"A Theoretical Framework for Multi-vocal Analysis"
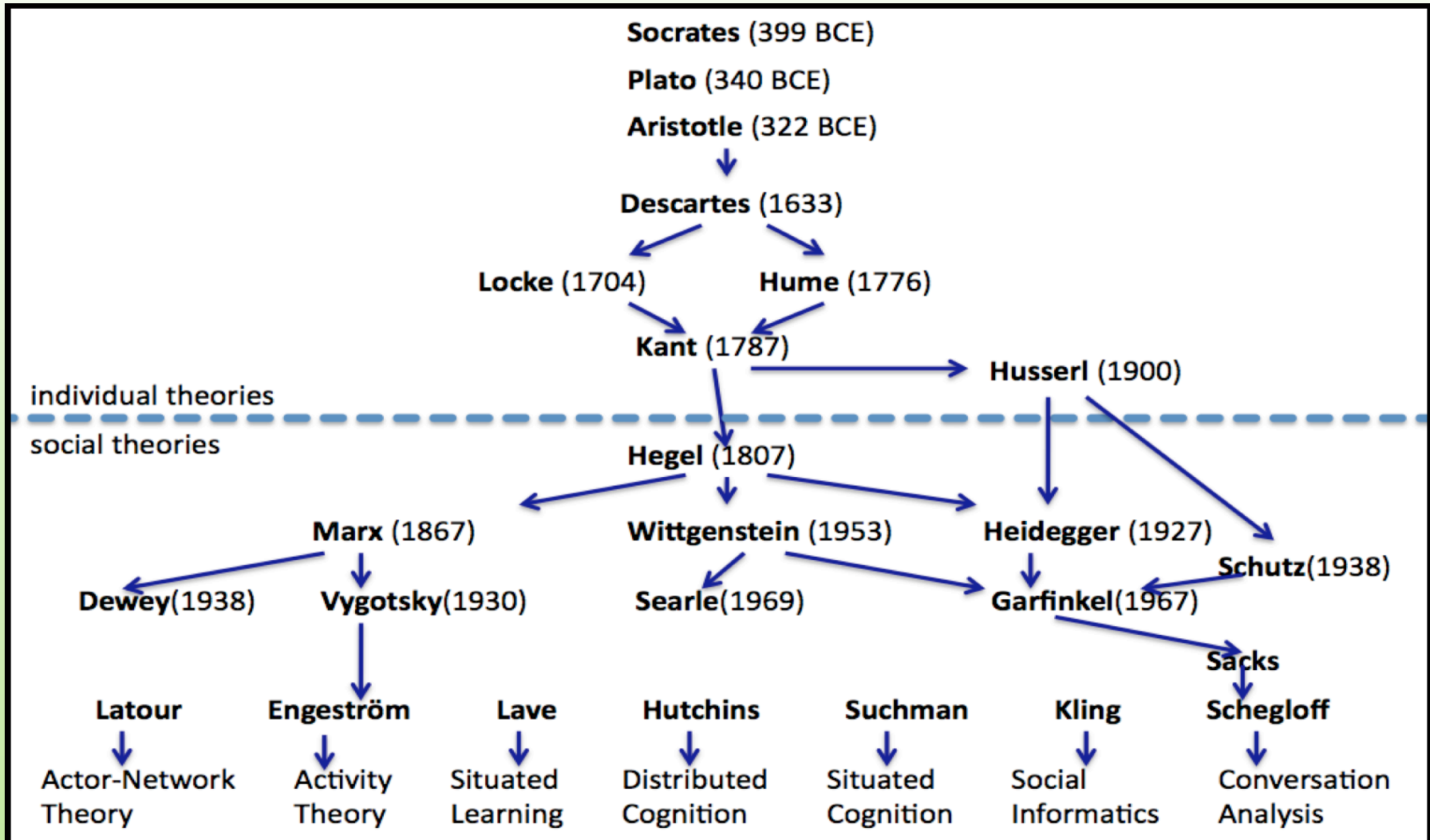
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Overview

1. Philosophy: Expanding the unit of analysis

2. Preconditions and conditions for collaborative learning

3. Levels of analysis

4. Dimensions of analysis

5. It takes a multi-vocal village

1. Philosophy: Expanding the Unit of Analysis

Socrates (399 BCE)

Plato (340 BCE)

Aristotle (322 BCE)

Descartes (1633)

Locke (1704)   **Hume** (1776)

Kant (1787)   **Husserl** (1900)

individual theories
- -
social theories

Hegel (1807)

Marx (1867)   **Wittgenstein** (1953)   **Heidegger** (1927)

Schutz (1938)

Dewey (1938)   **Vygotsky** (1930)   **Searle** (1969)   **Garfinkel** (1967)

Sacks

Latour   **Engeström**   **Lave**   **Hutchins**   **Suchman**   **Kling**   **Schegloff**

Actor-Network Theory   Activity Theory   Situated Learning   Distributed Cognition   Situated Cognition   Social Informatics   Conversation Analysis

2. Preconditions and Conditions for Computer-Supported Collaborative Learning

1. **Intersubjectivity: How do people understand the same thing?**
2. **Joint problem space: Building a shared world with dimensions of places, times, social relations, semantics, artifacts, members.**
3. **Group cognition: How do small groups use these shared resources to build knowledge?**
4. **Discourse: Proposals, questions, requests, repairs, deixis, symbolic representations.**
5. **Collaborative learning: How do individuals learn by internalizing group cognition?**

3. Levels of Analysis

1. **Intersubjectivity**: **Community level (sociology, ethnography)**

2. **Joint problem space**: **Activity theory and actor-network theory level**

3. **Group cognition**: **Small-group level**

4. **Discourse**: **Conversation analysis and discourse analysis**

5. **Collaborative learning**: **Individual level (psychology, social psychology)**

A Theoretical Divide

- Simplistically referred to as "quantitative" vs. "qualitative" approaches to research.
- "Objective paradigm" vs. "meaningful paradigm."
- "Purposive-rational action" (our primary way of interacting with nature, controlling it to meet our needs according to Habermas) vs. "communicative action" (interaction, understanding, negotiation and intersubjectivity).
- In CSCL settings, students blend strategic goal-oriented work on assigned tasks with peer social interaction.
- Traditional (objective) focus on individual mind vs. (meaningful) post-cognitive theories of distributed and situated cognition – incommensurate but both necessary.

4. Dimensions of analysis

- **Actions and processes of individuals, small groups, classrooms, communities-of-practice or whole cultures.**

- **Temporal dimension: brief exchanges or episodes of interaction to longitudinal studies.**

- **Different learning issues, learner characteristics, disciplines of learning, pedagogical approaches, different facilitating technologies.**

- **....**

Multi-vocal methods -- 1

- Growing recognition of the power and even necessity of incorporating multiple approaches in exploring the design of educational applications.

- Approach should be selected based upon the nature of ones research interests, questions, hypotheses and data.

- A sequence of phases with different approaches likely to be most productive in different phases.

- Complementarity of objective and meaningful analyses. Many researchers who started with one of these approaches realized as they articulated their findings that they needed evidence that could only come through the other approach.

Multi-vocal methods -- 2

- **Power of collaboration across research labs, including globally. By pooling researchers from different traditions, collaborative research efforts access more theoretical viewpoints, methodological approaches, educational technologies and rich data sources.**

- **The research questions that CSCL faces are complex and involve different aspects and components, which may be best analyzed by different methods.**

- **An investigation of meaning making in groups may benefit from an objective analysis of individual behaviors and vice versa—without denying the theoretical differences among the approaches.**

5. It Takes a Multi-Vocal Village

Lesson 1: Learn collaboratively in multi-disciplinary labs

Lesson 2: Study different approaches to CSCL issues

Lesson 3: Conduct design-based research

Lesson 4: Engage in socio-technical design

Lesson 5: Leverage technological advances

Lesson 6: It takes a global village

For Further Information:

- *"Group Cognition"* (2006, MIT Press)

- *"Studying Virtual Math Teams"* (2009, Springer)

  *** now in paperback ***

- **This paper: GerryStahl.net/pub/cscl2011workshop.pdf**

- **These slides: GerryStahl.net/pub/cscl2011workshop.ppt.pdf**

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