Infra/Structuring Availability, or: Interpretivist Positivist Perversion Mike Fortun Department of Anthropology, University of California-Irvine NSF Workshop, March 19-20, 2020

After first speaking with Dena and Rob by phone back in November about what they wanted this short essay to address, I felt like the dog in the famous (*ok, boomer...*) Gary Larson cartoon—



--because what I heard them say to me, although you would not know it from the fragmented notes I typed while we spoke, was:

Dena and Rob: blah blah blah perverse blah blah blah perversity blah blah blah...ok? Mike: Ok!1

Which I begin with for two reasons: 1) it's a microillustration of how "qualitative data" – a.k.a. meanings—are a product of selection, through which signal is coaxed from noise in a lively encounter, and how "qualitative analysis" and its communication—a.k.a. truth telling—are formed through the complex, limited, and simultaneously idiosyncratic and historically, culturally sedimented dynamics of attention and interpretive analysis; and 2) although perversion is not normally [sic] part of my analytic vocabulary or research agenda, its pointed introjection into my near-canine brain started me on a surprising path thinking toward what became the unplanned upshot of this essay: that positivism and interpretivism, the framing terms of their workshop summary paper, are related not as opposing terms; not as alternative forms of analysis, separate but (more or less) equal; and not as complementary, promising some romantic and/or organic synthesis of STEM and HASS (i.e. *The Heart of the Matter**)—but in a relationship of perversion.

¹ Mike Fortun. 2019. Notes from telephone conversation with Dena Plemmons and Robert Albro, October 18, 2019, with additional notes added October 2019-February 2020. Available at https://worldpece.org/content/notes-nsf-workshop-2020. Although Dena and Rob were indeed a bit hazy non-directive on what they were asking panelists to produce for this session, blah blah should be read only as my hyperbolic metonym for a long and friendly conversation that laid out their gentle suggestions, thoughtful queries, inviting prompts, and open-ended guidance. It's interesting: if you check my notes, you will see that I did not type the words perversion or perverse; you'll have to take my word, given here, that they were in fact uttered and it was not me doing the uttering. I take full responsibility for all the subsequent misfires of my dogged efforts to respond faithfully to their charges.

In other words: I did not pre-register that I was going to be writing about data availability in terms of perversion, but now that I am, I understand how it makes sense and hope to convey that to you. What might we understand about the availability, analysis, and sharing of (qualitative) data if we framed interpretivism less as signature mode or method of a distinct knowledge domain, and more as a perverse positivism? If we thought interpretivism, perhaps, as positivism's perverse style, form, figuration, performance? More importantly: how can we design digital infrastructure (a word which does not appear in the workshop summary paper) to take advantage of such perverse possibilities? How can our research infrastructures support not (only) an ethos of faithful reproduction and reproducibility, but (also) an ethos of deviation, experimentation, and surprise?

"The shattering effect of [sexual] perversion," writes Jonathan Dollimore, "arises from the fact that it is integral to just those things it threatens." Teresa de Lauretis extends this analysis of the "constitutive paradox" of perversion to characterize it as "both central and yet disruptive; necessary and yet objectionable; a 'deviation' from the norm and yet more compatible with positive social goals...regressive or involutionary and yet expressive of an original intensity of being." (De Lauretis 1994, 25) It's these "perverse dynamics," these integral shatterings, that I think are at work and in play in *all* systems of data archiving and analysis, interpretivist and/or positivist alike, and well worth taking better account of and using creatively.

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² Diverse scholars study the careful maintenance and subtle structuring effects of infrastructures, which are vital but also peculiar, if not downright perverse. "Infrastructures are matter that enable the movement of other matter. Their peculiar ontology lies in the fact that they are things and also the relation between things. [*Like metadata—MF*] As things they are present to the senses, yet they are also displaced in the focus on the matter they move around. We often see computers not cables, light not electricity, taps and water but not pipes and sewers...Yet the duality of infrastructures indicates that when they operate systemically they cannot be theorized in terms of the object alone. What distinguishes infrastructures from technologies is that they are objects that create the grounds on which other objects operate, and when they do so they operate as systems. Perhaps because of this duality, infrastructures are conceptually unruly." (Larkin 2013, 329; on data infrastructures see also Poirier et al 2019; Edwards et al. 2011; Mayernik 2019; on infrastructures more broadly see e.g. Star 199; Star and Ruhleder 1996).

Limits and Bridges

Perversion and that inadequately specific term normality construct each other...How do you know what's normal unless you know what's not, unless you have a boundary? How do you know what's not normal unless you know what is? In the discourse of psychosexuality, perversion and heteronormality constitute each other's limits.

Muriel Dimen, "Perversion Is Us?" (2011:838)

As but one quick example of how the perverse dynamics of interpretivism operate within ostensibly positivist data structures, and to open up the question of what "availability" means, how it works, and what effects it has, consider the U.S. National Bridge Inventory. I probably don't need to tell this audience that such physical infrastructure is essential and vital, and inadequately cared for. The National Bridge Inventory makes important data available concerning the state of these infrastructural structures, findable and accessible as interoperable ASCII files. This is probably as normal as data gets, and normal data is good data to have available. My former student (and Lead Platform Architect of our PECE platform, mentioned below) Lindsay Poirier requires students in her "Intro to Data Studies" class at UC Davis to find that available data, download it, and begin working with it. They quickly find that that data is only meaningful as data because the Federal Highway Administration also makes available numerous accompanying documents, such as Revision of Coding Guide, Item 113 - Scour Critical Bridges, detailing the evaluative judgments beneath, after, within, or simply about—some of the possible readings of the meta- of metadata-- the coded values in the data set. Her students must then avail themselves of these necessary supplements, numerous documents and data sets that together constitute an extensive and elaborate disseminatory structure of metadata, the interpretive infrastructure structuring (infra-ly) even the most ostensibly positivist data and data systems. These interpretivist infrastructures are both central and disruptive to positivist structures, a "'deviation' from the norm and yet more compatible with positive social goals." 3 Like keeping bridges from collapsing.

Or other positive social goals, like setting air quality standards that reduce sickness and premature death from PM2.5 and other pollutants. Or developing, through decades of work at public expense and in public institutions, global circulation models to more confidently project the likeliest climate scenarios. Or the constant revisiting and revising of evidentiary and analytic standards by genomics researchers to check their (over)enthusiastic claims concerning gene-environment interactions. These are some of the collective scientific efforts that I support, value, and study seriously as an anthropologist of the sciences. They also represent some of the reasons I and my collaborators first joined the Research Data Alliance in 2013: to better understand through ethnographic fieldwork how data availability was being (re-)imagined and practiced in diverse scientific endeavors, how barriers to data sharing were being negotiated and bridged, and how new data

³ Matthew Mayernik, Research Data Specialist at the National Center for Atmospheric Research, gives a rich analysis of how meta/data are interpretive "achievements" rather than self-evident givens; see Mayernik 2019.

infrastructures were designed and deployed to support availability and other positive social goals. And how interpretivism always already perverts, and norms, positivism.

Among the many other things we've learned through RDA: Availability of data provokes more availability, needs it, demands it; too much is never enough. This is the perverse normal state of affairs in the positivist⁴ sciences these days. My collaborators and I decided that was an ethos well worth emulating, or at least worth exploring what it would take for cultural anthropology to mime such a profligate data ideology, what problems we would run into, and what might result. One of our axioms became: the more ethnographic data available, the better.

We did two things: went from observant ethnographic participants in RDA to full participant ethnographer members, starting the ostensibly interpretivist Digital Practices in History and Ethnography Interest Group and later the Empirical Humanities Metadata Working Group. I won't detail all we did and learned through these groups here, but mention only three things particularly pertinent to this workshop. First, we had to repeatedly narrate to our RDA data scientist colleagues how their constant references to "social science" or "qualitative data" were insufficiently granular (a term they understood well), inadequate, and unproductive; political scientists were not sociologists were not ethnographers, leaving aside the further differentiations within each of those (and other) disciplinary sets; digital infrastructures for social scientists and humanists needed somehow to better accommodate that granularity. Second and relatedly, we had to explain why least some cultural anthropologists may not self-identify as social scientists, even if they shared some practices and concepts as well as ethical commitments to matters like privacy, protected access, clear permissions etc.—and so, third: neither should they be categorized or ontologized as "digital humanists," even if they appeared to share certain other practices and concepts, primarily because of their continual generation of new data through often idiosyncratic processes of selection, collection, interviewing, hasty scrawlings of free [sic] associations in field diaries, etc. These were all "differences that made a difference" to many things, but to digital infrastructure in particular. We "empirical humanists"—the term we invented to describe ourselves within RDA, as humanities-oriented interpretivists who created new data constantly—needed a prepared digital place to make our kind of data available. And to make that data, moreover, not simply available but available in particular ways, and for particular purposes.

Because availability is not an abstract quality; it is a complex ensemble of infra/structured practices.+

Anxiety, Availability, Alienation

⁴ These are obviously shorthand terms. Even in the 1930s-50s, positivism was a diverse affair, as is whatever the term denotes today. (Otto Neurath is my favorite positivist! See Neurath 1946; O'Neill 1995). And the same goes for interpretivisms. Indeed, these differences that make a difference are central to what I am advocating we need to be more cognizant of and build quotidian (bespoke) infrastructures to support.

⁵ Danilyn Rutherford (2015) calls for a new "kinky empiricism" among cultural anthropologists, in arguments quite consonant with mine here.

Perversion is a topic rife with anxiety...

Sometimes this anxiety is handled by demonizing the pervert on behalf of Western civilization... Sometimes it is stilled by bringing perversion into the safe precincts of matrimony... And always...the anxiety is relieved by exclusion, so that however empathically the pervert patient is comprehended, the pervert is still the other guy doing alien and even disgusting albeit (or therefore) fascinating things. Perversion may be defined, after all, as the sex that you like and I don't. Muriel Dimen, "Perversion Is Us?" (2011:835)

Through an analytic of perversion, we can make (a different kind of) sense of positivism's recurrent and probably most strongly felt anxiety: the failure of reproducibility, that heteronorm par excellence. There are differing interpretations concerning how extensive and serious the "crisis of reproducibility" actually is; that's not what interest me here. What interests me more is articulating another way to think about reproducibility's failures other than as a form of pathology, an essential difference dividing science from notscience.

A reproducibility crisis is not positivism's failure, but its normal (perverse) limit. Availability, then, and "Big Data" more generally, are interpretable as part of positivism's anxiety-reducing measures. By making more data and making it more openly available, the cultural logics seem to go, reproducibility is more assured at the micro-level and positivism can more successfully reproduce at the macro-level. The fact that it is not that simple, and that bigger data has in many ways only amplified the problem and the anxiety, is perfectly in keeping with the dynamics of anxiety as a defense mechanism: it may be effective for a while, in certain limited circumstances, but as a general long-term strategy it is almost certain to create more problems and require ongoing, even interminable, therapeutic measures.

Many interpretivists are similarly anxious about reproducibility, and justifiably so; some interpretivists, my collaborators and me included, are not. (We are, of course, anxious about other things.) Of the former, the Open Science Framework, Dryad, the Qualitative Data Repository and the Harvard Dataverse are rapidly developing infrastructural projects making qualitative social science data available to some interpretivists who tend to be more positivist. These and other similar initiatives that make qualitative data shareable are exciting and gratifying to see prosper. My collaborators and I work and advocate hard for more of this kind of availability across anthropology, and we are happy to see an increasing (albeit still relatively small) number of cultural anthropologists become data-curious and even data-enthusiast, and have designed our own digital infrastructure to support the goal of making as much new ethnographic data available as possible, responsibly of course. We want to provide the same kind of metadata-structured place as QDR, where an ethnographer can place the interview she just recorded and/or transcribed, the scan of the piece of ephemera he picked up at last week's clinic, the field sketches they drew in their notebook from the shareholder's meeting. And we certainly appreciate how this kind of availability entails a lot of really hard work, collective if not collaborative in nature, and is resource- and time-intensive. Infrastructuring is expensive and laborious (which goes some

way to explaining a trend toward partnerships and alliances with publishers and other established and often for-profit institutions, a trend which we work against—but that is another essay).

Here is where it is worthwhile looking more closely at some of the more *infra*- effects of how data and its availability are structured in these sites. I'll call how availability happens on these sites the repository style: curated, stable data-objects are made available to be downloaded and used. But such availability alone isn't enough for positivist reproducibility, let alone even a mildly perverse interpretivism. Here I agree with much of what Andrew Moravcsik (2019) writes about how data availability alone is insufficient; the repository style needs analytic availability as well:

Qualitative research's distinctive epistemology implies that to track the interpretation and analysis, a reader requires more than just access to a source. One must specify where within a descriptive or causal narrative each piece of evidence fits, and which specific textual passage in the source is critical. As historians, legal academics, and interpretivist social scientists insist, an informed reader needs to know not just what a scholar cites, but why.

In this regard, QDR is extending availability even further, along with my appreciation of it, with its more recent efforts to explore and encourage "more than just access to a source" by partnering with Hypothes.is to render available more of an article's and author's underlying analytics through extensive annotations.6

Fueling the Infra-structures

Following Foucault, we must conclude that sadomasochism is the principal psychodynamic animating the desire and struggle for power fueling the infrastructures of contemporary society, and it shows up everywhere authority and hierarchy are found...

Muriel Dimen, "Perversion Is Us?" (2011:853)

But in its repository style of availability, QDR and its analytic annotations are infra-structured to privilege certain ends or modes:

- 1. They are almost exclusively unidirectional; data is available only for me to download to my laptop. The infrastructure does not allow me to add an observation, question, or in any other way annotate any object inside the repository.
- 2. A repository style of availability infra-structures, in conjunction with a particular data ideology, a consolidation, conservation, preservation, singularization, and validation of meaning. "Grounding" is the reassuringly dominant trope, as it is in all the more positivist endeavors, best exemplified by the hegemonic normalcy of "grounded theory," practically synonymous with qualitative data analysis and

⁶ A further infrastructural requirement: that link only works as intended if you have <u>the hypothes.is extension installed in your browser</u>.

⁷ "Thickened theory," "kaleidosopic theory," "finely diffracted theory," "dense theory" are some alternative and more perverse tropings for a different data ideology, highly unlikely to enjoy much uptake.

- widely available in "computer assisted" (and proprietary) forms like Atlas.ti and MaxQDA. The repository style makes data and analytics available almost exclusively to underwrite established claims by taking a user down an evidentiary path to validated data as a ground truth—and that's the end of the line.‡ Of course qualitative data available in the repository style can re-used, but outside the system, and it's predominantly available there in the first place to serve a confirmatory function.
- 3. In the end, even in some of the most interpretivist circles, there's a related tendency (some STS scholars would call it an "affordance") of the repository style of availability to reproduce not only the established data ideology outlined above—that the best if not the sole reason to make your qualitative data available is for someone else to check your work, assess its solidity and groundedness as a measure of its truth value—it also tends to re-enforce established genre forms (the peer-reviewed journal article, the single-authored monograph) and established norms (scholarship is individual first and foremost, with independent users each downloading the same data and only maybe collaborating later). QDR's admirable hypothes.is annotations, for example, are attached via metadata structures to published journal articles. There is no place in the QDR infrastructure to play with display of data, to present it along with any annotations, to place it in new textual and analytic contexts.

Dominant infra/structures structure, by design, these drives to a conservative consolidation, convergence, confirmation—in a word, reproducibility. And again: this is completely understandable and, in many, many contexts, absolutely necessary. Those bridges aren't going to hold themselves up, and we absolutely cannot leave those PM2.5 standards to be set by the whims of an oligarch class rather than the careful deliberations of a science advisory panel drawing on a body of validated scientific literature.

But those infra/structures can also pervert or undermine themselves.§ Rather than *only* obsessively limit the interpretive play at work in every structure as required in the more positivist cases sketched above, I think we want to limit *and* encourage that play, in at least some domains. And we need to design infra/structures that more fully support that – infra/structures that, along with stability, cultivate difference, divergence, dissonance, and creative extension.

In short: other infra/structures, with other affordances, designed explicitly to open up new lines of inquiry rather than reproduce established ones, are needed too.

Writing Disruptively

How can we prescribe health when we cannot know, going forward, what produces illness? There needs to be a way to back off from the authoritarian and dominating inclinations that psychoanalysis shares with other regulatory practices. Remembering doubt is one route; writing disruptively is another.

Muriel Dimen, "Perversion Is Us?" (2011:856)

Now I want to compare the repository style of availability—still dominant, I think, in the interpretivist domains, especially in its more positivist reaches—with a database style of availability, which is a style more common in the still more positivist sciences—like genomics—but inspirational and instructive to more hard-core interpretivists like some empirical humanists. So let's consider Flybase, one of the more august of the model organism databases.8

Flybase's database style of availability makes all manner of data (DNA and RNA sequence data, protein data, signaling pathways, etc. etc.) available for genomic scientists to access, download, and use "as is," just as QDR does for its (predominantly) political scientists. And they both exhibit a similar expansive drive, with QDR extending availability, in its foray into annotation via Hypothes.is, to include the analytic structures that work toward reproducibility. But Flybase expands its analytic structures not along a single path, from publication to data, but in a dense, intricate set of structures that cross-link (through metadata) multiple data sets with multiple analytic tools, images, references to the literature, researcher information, and numerous other digital objects including, most importantly, an extensive system of "annotations," although that signifies something somewhat different to this more positivist research community than it does in the more interpretivist ones.

In both cases, annotations are effectively metadata infra/structures that establish relationships between other data and metadata entities in the system, making them available. In the repository style of availability, these structures are largely hierarchical and take a user primarily in one direction, "down" to data in its minimal interpreted state; annotative and other infra/structures in the database style are more disseminated and multidirectional—there is no ground level in Flybase, as I read it. A database user never reaches the end of the line

The database style of availability also organizes, through its in infra/structures, a "recursive community" (C. Kelty) that maintains it, curates it, and develops it, and the database helps do the same in turn for its community of users: grows and develops it. The community stays to work there, think there, and elaborate itself and the database structures there, rather than simply storing and retrieving what's available there. Reproduction is undoubtedly going on in a database, or is served by it, but it's also an engine of experimental impulses. And with Flybase, it's also a site that encourages experimentation with new (open access) publication genres such as micropublications, that can "rapidly place in the public domain findings that did not fit into the narrative of an existing publication," or "findings derived from small projects, for example undergraduate summer research projects, graduate rotation projects, that stand alone and are not necessarily part of a larger effort."

My collaborators and I, in building our own open source digital infra/structure for empirical humanists, have been guided by the kind of expansive, de-centered database style of availability we find at work in

⁸ See the work in particular of Rachel Ankeny and Sabina Leonelli on this and other model organism databases and the communities of practice that organize around their maintenance, use, and continued development.

Flybase. We developed the Platform for Experimental Collaborative Ethnography, or PECE) as research infrastructure and data management system for our research project "Environmental Health Governance in Six Cities" [NSF grant #1535888 (2015-190] but have continued to re-design and develop its functionalities and uses to more fully enact a database style of availability: an experimental system (Rheinberger 1998) to better understand how digital infrastructure structures—from an ambiguous location below and/or beyond and or/within (infra)—structures of knowledge, rather than simply supporting them. Rather than move into a detailed description of its annotation functions and how it makes qualitative data and open-ended analytic structures available ialong with new publication formats, I will just quickly link you to the work of Angela Okune, who is experimenting with PECE in her ethnographic research in the "Silicon Savannah" of Kenya, among people (including other researchers) experiencing the "research fatigue" that comes from being "techies" subjected to qualitative researcher after qualitative researcher, Kenyan and non-Kenyans alike, seeking to understand the rapid growth of Kenya's digital economy and culture. She uses PECE infra/structure to share her interview data (sometimes anonymized, sometimes not), and to make available her ongoing analyses and the analytic structures used to produce them, less to validate or confirm her interpretive findings and more to invite extensions to and divergences from them, working less towards reproducing cultural anthropology as we know it and more toward developing "open ethnographic archiving as decolonial feminist practice" (Okune 2020) for another anthropology.

A Modest Proposal

The label of perversion is as clinically superfluous as we now understand the label of homosexuality to be. It is not a diagnostic category; it does not tell us what to do.

Dimen 853

The apparently restricted and abstract concept of "availability," and the work of designing and building quotidian infra/structure, are implicated within the most meta- and expansive questions of knowledge systems and knowledge cultures.

The interpretive trope of perversion—and I'll stress again, I did not think I was going to be writing about or through it—lets us read some of the cultural dynamics accompanying such seemingly neutral terms like "positivist" and "interpretivist."

Positivists have something of a history of shaming interpretivists. In my analysis, this is because their own closeted dependency on interpretation generates a series of anxieties, as all perversions do, that then have to be dismissed, minimized, or managed. Disavowal through pathologization is one option, rather extreme but not unheard of. Splitting is another popular defensive strategy: positivism on the one hand, coded as normal and good, interpretivism on the other, coded as abnormal or at least not quite normal enough, bad but tolerably so—"…not that there's anything wrong with that!"—with the former in the position of dominance.

So we end up with the "Two Cultures" model of knowledge, first named as such in the 1950s by C.P. Snow. As long as interpretivists are imagined and categorized as qualitatively different than positivists, they will never be more than second-best knowledge producers: even if they are regarded with respect, they are still a bit queer. In this cultural model of knowledge systems, interpretivists get to be, at best, *The Heart of the Matter*, and they (we) are supposed to be more than satisfied with hearts and not at all envious of brains. And the road to perversion surely runs through the heart, doesn't it?

So I propose to continue building the diverse data ontologies, disseminating conceptual vocabularies, and experimental sense-making infrastructures that are already underway for cultivating the $\sqrt{2}$ Cultures: more than one style of truth making and telling, and less than two—a perverse 1.41421356237... Cultures, perfectly calculable but always needing further elaboration. We need, in this interpretation, a kind of reiteration of the "Unity of the Sciences" movements of the 1950s, but this time not under the sign of positivism—shown historically to be untenable—but under the more anxious, uneasy sign of perversion.

Or if perversion is not to your taste, and analogies to irrational numbers seem unserious, let's try buildings and fruits to re-trope the two different styles of availability described above, and the two models of knowledge that cohere around them. In an essay written as a dialogue, published in the immediate aftermath of World War II and his internment in a death camp, the microbiologist and sociologist of science Ludwick Fleck sketched out "the problem of the science of science"—the reflexive paradox that positivist science is unable to provide its own account of itself. In this rich and extended dialogue Simplicius (name checking a Galilean persona) worries about how an "ultra-criticism" will lead to a "barren skepticism;" science requires a "certain solid and stable foundation," he says, otherwise it would become "top-heavy."

Fleck's other persona, Sympatius, does not so much invert as pervert this conventional model of scientific knowledge as grounded structure. Science is not "a terrestrial building which stands on a foundation, with an attic at the top." Fleck doesn't flip this metaphor, at work in a repository style of availability, but shifts it to another ground altogether, a ground that isn't a ground and is more of an orange—and more like Flybase's database style of availability:

Science is rather like a round fruit, with a juicy pulp, and a thick, indigestible skin. It may be turned at will, the base can be the top, or the top the base, depending on our desire, but they are both equally tough and indigestible. Only the center of science is useful...In order for this miraculous fruit to grow, it must be taken between two fires: the hot, though dark, fire of romanticism, and the cold, but bright, fire of skepticism...The aim of my inference is not to belittle the value of science but, on the contrary, to raise it. (Fleck 1986 [1946]:117)

Even if I wouldn't regard my statements here as "reproducible," in the sense that you would expect some other empirical humanist to pore over and analyze the same set of available materials and weave them into a matching pattern of claims, I nevertheless regard them as truthful. Interpretive is not some kind of disqualifying qualifier that the real positivist sciences in their other culture have no need of; I am quite confident the situation is at least a little more perverse than these normally operative oppositions would

suggest: real or interpreted, quantitative or qualitative, grounded or speculative, normal or perverse, hard modernist positivist rationality or squishy postmodern bullshit. I know that it is, truly, a little more perverse than that, and rather than pathologizing perversities and trying to exclude them or at least safely contain them elsewhere, we should be listening more carefully to them, having richer and more open-ended conversations with them, and experimenting with them. More and different quotidian (bespoke) infrastructures that increase diverse, extensive availabilities are essential.

ENDNOTES

* I had to look up this report from the AAAS, which the workshop summary paper referenced. It is appalling, complete with U.S. flags and other jingoisms, and somehow grotesquely symptomatic of exactly the condition it purports to diagnose and redress; it in fact re-doubled my commitment to explore perversion as an analytic category. And prominently citing Thomas Jefferson as admirable and innocent humanist when any humanist or social scientist could tell you...oh never mind. Maybe I'll make my way toward this in the conclusion of this essay but if not: just ugh.

- + Availability of data, then, needs to be read more perversely than as something simply there for the taking, an open or shut case. This is a relatively late sense of the term, and a "positivized" one at that. I read from the OED that the sense of "availability" undergoes a transformation enjoined with the transformations of broader sensibilities that occurred in the long cultural morphing of the "hermetical physick" of the 17th century to the physics of the 19th the evolution of alchemy to chemistry, in our current interpretation. Puritan clergyman alchemist Thomas Tymme could postulate in 1605 that a certain "oyle" was "as auailable against the falling sicknesse as vitriol." To be auailable was to be efficacious, powerful, beneficial as a complex whole. It's not until 1827 that the skilled experimentalist, lousy theorist, and Sandemanian Michael Faraday+ would narrow it to its currently dominant sense: "This quantity is...wholly available in the liquid when used as a bleaching agent." Here, now, availability has mostly been pared back to an isolatable quality or property "at one's disposal," extractable from its larger context.
- * An aside, but not really: I've long been puzzled by the valorization of "transparency" as an ideal, when "availability" seems to me to do the same discursive job just as well, especially when combined with its implicit partner, "openness." If your research infrastructure makes openly available as much data and methods and analytic procedures as you possibly can, why the need to invoke and demand an additional concept-ethos of "transparency?" I interpret this now as a kind of denial or repression of availability's meshy, "thick," disseminated (infra)structure, its intricate all-overness, by invoking a direct, unobstructed, unidirectional, unmediated vision that sees straight through, transparently, to the "source," to the ground level, to the data that is always metaphorized as residing "down" at the foundation rather than, say, out in the densest nodes of an elaborate semiotic structure. My collaborators on digital infrastructure and I share a commitment to availability 100%; we have a 0% commitment to an ideal of transparency. We don't think it's necessary, and we think transparency occludes, perversely enough, a particular and very traditional philosophy or what anthropologists like us would call a semiotic ideology, for which "positivism" is one code word but our own scholarly genealogy would have us tag as "logocentrism" or a "metaphysics of presence."
- § The repository style of availability can provide opportunities for perverse knowledge formation, but only if the possibility is infrastructured in. For example, the "Shuffle" button placed at the top of every data-object in the ToxicDocs archive presents an individual user with a randomly selected document from its repository of "millions of pages of previously classified documents on industrial poisons (and counting)." We are developing

a similar function to introduce an element of chance into every encounter with ethnographic data, a bit of noise added back to every coded signal.

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