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On the Legitimacy of Knowledge Infrastructures

Thought piece for UCLA Knowledge Infrastructures 2020
 Anne L. Washington, NYU
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An underlying threat to all contemporary knowledge infrastructures is legitimacy. The move from the analog to digital has unleashed debates over whose knowledge is superior or when knowledge is real.

Scholars will need to work closely with those building artificial intelligence, data technologies, digital government, and evidence-based policy to understand how they construct trusted knowledge infrastructures (KI). There are many open questions about how KIs are created, documented, validated, and spread within and between organizations. Libraries were not just architectural buildings but they represented geographies, shared knowledge, business practices, and financial agreements. We need scholars able to see beyond the architecture of technology to understand today's digital equivalents of trusted libraries.

The first wave of digital knowledge infrastructures replicated non-digital approaches. Just as the Gutenberg Bible replicated the careful calligraphic script of illuminated manuscripts, new technology often begins by using new methods to meet expected norms. The Library of Congress, for instance, closed the card catalog in 1980 in favor of producing a digital equivalent more efficiently.

The second wave of technology-driven knowledge infrastructures destabilized canonical approaches. Instead of one lone card catalog of knowledge, technology made multiple arrangements and access points possible. Daily blogs shifted citation methods that assumed one work per author per year. Voices silenced in the past are now heard through web publishing, open data, open source, crowd sourcing, and other infrastructures. Technology provided the ability to make many epistemologies visible and viable.

Today is a third wave situated as a battle over the legitimacy of knowledge infrastructures. Instead of having multiple ways of knowing flourish, we are in a shouting match over which path is "right". The legitimacy of knowledge infrastructures is often established through the lens of idealized deductive science. The debate reduces to which competing knowledge infrastructure is the most scientific using alternative evidence, data, or facts. Artificial intelligence and data technology that masks its internal knowledge infrastructures simply heightens these debates.

Potential research questions could investigate:

- How do knowledge infrastructures establish legitimacy?
- Why is legitimacy questioned in some knowledge infrastructures?
- Who is a knowledge authority within collective or community expertise?
- How do people make digital knowledge infrastructures tangible?
- How are new scientists / researchers / students trained in knowledge infrastructures?
- What is the meaningful difference between knowledge producers and knowledge consumers?

Perhaps in an ideal next wave, inductive and humanistic approaches will be equally embraced as deductive science in understanding KIs. Could we imagine renaissance data scientists who are polymaths in philosophy and statistics? Will a degree in data science include training in data poetics?

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