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CIVIC MEDIA

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Catherine D'Ignazio is the person behind that really cute baby. She is an Assistant Professor of Data Visualization and Civic Media at Emerson College who investigates how data visualization, technology and new forms of storytelling can be used for civic engagement.

Professor D'Ignazio has conducted research on geographic bias in the news media, developed custom software to geolocate news articles and designed an application, "Terra Incognita", to promote global news discovery. She is working on sensor journalism around water quality with PublicLab, data literacy projects and various community-educational partnerships with her journalism students. Notably, she co-organized a hackathon at the MIT Media Lab called "The Make the Breast Pump Not Suck!" Hackathon.

Her art and design projects have won awards from the Tanne Foundation, Turbulence.org, the LEF Foundation, and Dream It, Code It, Win It. In 2009, she was a finalist for the Foster Prize at the ICA Boston. Her work has been exhibited at the Eyebeam Center for Art & Technology, Museo d'Antiochia of Medellin, and the Venice Biennial.

Professor D'Ignazio is a Fellow at the Emerson Engagement Lab and a Research Affiliate at (and alumna of) the MIT Center for Civic Media.

MIND THE MAP: TOWARD A HANDBOOK FOR JOURNALISTS

Submitted by kanarinka on May 16, 2013 – 5:35pm

by Luisa Beck and Catherine D'Ignazio, with suggestions from the Participatory News class

"What is it we want our maps to be now, if no longer a single authoritative view or the world?"
- Brooke Gladstone, Host of NPR's On the Media

## Maps are rhetorical devices. Propositions. Arguments. Stories.

They present the world according to how the mapmaker sees it. As cartographer J.B. Harley notes, "The steps in making a map - selection, omission, simplification, classification, the creation of hierarchies, and 'symbolization' - are all inherently rhetorical." (Harley, 1989) By favoring certain data points over others and placing them in a particular context, color scheme, and larger narrative, a mapmaker makes a set of critical decisions. The following is meant to help journalists navigate the new mapping "hype" and use maps in a way that really serves their story.

Why to Beware of the Map

1. **Maps present facts?? as Facts!!!** Borders, territories and place names are political. They are the result of wars, of conquest and of centuries of negotiation. Geopolitical disputes haven't disappeared. And they still influence maps. If you're looking to map Rio's favelas using Google maps, for example, you're out of luck. The Mayor of Rio and tourism company Riotur have successfully campaigned Google to have them removed. Google has also involved itself (perhaps unintentionally) in extremely controversial geopolitical disputes when, for example, it mixed up two different versions of its maps and turned Arunachal Pradesh Chinese.

2. **Maps erase people.** Displaying data related to human lives comes at a big cost. The richness and complexity of those lives are lost. And it becomes easy to forget the faces and range of issues that make up the "points" on a map. Homicide Watch, a website that covers homicides in the District of Columbia, resists this. While providing comprehensive background, maps and statistics for murders in Washington DC, Homicide Watch's default view is on victims' faces. Faces are crucial to communicating the site's main message: every murder is a story about a human life.

3. **Maps "out" people.** In January, a New York suburban paper sparked public outrage when it published a map showing the name and address of every handgun permit holder in Westchester and Rockland counties. That's not to say that the paper shouldn't have published it, but mapping data can potentially raise privacy concerns. Is your mapping project making information visible that could harm someone or influence their reputation?

4. **Maps just confuse things.** Just because data can be mapped doesn't mean it should. There are only so many variables that a reader can keep track of and compare. For example, in the symbol map used by Reuters to show income inquality, the exact location and relative proportion of the map's circles are hard to determine. A labeled bar chart that is contextualized with supplementary text would have probably been easier to understand and more effective in telling the story. For more examples of data that's best left unmapped, check out NY Times' graphics editor Matt Ericson's blog post "When Maps Shouldn't Be Maps."
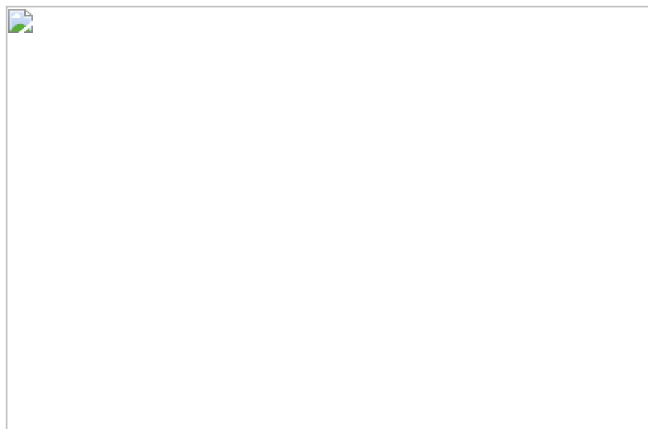

Reuter's "See Inequality Grow" Feature Symbol Map

How to Employ a Map

1. Your map needs help, context and interpretation. A map that stands by itself only provides a slice of the story. In their interactive feature "Afghanistan- Behind the Front Line", the Financial Times made a series of good design decisions, but failed to provide enough context. Non-expert readers may be left exploring the map without really understanding a complex story about nine countries' involvement in reconstruction efforts in Afghanistan. Let's first start with the feature's strong points: Rather than making one complicated map with lots of variables, the FT made a series of simple maps that are easier for the non-expert reader to understand. The choice of setting the default view to a photograph accompanied by text and methodological explanations humanizes the story and makes the visualization more transparent.

In "Narrative Visualization: Telling Stories with Data" (Segel & Heer, 2010), the authors point to further strong points of this visualization: One visual platform is consistently used for each map, and the overall color scheme changes for each tab, which allows the reader to switch between maps and easily see which variables are changing. Further, brightness is used to encode the values for each of the provinces, drawing the reader's attention to specific areas. The map's legend is adjusted in each tab to correspond to the data being mapped.
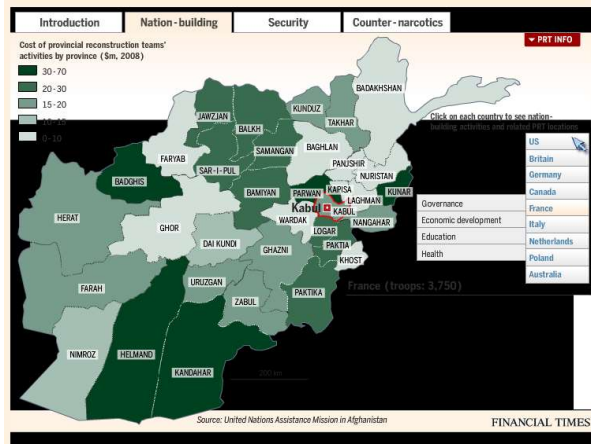
"[Afghanistan- Behind the Front Line](#)" a feature by the Financial Times

The on-demand "PRT Info" button on the upper right-hand corner of the screen helps the reader understand some context. Another step in the right direction is the details-on-demand for each country involved which detail each country's ISAF troop figure and level of involvement.

But further steps could be taken to break down the complexity of this story. For example, additional directions for how to best navigate the graphic, a timeline of reconstruction efforts, summaries for each of the maps as well as an overall summary, and links to other articles providing more background information would have been helpful for non-expert readers.

2. Your map needs friends

- *Link data to articles:* The Boston Globe's [map of homicides and shootings](#) in the neighborhood of Bowdoin-Geneva, Dorchester ties every data point to an article by presenting the story on the left side of the map page. This both reminds the reader that there's a story behind every data point and allows him to easily refer to that story.
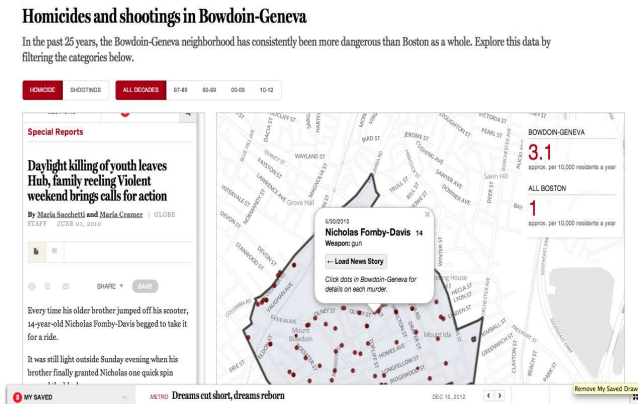

The Boston Globe 's map of homicides and shootings in Bowdoin-Geneva

- *Link data to history*: Using side bars and hover windows, [Noah Veltman](#) tied street names to their history in his interactive [map of the history of San Francisco places](#).

Noah Veltman's Map of the History of San Francisco Places
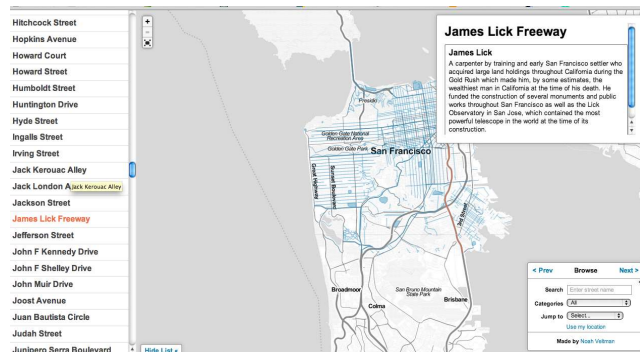
- *Link data to images, music, stories, videos:* The Austin Music Map is a public radio station's attempt to involve city residents in building an "interactive portrait" of their city. Residents are encouraged to snap a pictures, make a video or record a story about one of their favorite musical moments in Austin, then post it on the web page. The project's goal is to involving residents in sharing local stories and experiences while creating an ever-growing musical playlists organized by geography. The Localore initiative, which funded this project, spearheaded a range of similar projects that intend to involve audiences of a particular region or city in collaborative storytelling using maps.
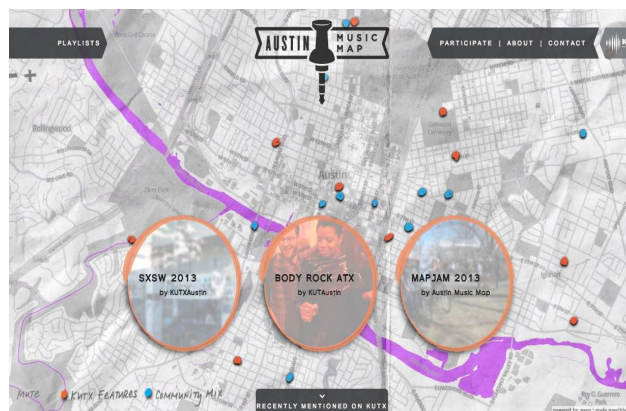
Localore's Austin Music Map

3. Boring and familiar can be good. Balancing clarity and complexity can be tricky, especially when you're unsure of who will read your map. While different types of maps have different affordances, adhering to standard maps has the benefit of your readers' familiarity with them. Supplementing a simple map with rich contextual information in the form of text, images and graphics, or presenting a series of simple maps could communicate a story more clearly than a single map with too much information.

4. How can you relate your map to its reader? It's hard to understand the dimensions or impact of an event if it's not in your backyard. People understand their local context, history and space. They can imagine events in that space and relate to these on an emotional level. The BBC graphics team found a way to bring a map story home. Their visualization tool "Dimensions" allows a reader to type in their Zip Code and see, for example, the area of the 2010 Pakistan floods overlayed onto a territory they're familiar with.

There's Help! - Some Literature and Links

Introductory guides to map-making

- John Krygier and Denis Wood's "Making Maps: A Visual Guide to Map Design for GIS"
- Data Journalism Handbook
- Tactical Tech on Info Design

Map theory and visualization techniques

- Segel, E., & Heer, J. (2010). Narrative visualization: Telling stories with data. Visualization and Computer Graphics, IEEE Transactions on, 16(6), 1139-1148
- Harley, J. B. (1989). Deconstructing the map. Cartographica: The international journal for geographic information and geovisualization, 26(2), 1-20.

Blogs about maps

- Stefan Geen's Ogle Earth Blog : Notes on the political, social and scientific impact of networked digital maps and geospatial imagery, with a special focus on Google Earth
- John Keefe, WNYC
- FloatingSheep.org: A blog about the geography of the Internet
- A list of blogs about unusual maps

What else?

- This handbook is far from complete. We've started a list of references and links, but we'd love to hear your thoughts, additions and critique.

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MIT Media Lab

Massachusetts Institute of Technology

Knight Foundation