

# Reflexive Collective Intelligence

in the Algorithmic Medium

Colorado College

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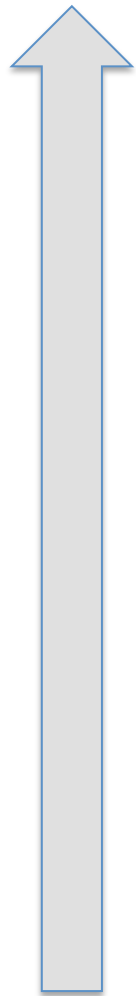
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# Media Evolution



## Algorithmic

Ubiquity of data and processors, general interconnection of people and content. Automates manipulation.

## Typographic

Mass media. Automates reproduction and diffusion.

## Literate

Lighter symbols: alphabets, ideographies, paper. Augments manipulation

## Scribal

Lasting symbols. Augments memory.

## Oral

Transient symbols, supports thought and symbolic knowledge

# Cultural Evolution

## **Algorithmic episteme**

Info. econ., reflexive CI, scientific humanities

Algorithmic medium – ubiquity of data and processors – automates manipulation

## **Typographic episteme**

Nation-states, industry, global market, natural sciences

Typographic medium – mass media – automates reproduction and diffusion

## **Literate episteme**

Empires, universal religions, commerce, money, philosophy

Literate medium – lighter symbols (code or support) – augments manipulation

## **Scribal epistémè**

Palace-temples, agriculture, hermeneutics, systematic knowledge

Scribal medium – lasting symbols – augments memory

## **Oral epistémè**

Tribes, chamanism, hunting-gathering, narratives, rituals

Oral medium – transient symbols - supports thought and symbolic knowledge

# Algorithmic Evolution

## **Semantic Sphere**

Reflexive collective intelligence

Universal address for concepts

## **World Wide Web**

Global hypermedia public sphere

Universal address for data

## **Internet**

Networks of computers

Universal address for operators

## **Automatic computers**

Electronic circuits

Local address for data and operators

# Reflexive Collective Intelligence

- **Ecosystems of ideas** emerging from collective data curation in a new generation of social media
- Displayed around each people, community, thing, place, work of the mind...
- Interaction through holograms in VR or AR, by Google glasses or tablet
- Embedded powerful tools for selection, exploration, analysis, synthesis, semantic distances measurement
- Symbiosis communities / ecosystems of ideas
- Symbiosis individual / collective learning

# Algorithmic Intelligence Today

Collaborative data curation

Open science

Digital humanities

Data-driven journalism

Personal and social knowledge management

Collaborative learning in networks

Crowdsourcing

Data-centric institutions

Quantified selves, e-portfolios

Conflict intelligence: economic, political, military

# The Humanistic Art of Collaborative Data Curation

Sustain all disciplines, specialties and communities

## **Personal Intelligence**

Attention management

Data maintenance

Knowledge creation (personal)

## **Critique of the Sources**

Multiplicity

Deconstruction

Transparency

## **Collective Intelligence**

Stigmergy

Freedom

Knowledge creation (collective)

# Collective Intelligence Knowledge Creation

Tacit Knowledge

THREE  
MOVEMENTS

## 1) Centripetal

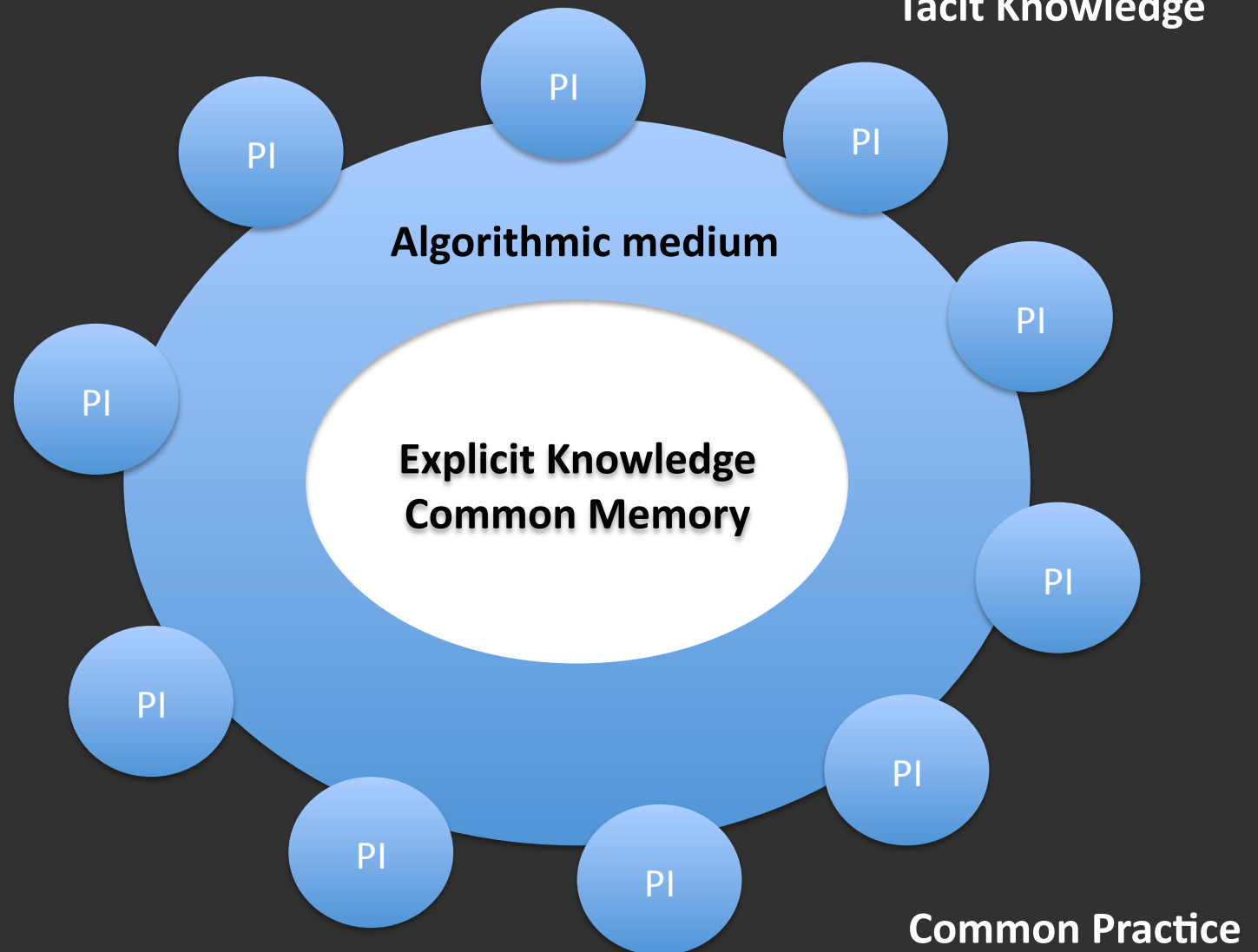
Transforms  
tacit into  
explicit

## 2) Centrifugal

Transform  
explicit  
into tacit

## 3) Circular

Enhance PI  
implied in  
collective KC



Common Practice



# COLLECTIVE INTELLIGENCE

## INTERDEPENDENCE

	Networks of SIGNS	Networks of BEINGS	Networks of THINGS
VIRTUAL Human development	<p style="text-align: center;"><b>Knowledge</b></p> <p>S Sciences B Arts T Wisdoms</p>	<p style="text-align: center;"><b>Ethics</b></p> <p>S Governance B Values T Rights/obligations</p>	<p style="text-align: center;"><b>Empowerment</b></p> <p>S Competences B Resolve T Finance</p>
ACTUAL Human development	<p style="text-align: center;"><b>Messages</b></p> <p>S Content B Communication T Media</p>	<p style="text-align: center;"><b>People</b></p> <p>S Social roles B Trust T Social networks</p>	<p style="text-align: center;"><b>Equipments</b></p> <p>S Technology B Health T Bio-phys. environ<sup>t</sup></p>