Part 1: Visualization critique

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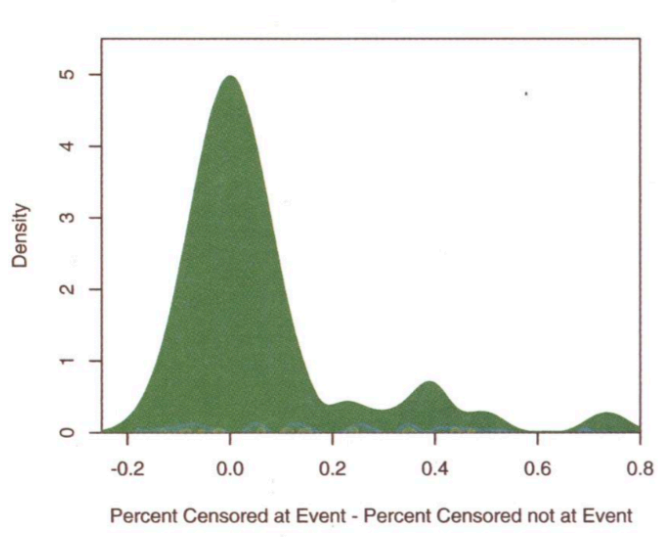
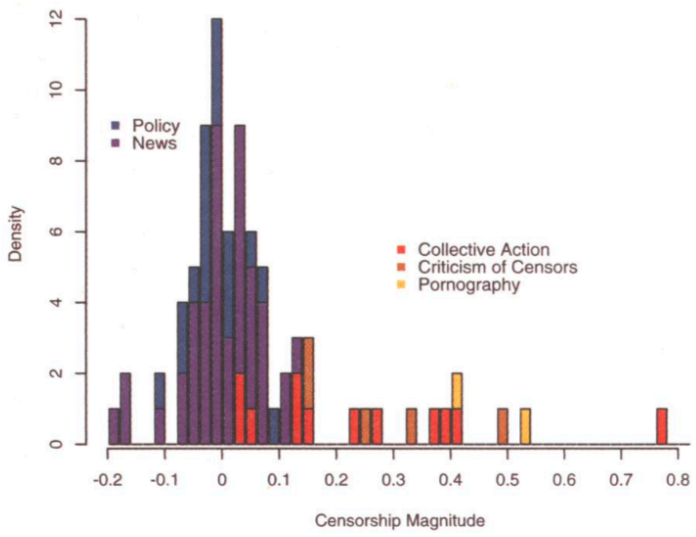
Figure 3. "Censorship Magnitude," The Percent of Posts Censored Inside a Volume Burst Minus Outside Volume Bursts.



(a) Distribution of Censorship Magnitude



(b) Censorship Magnitude by Event Type

This figure comes from an academic journal article "How Censorship in China Allows Government Criticism but Silences Collective Expression" by King, Pan and Roberts (2013). I will first explain this visualization and then discuss its quality in terms of whether it is functional, truthful, beautiful, insightful and enlightening.

1. Is it functional?

The central hypothesis of this research paper is that "the Chinese government censors all posts in topic areas during volume bursts that discuss events with collective action potential." (ibid. p. 332) This figure presents empirical evidence for two tests they adopt for examining their hypothesis: tests based on (1) post volume and (2) the nature of the event generating each

volume burst. For the first test, the authors look at whether there is more censorship during volume bursts than at other times to check if the goal of censorship is to stop discussions that could lead to collective actions, as sharp spikes in volume around specific subjects in social media are correlated with collective actions. For the second test, the authors go deeper into the event type of each volume bursts—they examine if the volume bursts generated by events pertaining to collective action have higher levels of censorship. To conduct the post volume test, the authors construct the measurement "censorship magnitude", which is the percent of posts censored inside a volume burst minus outside the percent censored outside all volume bursts.

As censorship magnitude is the core concept described in the graph, the authors wisely use it as the title of the figure, highlighting the key concept manifested in both of the graphs for the readers to pay attention to. They also put down how the concept is measure in both the title and the x label for figure 3a, making it easy to interpret for the readers. The readers do not need to get back to the article to find out what this core concept mean and how is it measured. Hence the graph is very functional in this sense.

The story conveyed in this figure is twofold, corresponding to the two tests I outlined above. From figure 3a that demonstrates the distribution of censorship magnitude, we could see that most of volume bursts have a censorship magnitude centered around zero, which, according to the author, is due to the increase of difficulty for censorship during the volume burst (because there are more posts to evaluate, less time to do it, and little or no warning of when the event will take place). More importantly, however, the distribution has an exceptionally long right tail while without a corresponding long left tail, showing that volume outbursts are associated with dramatically higher levels of censorship. Overall, the figure clearly convey the story. The only

problem for me is that I think they should also point out in the figure that the time period of "the outside volume bursts" is six month (a quite long period comparing to the period of volume burst), giving the readers an absolute sense of the magnitude of censorship (making sense of the numbers on x axis).

Figure 3b takes a further step to decompose the distribution shown in figure 3a by tabbing the censorship magnitude by event types. It tells a story that posts related to events pertaining to collective actions, criticism of the censors and pornography have significantly higher level of censorship magnitude. The stark density difference between the bars of two groups of colors present this story clearly. In addition, we could observe that events pertaining to collective actions have the highest censorship magnitude among all types of events in the absolute sense, confirming the main argument of this paper. Though clearer and more rigorous evidence regarding this point is presented in other graphs following this one in the article. My only suggestion for improvement of functionality for this figure is that the authors could also present the average censorship magnitude for collective action (27%) and that for the policy and news (4%) and the criticism and censor as well as pornography, giving the readings some numeric sense and echoing their main argument more directly in the figure.

As I've already pointed out, both stories are demonstrated in a clear fashion with some minor flaws. Besides, they are closely interrelated. The way the authors juxtapose them to present his interrelated tests and arguments in a appropriate procedure makes this visualization functional. Moreover, they nicely addresses the two hypothesis tests by providing evidence supporting the the authors' main argument, fulfilling the purpose of the authors well. In a nutshell, the visualization is quite functional for a research paper.

2. Is it truthful?

The graph per se does not manifest any problems regarding distortion of truth in the way of presenting data. Yet, as the truthfulness of a visualization largely depends not on the graph but on the research design and the data, we should judge its truthfulness by checking these other details. Since it is a graph in a research article, though these information are not shown in the graph, but the authors do explain their data collection and coding schemes in a detailed manner in the paper. If the graph appears alone, I think to present its truthfulness, it should include source and notes on what is the data sample, how the data is collected, how is volume burst measured and how is the event type classified.

3. Is it beautiful?

Though it does not look fancy and eye-catching, the figure is aesthetically pleasing in terms of the choice of color patterns, the shape and sizes. Without gridlines and any other unnecessary information, it looks clean and clear, very suitable to serve as a graph in a journal article.

4. Is it insightful?

The graph is insightful in terms of knowledge-building, as it implies a very intriguing story on the behavioral pattern of an authoritarian regime that devote the largest effort by far in censorship. Moreover, it presents a nuanced story that addresses the debate regarding the aim of censorship and governance of authoritarian regime by testing a range of hypotheses. The argument is sharp and insightful—it points to a key principle behind the legitimacy maintenance acts of Chinese authoritarian government, that is, to curtail collective actions and social mobilization. Actually the article with its argument become a very classical research on the

censorship in China for its insightful originality in its implications in the study of censorship and authoritarian durability.

5. Is it enlightening?

The graph is enlightening for its audience (the readers for *American Political Science Review,* that is the scholars and students of political science), as it presents the outcome of "what maybe the most extensive effort to selectively censor human expression ever implemented." (King, Pan and Roberts 2013, p.326). It contributes to the development of a theory of the overall purpose of China's censorship, reflecting "some of the most basic goals of the Chinese leadership that until now have been the subject of intense speculation but necessarily little empirical analysis." (ibid.) The graph could also be enlightening for the mass audience, as censorship is related to what kind of information people could be exposed to, which affect their decision-making. Hence this figure provides knowledge for an important topic highly related to people's daily life and interests in the age of digital media.

Reference

KING, G., PAN, J., & ROBERTS, M. (2013). How Censorship in China Allows Government Criticism but Silences Collective Expression. *American Political Science Review, 107*(2), 326-343.