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## TMI? INFORMATION RHETORIC TYPES IN DIGITAL POLITICAL VISUALIZATIONS

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The creation of a data visualization entails the transformation of data into visual information, through visual encoding (Cairo, 2019). While the visualization process is inevitably subjective, designers are often taught to remain as true to the data as possible, in order to reduce the level of subjectivity embedded in the visualization (Tufte, 1983; Cairo 2019). As such, data visualizations are considered a transitional mode between data and information, which allows users agency in acquiring knowledge. This is largely based on the "wisdom hierarchy" (DIKW), a conceptual framework that envisions learning as a linear process in which data is the most objective and wisdom is the most subjective. While definitions of the four DIKW components vary, the first three are deeply entwined: data are defined as unorganized observations without context or interpretation; information is data that has been processed and contextualized; and knowledge is a mixture of "information, understanding, capability, experience, skills and values" (p. 174). Wisdom remains under-defined (Rowley, 2007).

However, in the informationally-overloaded landscape of social media, in which users are in an ongoing state of evaluating and curating their information environment, the linear nature of a "wisdom hierarchy" is due for re-evaluation. When information is available in unprecedented abundance, the notions of data 'purity' is elusive (Eppler, 2015). Thus, this study aims to create a new framework for the definition of *information* that will provide a better understanding of its rhetorical role in digital culture.

I explore these issues through election visualizations. In recent years, social media has seen an exponential rise in the use of political visualizations, using diverse graphic forms to convey a wide range of political messages (Amit-Danhi & Shifman, 2018). Recent works on contemporary visualizations suggest that while most still adhere to traditional standards (Kennedy et al, 2016; Kennedy & Hill, 2018), political visualizations allow designers to stray from them, by visualizing non-data (values and opinions) and by embedding data visualizations in non-pedagogical graphic contexts (e.g. decorations, photography, iconic imagery, art) (Amit-Danhi & Shifman, 2018; 2020). While these studies have pointed at some key attributes of contemporary visualizations,

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the types and roles of information in these formats have so far evaded systematic analysis. Therefore, this study seeks to define the types of political information that are visualized, in order to answer the wider question of *what is the rhetorical role of 'information' in contemporary digital political visualizations?*

## **Methods**

Based on a sample of all visualizations posted to Facebook by the top four candidates in the 2016 US Presidential election (Trump, Clinton, Cruz and Sanders; N=252), I addressed the research question in three stages. First, I reviewed pre-existing information and data typologies. Combined with grounded analysis informed by literature, this review led to the identification of three main attributes of visualized information, conceptualized as foundation, building-blocks and structure (see figure 1). Second, I classified the units in the sample according to the model, aiming to identify recurrent combinations. Finally, I identified five types of political visualized information rhetoric, which combine distinct sets of informational attributes into two main rhetorical modes.

## **Visualized Information: Types and Rhetoric**

The model (figure 1) suggests that visualized political information is comprised of three layers. First, a *foundation* onto which information is built, which includes three possible formulations: 'factual evidence' – grounded in verified data; 'estimation' – projections based on factual data; and 'fantasy/nightmare' – imagined data. Second, the *building blocks*, or the components of data (numeric, temporal, spatial, symbols and notions). And finally, the contexts that prepare data to be visualized, divided to three *data analysis-structures* (aggregation, grouping, highlighting/epitomizing). The model addresses informational attributes which have so far been excluded: fantasies, estimations, notions, symbols and epitomizations – all of which contribute to the ability to encompass all the attributes of visual informational communication on social media.

An overarching analysis of the categorized data according to the model led to the identification rhetorical categories, which culminated in the identification of two main rhetorical modes for visualized election information on Twitter. Candidates can *unveil* a hidden or unknown truth about the world, based on present or past-oriented 'traditional' data (see figures 2 and 3), or lead their followers in collective *imagining* of a future, based on estimations (figure 4) and fantasies (figure 5).

## **Conclusions**

This study's findings demonstrate the change visualization communication has undergone in the new digital setting in which they thrive. A classic information visualization teaches us about the world by remaining "true" to the original data. As such, it is geared towards the past and present, and grounded in factual evidence. However, when placed in an information-saturated and overloaded environment, the differences between data and information are questioned, and "clean" data is almost unattainable.

Thus, the rhetorical agility required for modern political campaigning seems to muddle the axiomatic distinctions of DIKW. The amalgamation of political and digital settings allows candidates to convey new forms of visualized information, based in notions and fantasy, rather than the empirical observation and evidence with which visualizations are traditionally associated.

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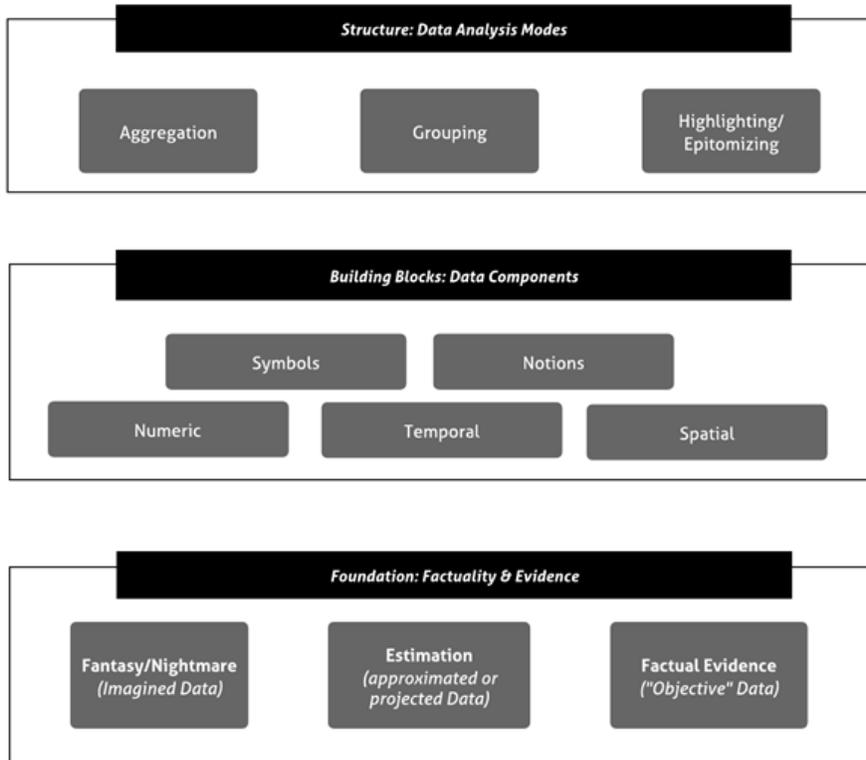


Figure 1: Informational Rhetoric: A Conceptual Model

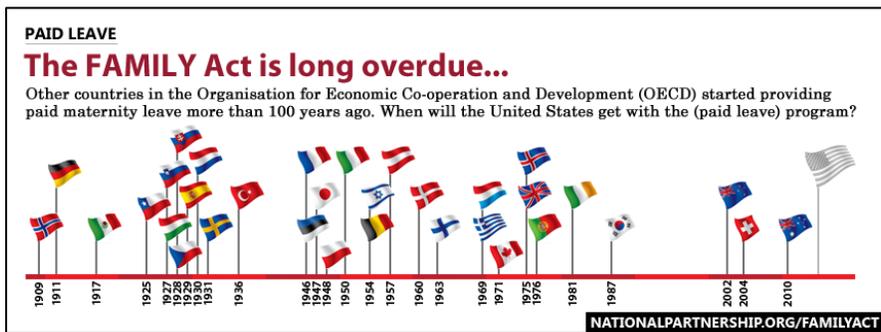


Figure 2: Sanders' [Family Act visualization](http://NationalPartnership.org/FamilyAct) (Rewind)



Figure 3: Clinton's [Marriage Equality Visualization](#) (Report).

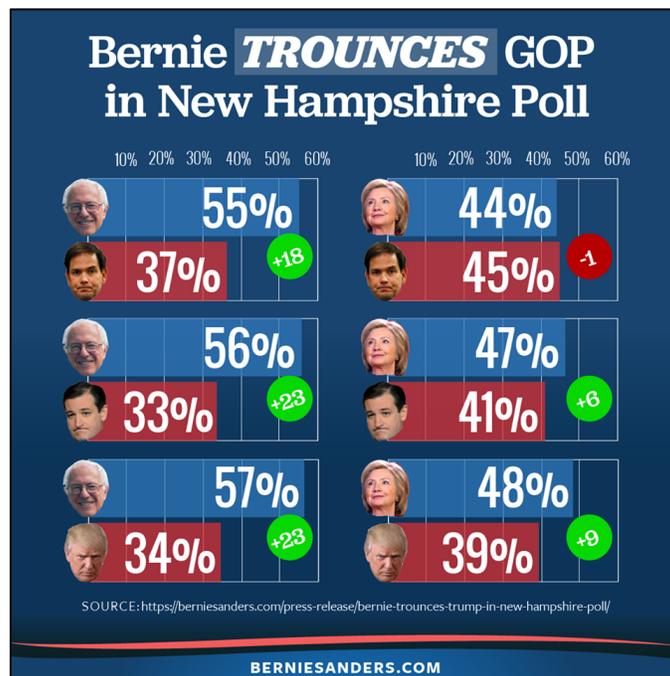


Figure 4: Sanders' Scoreboard NH Poll [Visualization](#)



Figure 5: Cruz's Metaphorical Vision for US-Israel relations