

UCLA

Publications

Title

Thought Piece for 2020 Knowledge Infrastructure Workshop

Permalink

<https://escholarship.org/uc/item/2570w9wk>

Author

Poirier, Lindsay

Publication Date

2020-02-26

Copyright Information

This work is made available under the terms of a Creative Commons Attribution-NonCommercial License, available at <https://creativecommons.org/licenses/by-nc/4.0/>

In February 2019, a hackathon was held in Alexandria, VA, bringing together researchers, data scientists, and data infrastructure experts to engage in discussion on how to make data outputs FAIR – that is, Findable, Accessible, Interoperable, and Reusable. To kick off the day, participants were instructed to take turns standing, introducing themselves, and discussing what brought them to the workshop. When my turn came, I rose and expressed that I was an anthropologist studying the culture of data infrastructure design work and how diverse domain communities think through the challenges of structuring data for interoperability. At the end of the activity, an organizer expressed enthusiasm over the diversity of perspectives represented in the room. In particular, he noted his excitement to have a cultural anthropologist in attendance, conveying that there was a “culture problem” within the research communities seeking to advance data access and reuse – a problem that was more complex than the technical barriers to data sharing and that perhaps a cultural anthropologist could help to address. The “culture problem” was reiterated throughout the day – particularly when discussing how best to represent data completely and consistently when diverse communities create their own metadata standards according to their own diverse values. “I think we are all speaking multiple dialects of the same language,” one participant stated. The comment was met with calls for designing “translation tools” that could map sameness and difference between meanings in multiple dialects.

I have heard rhetoric of the culture problem expressed often in data infrastructure workshops, conferences, and plenaries, and each time it makes me uneasy. In one sense, as an anthropologist trained in Science Technology Studies, it is intriguing to see the diverse cultures of research discussed so fervently within scientific communities. However, echoing cultural anthropology’s long and troubled history of being invoked in efforts to “fix” culture “problems,” the discourse suggests that progress in techno-science and knowledge production is dependent on ironing out cultural differences and getting everyone to speak (at least some dialect of) the same language. In suggesting that translation tools can bridge dialects, the culture problem gets characterized as one of polysemy – of different domain communities using different words to refer to the same stable and timeless entity, beyond culture. Yet, as Derrida argues, these excesses of meaning emerge within a logocentric semantic horizon. Assumptions that it is possible to disentangle and map multiple meanings to produce global translation tools “forget that [this] horizon is framed” in a *present* time, place, body, and culture.¹ Such attempts to design “global” translation tools are at best superficial because framed semantic horizons are not only marked by presence but also by absence. Meanings encoded within KIs can never be exhaustive, and it’s the always already present absences² that are, to me, of greatest concern in the design of KIs. With this in mind, I pose the following sets of research questions as most urgent in KI:

1. Who speaks in the design of KI, and who is spoken for?
2. How does the degree of restrictiveness/flexibility in KIs frame knowledge flows – both enabling certain knowledge to flow, and at the same time, prohibiting other knowledge from flowing?

¹ Derrida, J. (1983). *Dissemination* (1st edition; B. Johnson, Trans.). Chicago: University of Chicago Press. pg. 351

² Derrida refers to this as hauntologies, or “spectres of meaning.” Derrida, J. (1994). *Specters of Marx: The state of the debt, the work of mourning, and the New international*. New York: Routledge.

3. How do we advance equitable knowledge production when relying on KIs that are always already incomplete?

When it comes to KI design communities – particularly those working to design meta-KI (or the infrastructure to bridge local KIs) – the absences are notable. A brief vignette illustrates what’s at stake.

The 12th Research Data Alliance (RDA) meeting in Gaborone, Botswana, brought together researchers and data experts to address the “socio-technical” barriers to data sharing. It was intentionally held in a developing nation to increase representation from underrepresented communities in the design and maintenance of KI. On the second day of the plenary, I attended a working session aiming to design a “domain-agnostic” framework for cross-disciplinary data interoperability. The group’s strategy for doing so involved collecting use cases from pairs of disciplinary communities seeking to share data and then to map out the metadata and data models that would be needed for doing so. The assumption was that, in using a bottom-up approach to collect use cases from multiple discipline pairs, the cross-disciplinary commonalities for data description and modeling would naturally reveal themselves. The group described that their aim was to serve as a single authoritative voice for representing disciplines in the RDA. Standing in stark contrast to the focus on eliciting diverse representation, the room was an enclave of predominantly European or American STEM researchers.

The session, for me, reflected a growing trend in meta-KI design communities. To address the “culture problem” such designers increasingly seek to incorporate diverse voices through use cases and knowledge acquisition procedures. However, in attempting to sort out the polysemy across these communities, they forget how their own semantic horizon is framed. The community of designers that have the ultimate say in determining what will be considered “agnostic” is indeed quite small and homogenous. Meanwhile, the diverse communities surveyed by designers rarely get a seat at the table when it comes to *planning* interoperability frameworks, designing use cases, and defining what constitutes sameness and difference across communities.³

With this in mind, I’d like to close with a provocation to study KIs post-colonially. The contemporary challenges we face today clearly demand more collaborative, interdisciplinary research and better communication across diverse research cultures. The concerns raised here do not suggest that it is not an admirable goal to design KIs for data interoperability. They do suggest that, at every layer of abstraction in KI design, more attention is needed towards the perpetual incompleteness of meanings encoded in KI, the communities that have a voice in framing meaning, and the flexibility of KIs to iterate as absent meanings become more discernible. Rather than suggesting that KIs can be turned into global translation tools – ignorant of the horizons and agnostic to the cultures framing them – they can more appropriately (and ethically) be characterized as “catachrestic,” imposing signification on

³ See also: Ribes, D., Hoffman, A. S., Slota, S. C., & Bowker, G. C. (2019). The logic of domains. *Social Studies of Science*, 49(3), 281–309. <https://doi.org/10.1177/0306312719849709>

meanings that are never fully present, stable, or closed.⁴ Positioning KIs as catachrestic infrastructures might displace the “culture problem,” away from diverse research communities designing and applying standards according to diverse values, and onto the design communities that superficially assume that they can sort out these differences from a cultureless place.⁵

⁴ See: Poirier, L. (2019). Classification as Catachresis: Double Binds of Representing Difference with Semiotic Infrastructure. *Canadian Journal of Communication*, 44(3). <https://doi.org/10.22230/cjc.2019v44n3a3455>; Spivak, G. C. (1993). *Outside in the Teaching Machine*. Psychology Press.

⁵ This is akin to what Sharon Traweek describes as a “culture of no culture.” Traweek, S. (1992). *Beamtimes and Lifetimes: The World of High Energy Physicists*. Cambridge, Mass.: Harvard University Press.