 2013).

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Support for Learning & Life: **Discussant**



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