Title: A Stasis Network Methodology to Reckon with the Rhetorical Process of Data: How a Data Team Qualified Meaning and Practices
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Conference: SIGDOC 2023, Orlando, FL
Date: Thursday, 10/26/2023

Slide 1: Introduction / Title Slide

Hi everyone, my name is Chris Lindgren, and I'm an Assistant Professor of Technical Communication at Virginia Tech.

Our panel understands data work as a process of deliberation and decisions across its collection and final representation—its rhetorical. We each introduce methodological tools that technical and professional communication (TPC) can use to reshape, revise, and reimagine data work as communication design work. Overall, we all pursue a shared question of "*What rhetorical and technical methods does TPC have to better understand the data process?*"

Slide 2: Sacrificing the rhetorical process of data

I'll start us off by asking another question: *What's the pervasive problem with data*? Data describe aspects of the world under the alibi of describing it fully. Numerous scholars have explained how this alibi perpetuates the belief that data objectively mirrors reality and speaks plainly for themselves. Frith (2017) argued that the key to countering this faith in data is to study the more ephemeral communication practices of data work. He called for TPC to study the rhetorical processes of data to confront this faith, since the rhetorics of data are easily "sacrificed at the altar of positivist quantification" (p. 177).

Sacrificing the rhetorical process of data in lieu of understanding it as TPC is not new. Haraway (1988) named this sacrifice the "god trick" (p. 581): the belief that the scientific process, which collects and analyzes data, are neutrally objective and transcend the constraints of our situated, material realities of interpretation and communication. Decades of research (Adams, 2016; Bowker, 2005; D'Ignazio & Klein, 2020; Gitelman, 2013; Loukissas, 2019) have yielded interdisciplinary consensus that data, regardless of its size, are situated and contextualized by the goals and values of the people using the data.

Slide 3: TPC & the 'god-trick' problem

TPC has contributed to this position that the context of data work matters across data practices, whether it be collection (Atherton, 2021a, 2021b), processing (Beveridge, 2015; Lindgren, 2021), analysis (Danner, 2020; Overmyer, 2019; Roundtree, 2013), or visualization (Lauer & O'Brien, 2020; Welhausen, 2022; Wolfe, 2015). The god-trick problem has been well defined. Yet, many agree that there is still much more for TPC to understand about the undocumented rhetorical processes of data work.

Slide 4: Introducing Stasis Networks

In this presentation, I speak back to the god-trick problem of data work by defining and applying a *stasis network* (SN) methodology to trace the rhetorical actions of a data journalism team during their quantitative-driven, reporting process. SNs help researchers map how data

professionals negotiate the incompleteness of data in relationship to their developing and changing goals.

Slide 5: Two Main Parts of Stasis Networks
The core of stasis networks combines two long-standing methodologies that have helped TPC identify and understand how people overcome ambiguity, the interpretive pluralism they bring to their work, and the painpoints that can impede the completion of their goals: the stasis procedure (DeVasto et al., 2016; Prelli, 2005) and sociotechnical networks (Spinuzzi, 2008, 2018)

Slide 6: What is Stasis?
Traditionally, stasis is a procedure designed to guide peoples' deliberation toward consensus about an issue through a sequence of guiding questions called stases: questions of *fact*, *definition*, *cause*, *quality*, and *action*. Stasis is all about generating content and arguments that attempt to account for competing ideas or ambiguity between people that can stop the flow of work, agreement, and consensus (Brizee, 2008; DeVasto et al., 2016; Dingo, 2012; Fahnestock & Secor, 1988; Gerdes, 2022; Graham, 2015; Prelli, 2005; Weber, 2016).

[Discuss example of toxic sites project]

(1) **Conjectural**: problems of fact (Is it? Did it happen?)
(2) **Cause**: problems of cause (What caused it?)[1]
(3) **Definitive**: problems of definition (What is it?)
(4) **Quality / Value**: problems of nature or quality (Of what significance is it? Why is it important or not?)[2]
(5) **Translative**: problems of action (What action (if any) is appropriate in the given case?).

Slide 7: The problem with stasis as a procedure
This procedure proves to be helpful as a tool to guide people through a topic of deliberation. Yet, DeVasto *et al*. (2016) and Blythe, Grabil, and Riley (2008) have noted an issue with stasis as a methodological tool for studying the flows of deliberation. They all report how the stasis procedure removes or, at the very least, makes it difficult to represent much of the complexity and messiness of the stases *in situ*.

I don't have the time to explain this issue in more detail, but the stasis procedure has not been easily applied as a methodology to date. Stasis networks extends the previous scholarship by opening up the stases from its linear procedure, theorizing them as open nodes that may or may not co-occur in dynamic ways. By doing so, a researcher can trace the flow of deliberation and competing ideas across issues of fact, cause, definition, quality, and action without worrying about a rigid sequence hierarchy.

Slide 8: What are Sociotechnical Networks?

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[1] See Fahnestock and Secor (1988).

[2] See Fahnestock and Secor's (1988) revision of quality to value.

Stases isolate rhetorical moves and problems, but what about the things, tools, and practices of data work? I combine the stases as nodes with properties of the sociotechnical activity that data professionals conduct. Spinuzzi explains how sociotechnical networks specialize in tracing *how* people, tools, and artifacts interact to transform how professionals communicate and interpret their ideas and goals across time and space. For example, a web developer creates an interactive map for a story about the progress of a house disaster relief program, but the team hold different opinions about the color scale used to represent the metric. Or, a news editor gets word that an annual data release about school diversity programs of which the team has already worked with in previous years will contain new metrics at a more granular level. So, the team deliberates and hypothesize how to analyze and report the data even before they actually get the data.

Slide 9: Stasis Networks Create "MAPS"
To account for such tools and communicative artifacts of data work, SNs trace the stases in relation to two other node types: Mediating Artifacts (MA) and Practices (P): MAPS for short. MAPS serve as the initial coding scheme that guided my qualitative coding of the team's rhetorical flow of deliberation and data work. It is important to account for MAs, since data and other documents shape and are shaped by people and their understanding (Haas, 1996; Witte & Haas, 2005). In other words, MAs and peoples' understanding and use of MAs are always limited and cultural (Haraway, 1988). Accounting for practices traces the different ways people coordinate themselves and MAs, e.g., data-driven vs. hypothesis-driven analyses, data collection, processing, or visualization. The stases are time-tested rhetorical moves established across millennia of scholarship, so they are an available means to trace connections between MAs, Practices, and Stases.

- **MA (Mediating Artifacts)**: Any action/statement mediated by or about material artifacts, such as documents, data sets, visuals, etc.
- **P (Practices)**: Any action/statement that coordinates their work in a recurrent manner.
- **S (Stases)**: Any action/statement that makes one of the following 5 rhetorical moves (stases): *Conjectural*, *Definitive*, *Cause*, *Quality*, and *Translative*.

Slide 10: MAPS with Matrices
MAPS are organized as a matrix data structure, which counts the co-occurrences (edges) of nodes within a network along two-dimensions: rows and columns.

Network adjacency matrix
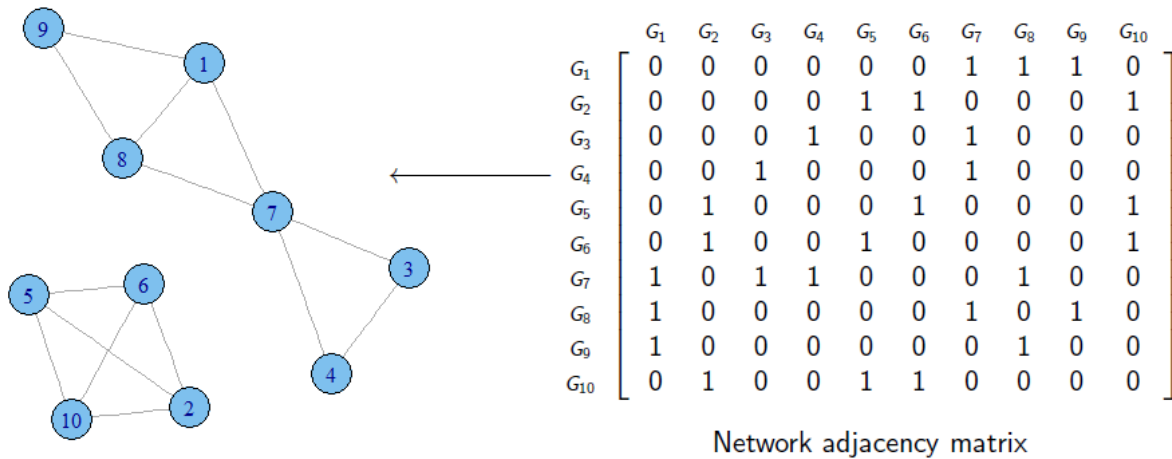
Example of an adjacency matrix data structure (right), which counts the co-occurrences (edges) of nodes within a network. The co-occurrences between nodes in the matrix are accompanied by a visualized result as a network graph (left) (Oloomi, 2014).

Slide 11: MAPS with Matrices

The basic SN matrix looks like the following, where the MAPS are structured in the same manner as nodes along both rows and columns to isolate their co-occurrence frequencies.

	Conjectural	Definitive	Cause	Qualitative	Translative	Practice 1	…	Art
Conjectural	-							
Definitive		-						
Cause			-					
Qualitative				-				
Translative					-			
Practice 1						-		
…							-	
Artifact 1								
…								

Slide 12: My Case – Data Journalism Team

So, how does one apply stasis networks in practice? Let me walk us through my case-study of a data journalism team. The table below provides a list of the sampled participants and their position at a large news organization.

List of participants, including their organizational context and job title within the news organization.

Participant	Organizational Context	Job Title
Ray	Data-Journalism Team	Developer

Phil	Data-Journalism Team	Developer
Vince	Data-Journalism Team	Editor
Jun	Data-Journalism Team	Producer
Vick	Newsroom	Reporter

Slide 13: Example Heatmap Results of Rhetorical Data Work

Let me first show the results of using stasis networks to study data professionals' quantitative work. SNs enabled me to identify the strongest top 3 co-occurring nodes across all 6 sampled projects and all codes, represented in this heatmap: S\Definitive, MA\Data\Metrics, and S\Translative. This particular high degree of relationships between definition, metrics, and translative nodes co-occurred during numerous practices. This **DMT** cluster indicated how often the team deliberated and worked to define metrics in the scope of deciding what actions to take next.

Full Code Hierarchy	S \ Translative	MA \ Data \ metrics	S \ Definitive	S \ Quality \ alignment	P \ HD \ analysis	P \ Visualization	P \ HD \ processing	S \ Quality \ significance	P \ Collection \ external	P \ HD \ angle	S \ Conjectural
S \ Translative		97	90	63	56	39	52	36	30	21	17
MA \ Data \ metrics	97		119	61	49	27	37	30	28	12	21
S \ Definitive	90	119		61	41	34	39	27	22	11	13
S \ Quality \ alignment	63	61	61		20	31	22	2	0	2	3
P \ HD \ analysis	56	49	41	20		9	10	27	23	7	7
P \ Visualization	39	27	34	31	9		6	12	8	1	1
P \ HD \ processing	52	37	39	22	10	6		10	11	3	0
S \ Quality \ significance	36	30	27	2	27	12	10		31	19	26
P \ Collection \ external	30	28	22	0	23	8	11	31		8	5
P \ HD \ angle	21	12	11	2	7	1	3	19	8		37
S \ Conjectural	17	21	13	3	7	1	0	26	5	37	
SUM of Column	501	481	457	265	249	168	190	220	166	121	130

I'll share some coded examples in a moment, but it is important to note how SNs afforded me the ability to identify dimensions of the stases of quality that frequently co-occurred with the DMT cluster. SNs helped me investigate how the quality of a metric's definition had strong ties across all of their practices, since a metrics definition and perceived quality impacted how the team developed their goals and tasks.

For example, two main sets of quality stases had strong ties with the DMT cluster: (1) Alignment, and (2) Significance, and Oddities / Interestingness. Alignment refers to discussions about perceived incongruencies between their goals and interpretations of metrics in particular. Quality codes of significance, oddities and interestingness involved moments when the team wove their idiosyncratic *a priori* values of what they deemed significant, odd, or interesting (or not).

Slide 14: Example of Qualitative Coding in MAXQDA
How did I code for these MAPS? Extending Devasto et al. (2018), I coded the scope of an originating set of MAPS that instigated and coordinated a series of other *nested* MAPS within that originating scope. This method accounted for the flow of deliberation. The coding of nested MAPS ended when the originating scope was either resolved, or the discussion was dropped or redirected to another distinct discussion. This method provided the means to trace and account for co-occurrence relationships that the team wove between MAPS.

Slide 15: Developing subcodes
The power behind SNs is its qualitative approach to quantitative work. I inductively developed codes and subcodes under each MAPS category, which can adapt to a researchers' case and yields much more contextual information to query and examine further. You can see my full coding scheme in the appendix in the script, but here are a few examples:

- Mediating Artifacts / Data / metrics
- Practices / Hypothesis-driven
- Stases / Quality / alignment

Slide 16: Takeaways
With this short introduction to SNs, I wanted to convey some of the following major takeaways about how SNs can begin to chart out the rhetorical processes of data work:

- Combine the rhetorical stases with the sociotechnical and leave their relationships open to be substantively studied and theorized
- Answers questions about relationships and process, such as top occurrences and co-occurrences with the capacity to query data in other ways once qualitatively coded
- Qualitative coding can begin as open to define potentially new nodes and new relationships between them
- In data professional domains, SNs confront the god-trick problem by tracing recurrent inter-relationships between MAPS and understand that data work is rhetorical work. For example,
  - Dimensions of quality had strong ties with their practices, and those dimensions of rhetorical quality differed across those practices

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Appendix A. Complete MAPS codebook for the case study including code hierarchy, definitions, and examples.

Code System	Definition	Example
Mediating Artifacts (MA)	**Any action/statement mediated by or about material artifacts, such as documents, data sets, visuals, etc.**	
MA > Reporting	***Any action/statement mediated by or about the material reporting properties of the data.***	
MA > Reporting > copy	Any action/statement mediated by or about the reporting copy aspect of the data.	During the School Diversity project, Vince asks Phil, "Does this copy look ok?" and proceeds to share an excerpt for review.
MA > Visual	***Any action/statement mediated by or about the material properties of the visualized data.***	
MA > Visual > type of chart	Any action/statement mediated by or about the type of chart that the team should create to represent the claim they want to emphasize.	Vince suggests to Phil how he thinks the visual to represent segregation in city school programs "is probably either two bars stacked, or a slope graph. Or, maybe, two columns with bendy paths in-between ..."
MA > Visual > sample	Any action/statement mediated by or about the sample of the data that has generated the visual.	During the Toxic Sites project, Ray asked Jun, "Is that map just the "abandoned" sites or all active sites?"

	MA > Visual > result	Any action/statement mediated by ro about the results provided by a visual.	During the Toxic Sites project, Ray glances at a map with toxic sites represented as dots across the state. He remarks to Jun, saying "I mean [city_1], [city_2], and [city_3] are [state_redacted]'s biggest poor urban cities. And that's where the clusters seem to be."
	MA > Visual > tool	Any action/statement mediated by or about the use of a particular tool to create a particular visual.	Jun shows Ray a map in Mapbox that reminds Ray of a similar use of the tool for another project.
	MA > Visual > tooltip	Any action/statement mediated by or about the tooltip on a visual.	Phil provides Ray some feeback on Ray's visualized map for the Housing project. Phil suggests "I think the phrasing of the tooltip may be off? If I understand correctly, shouldn't it be: 'XX% of construction projects have begun.*'"
	MA > Visual > color scale	Any action/statement mediated by or about the color scale on a visual.	During the Housing project, Ray requests feedback on his visual map. Phil responds: "My only thing is that right now I get confused because 'less' construction is a darker color, which seems contradictory to me."
MA > Data		*Any action/statement mediated by or about the material properties of the data.*	

MA > Data > metrics	Any action/statement mediated by or about metrics.	During the City Payroll project, Phil is interested in investigating the relationship between employee overtime and seniority. Ray questions whether or not the available metric of "start-time" aligns with seniority.
MA > Data > data point	Any action/statement mediated by or about a very particular data point value in contrast to a broader metric or aggregated result.	During the Felonies project, Phil singles out a particular data point, saying "the 4th oldest crime is in 1975, but it's 12:01am on January 1."
MA > Data > provenance	Any action/statement mediated by or about the provenance of the data set.	During the phone call between Ray and Vick, Vick inquires why their data set FOIA'd from the city is different from the data team's transit data. Ray responds: "The city has a schedule data, and then they have this real-time data that says that this train is leaving this station. We're looking at that every 30 seconds."
MA > Data > release	Any action/statement mediate by or about the release, i.e., publication, of a particular data set.	Vince shares his excitement with the team about how the latest version of the city's public school scholastic programs now include demographic data.
MA > Data > qual expert statements	Any action/statement mediate by or about qualitative, expert testimony.	During the Toxic Sites project, Jun lets Ray know that she will be supporting their definition of the abandoned sites metric central to their developing story by contacting local developers and advocates.
MA > Data > result	Any action/statement mediated by or about the results of the data.	During the City Payroll project, Ray shares tabulated "Top 20 X" aggregations to the team.

	MA > Data > request	Any action/statement mediated by or about data requests, such as FOIA requests from government agencies.	During the Transit project phone call between Vick and Ray, Ray and Vick discuss the likelihood the city will provide a better data set at a lower aggregation level.
	MA > Data > sample	Any action/statement mediated by or about the sampling of the data.	During the City Payroll project, Ray had just shared a table of the "Top 20 overtime" at a per department level, but Jun notes how she would be interested in seeing the results from a sample across all departments.
	MA > Data > tool	Any action/statement mediated by or about the tool used to access or use the data	During the City Payroll project, Phil remarks how there seems to be a "weird bug in the clunky socrata interface, or I just don't know how to use a computer ..."
	MA > Data > aggregate	Any action/statement mediated by or about the	During the Felonies project, Vince remarks his surprise that the newly released data will be at a lower aggregate level than previous years: "I didn't realize it was individual incidents. I thought it was going to be aggregated!!!"
	MA > Data > use	Any action/statement mediated by or about the use of the data.	During the Transit project, Ray notes how the team's realtime schedule feed data does not "have a complete [15-month cycle that is reported in your] set, so we can't compare the whole year."
Practices (P)		**Any action/statement about how the team coordinates their work.**	

P > Collection		*Any practice devoted to requesting, collecting, and creating/collecting data from internal or external sources.*	
	P > Collection > external	Any practice or discussion of a practice that focuses on finding and collection data external to the news organization.	During the School Diversity project, Vince informs the team how "Tomorrow the Department of Education is releasing racial data at the *program* level. (Currently we only have that at the school level.)"
	P > Collection > internal	Any practice or discussion of a practice that focuses on collecting custom data for internal use to the news organization.	Ray and the team have been collecting their own custom schedule data of the city's public transit system at a per minute level—data not readily available to request from the local government.
P > Visualization		*Any practice or discussion of a practice that focuses on visualizing data.*	Ray and Jun discuss how to best represent the disparities between more marginalized, demographic groups who are more often in close proximity to toxic sites.
P > HD		*Any practice or discussion about a practice that focuses on hypothesis-driven (HD) approaches to working with the data. HD approaches involve deductively discussing and testing claims from the data.*	

P > HD > hd-analysis	Any HD approach to analysis or discussion about an HD analysis.	During the School Diversity project, Vince suggests that Phil prepares to test if there are any significant "segregation when [the data are] sorted by things [programs] like Gifted & Talented and Dual-Language ..."
P > HD > hd-processing	Any data processing work or discussion during an HD approach to the team's process.	During the School Diversity project, Phil suggests that "Worst case scenario, they give us [metrics] like: "dbn, program_no, white, black, hispanic, asian." If so, we merge the demographic data with proper program numbers (may have to be dbn+program_no) and then aggregate it by both program description (i.e. "Business" or "Dual Language") and by admissions policy (i.e. "Screened" or "Limited Unscreened")
P > HD > hd-angle	Any angle to the story pitched and discussed during an HD approach to the team's process.	Vince shares his initial questions to test with the Felonies data. He is interested in the topic of reporting lag time, since he sees that there are two metrics related to the matter: occurrence date vs. date it was entered into the system. After he explains this, he suggests the following question: "… has there been a change in lag time for reporting of rapes and assaults?"

P > DD		*Any practice or discussion about a practice that focuses on data-driven (DD) approaches to working with the data. DD approaches involve discussing and working through whether or not claims made inductively or abductively from the data can be used.*	
	P > DD > dd-angle	Any statement that pitches, defends, criticizes, or develops an angle derived inductively from the shared data.	During the City Payroll project, Ray shares tabulated results about the top paid positions and remarks how "a Correctional Standards Review Specialist got paid the highest 445k; though their base pay was 61k. Some sort of contractor maybe."
	P > DD > dd-processing	Any data processing work or discussion during an DD approach to the team's process.	During the City Payroll project, Phil remarks to Ray how Ray's "step-by-step slicing" of the city's data is a "good" process. Additionally, Ray often notified his team how the database tool to look at this data has some data processing quirks to be aware of.
	P > DD > dd-analysis	Any data analysis work or discussion during an DD approach to the team's process.	During the City Payroll project, enough discussion about odd and interesting angles to seniority and overtime led to a correlation test between the two variables.

P > DD > dd-investigative-followup	Any DD work or discussion about following up about a potential angle derived from the data.	After much deliberation on the City Payroll project, Phil suggests that they "report out" their strongest angles: "... even if we're not naming names it seems like we need to call some of these departments and try to get explanations about what these jobs do, about why they might have more overtime than others. Otherwise we're flying very blind."
Stases (S)	**Any action/statement that makes a rhetorical move (stases): Conjectural, Definitive, Cause, Quality, and Translative (Brizee 2008; Fahnestock and Secor 1988; Prelli 2005).**	
S > Cause	*Any action/statement about what may or may not have caused the issue.*	
S > Cause > quant verify	Any Causal stases action/statement regarding verifying quantitative results.	During the School Diversity project, Phil notifies the team that "I need to check the 1/3 citywide numbers … but the rest looks right."

S > Cause > qual verify	Any Causal stases action/statement regarding verifying info with qualitative support.	During the City Payroll project, Vince notifies the team how an external newsroom reporter asked their source from the city to verify some details regarding a metric: "So, thanks to Ray's poking around already, I asked her [reporter] to ask them if it includes things like settlements, back-pay, etc. And she did. And they said, oh, no, we just took the numbers straight from the agencies."
S > Cause > unknown	Any Causal stases action/statement that indicates the team does not know enough about the matter at hand.	During the City Payroll project, Phil writes to the team that their data-driven work has led them to a point of unknowns: "we need to call some of these departments and try to get explanations about what these jobs do, about why they might have more overtime than others. Otherwise we're flying very blind."
S > Cause > anecdotal	Any Causal stases action/statement that uses anecdotal evidence to support their claim.	During the City Payroll project, Ray responded to a potential angle about how much janitors make, rebutting how "I have a friend that used to be a janitor in a NYC school. He always said he was paid pretty well."

	S > Cause > speculative	Any Causal stases action/statement that uses speculation to support their claim.	During the City Payroll project, Phil responds to Vince's surprise that the Board of Elections should receive so much overtime pay with a speculation: PHIL: yeah I would expect BoE to get overtime VINCE: Really? For two nights out of the year?. I'm suspicious. PHIL: more than two nights I would think; a few weeks at minimum.
S > Quality		***Any action/statement about the quality of the issue.***	
	S > Quality > recent	Any action/statement about the recency of the data, angle, analysis, or other aspects of the project.	During the City Payroll project, Ray responds to Vince's request about a quick story to produce by sharing the very recently released data set.

S > Quality > alignment	Any action/statement about whether or not the proposed metric, analysis, etc. aligns with the current goals for the project.	During the State Toxic Sites project, Jun and Ray discuss the current hypothesis and analysis goals. Jun writes to Ray that, "the theory is that there are more concentrations of these "abandoned" sites in lo-income communities of color. Ray responds: "Well, looking at correlation on the census level does not support that [hypothesis]. But that's not the only way to look at it. ... It does say that we can't confidently predict that a tract with a high percent of people of color will have a higher number of sites."
S > Quality > unverified/unknown	Any action/statement about the current state of the project as being publishable or capable of moving to a next step until it has been reviewed and verified.	During the Housing project, Phil asks Ray about the results on the drafted map visualization; specifically about the cut-off value for neighborhood applications being "50+." Ray responds that he isn't sure and will verify it with the newsroom reporter.
S > Quality > oddity	Any action/statement about whether or not the proposed metric, analysis, etc. seems odd to the person.	
S > Quality > oddity > odd	-	During the Payroll project, Ray shares a table of the Top 20 Paid employees and writes: "a Correctional Standards Review Specialist got paid the highest 445k though their base pay was 61k"

S > Quality > oddity > not odd	-	PHIL responds to Ray: "that last one doesn't seem that unusual. I know in CA the highest paid employees were often corrections workers earning tons of OT"
S > Quality > missing	Any action/statement about potential issues with the data or goals that depend on missing data / materials.	During the School Diversity project, Vince shares the newly published data and is surprised to see that the initially available data set has been aggregated to a level that is not very useful to their goals: "Um, I think this [data set] is useless. They mashed all of the programs together"
S > Quality > issue/error	Any action/statement about any errors or issues with regards to the data.	During the City Felonies project, Phil mentions to Vince how there may be some errors with the dates: "I'm guessing the 1915 is a mistake and it's supposed to be 2015."

S > Quality > interestingness		Any action/statement about whether or not the proposed metric, analysis, etc. seems interesting or not to the person.	During the Toxic Sites project, Jun and Ray discuss angles that have the potential to be interesting for the story: RAY: When I look at the map, I can see that 5 cities have a good chunk of these abandoned sites. Maybe we look at it at the city level?" JUN: "Yeah, maybe" RAY: "I mean [city names redacted] are [state name redacted] biggest poor urban cities. And that's where the clusters seem to be. Or maybe we look at where these sites are relative to land values?"
	S > Quality > interestingness > not interesting	-	-
	S > Quality > interestingness > interesting	-	-

S > Quality > significance	Any action/statement about whether or not the proposed metric, analysis, etc. seems significant or not to the person.	During the Toxic Sites project, Ray shares some results from the analysis with a note about its significance and the team also responds: RAY: "The second list is comparing those to their totals. So, 41% of white people in [state redacted] are within 1 mile of a abondoned site. There is definitely a disparity there." VINCE: "Whoa." ... PHIL: "Nuts."	
S > Quality > significance > not significant	-	-	
S > Quality > significance > significant	-	-	
S > Quality > significance > mediocre	-	-	
S > Translative	**Any statement about what action to take regarding the issue.**	During the City Transit project, Ray tells the newsroom reporter that "We could contact the state agency to see if we can get more definition on those and possibly see how they translate a city report into that."	

S > Definitive	***Any statement about how to define the issue or mediating artifacts, such as metrics, analysis, etc.***	During the City Transit project, Ray and Vick have the following back and forth about defining a particular metric for the data set: RAY: "If you can figure out more specifically what these numbers are, then yeah, maybe yeah." VICK: "Do you mean like what they consider on time?" RAY: Yeah, like 94% and what that exactly means. I assume that it's just a time cut off of what they consider late.
S > Conjectural	***Any statement that posits a claim about the data or other aspects of the project.***	During the City Felony project, Phil shares a hypothesis/question to pursue: "comparing each year's trendline of assaults/murders to the trendline of temperature to see how clearly the anecdotal heat = violence at the start of summer thing shows up"