WORKSHEETS for 3DH VISUALIZATION / AUGMENTATION (JD, June 2016)

1) Graphical Features for Activators

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A. These are the features to be used as elements of the hermeneutic palette/toolkit. These are essentially features of surfaces.
To explore, take each, sketch (on cards), fill out columns:

Feature	Behavior (of feature)	Action (by user)	Associations	Data specification
Tone				
Color				
Transparency				
Texture				
Shape				
Orientation				
Position				
Size				

Feature	Behavior (of feature)	Action (of user)	Associations	Data specification
Resolution				
Blur				
Direction				
Rate of motion				
Acceleration				
Change				
Sound				
Text/label				

B. Three-dimensional features (these are structures and spatial moves, rather than simple surface features) to be used in next steps:

- Use layers to separate interpretation from/within evidence or for other purpose
- Activate z-axis for additional parameters or other purpose
- Introduce orthographic slices to show process or aspects of "data" or other insight
- Create point of view through perspective
- Make relative scales within graphical displays
- Consider moves such as tilt, turn, to explore data visualizations in 3-D
- Sketch animation to show change over time or other parameter
- Explore projection, anamorphic mapping, shadows etc.

2) Hermeneutic Dimensions

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Sketch, suggest three-dimensional features, behaviors, actions, data.

Uncertainty	Ambiguity	Unreliability
Incompleteness	Contradiction	Analogy

Polyvalence	Absence	Salience

Other:

3) **Visualization Conventions**

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Modify these conventions using the graphical activators and dimensions from the two work sheets.

Bar Chart	Scatter Plot
Network diagram	Continuous graph

Describe associations provoked by modifications, consider interactivity (behaviors of objects, actions of users), and address data specifications.

Methodological Applications

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Using the graphical vocabulary developed in the first three exercises, visualize the following interpretative dimensions of knowledge production:

1) Show the lifecycle of data (from selection/parameterization to display).

2) Expose the "situated-ness" of knowledge—its authorship, its "spoken-ness" within a system of enunciation. Make clear that data does not "speak itself" but is authored.

3) Use features to show value judgments, biases, narratological qualities (e.g. reliability), etc.

4) Demonstrate the historical specificity and/or cultural specificity of knowledge (as opposed to its claims for empirical neutrality and/or universal or ahistorical objectivity).

5) Construct a clear relation between evidence and argument so that these are distinct elements in the visualization.

6) Consider ways to create affective or otherwise non-standard metrics; explore anamorphic projects and other systematic distortions in order to register affect and/or bias.

Try to think in terms of generalizability. What other fields, disciplines, problems, domains, might benefit from these visualizations? What features of the set of moves or sketches you outlined might be generalizable (e.g. layers, transparency, shape, organization and ordering, sequencing of graphic events as intellectual activities).

Project focus: Create a short scenario in which these approaches can be used in CATMA, Voyant, or a test case.

NOTE: Keep in mind the two-way screen. The graphical space should be a place to do interpretative work, have it register as data, not merely be a site to show interpretation in display.