

Visualization (Vis)

**Storytelling with
Interactive Data Visualizations**



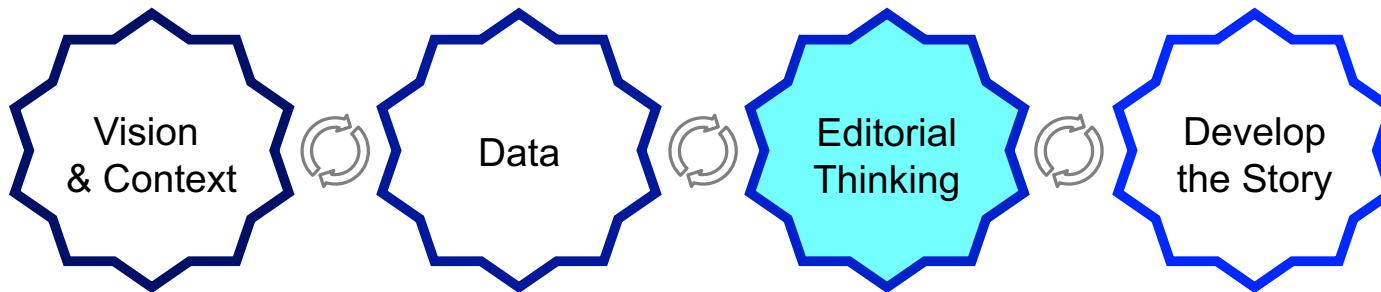
Lecture 4
—
Editorial Thinking



Photo by Dorothea OLDANI on Unsplash



What is Editorial Thinking?



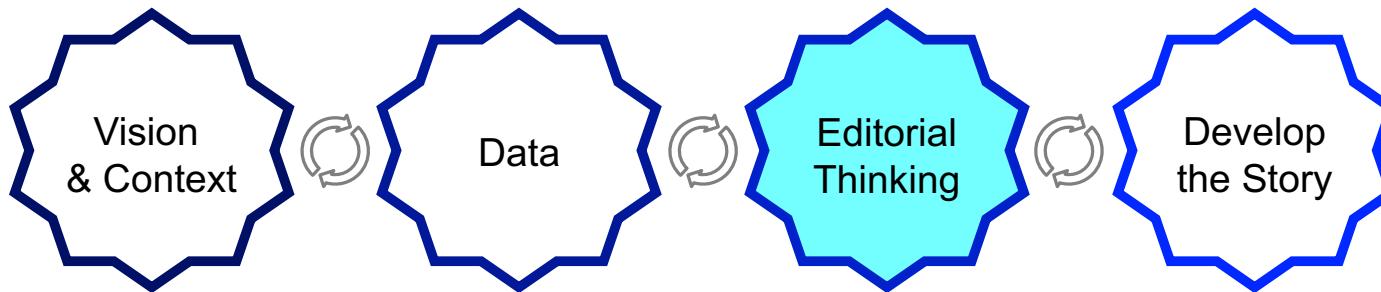
- ◆ Vision & Context: Motivating Curiosity; Audience; Intended Effect; Tone
- ◆ Data: Iterated on/Refined the above!
- ◆ Editorial Thinking: *Out of everything you could show, what will you show the audience?*

***“Good content reasoners and presenters are rare, designers are not.”* (Edward Tufte)**

- ◆ Develop the Story: How to show it



The Vis Process: Editorial Thinking



- ◆ Angle
 - What questions should your eventually chosen charts answer?
- ◆ Framing
 - What data items and values to include and exclude?
- ◆ Focus
 - What to emphasize? What is your message?



Visualization

Editorial Thinking

1. Angle
2. Framing
3. Focus
4. Examples
5. Relevance



Angle

- ◆ Angle = View of the Data
- ◆ Every Visualization limited → cannot give full view of the data simultaneously
 - Examples:
Show how values have changed over time or Show data geographically on a map?
Show breakdown per category or Show relationships between different attributes?
- ◆ Angle in Visualization can often be framed as a question
- ➔ Decide on angle + pick chart type accordingly
- ➔ Multiple angles may be necessary

Photography

Angle = position from which to take the photo & view of the subject from this position

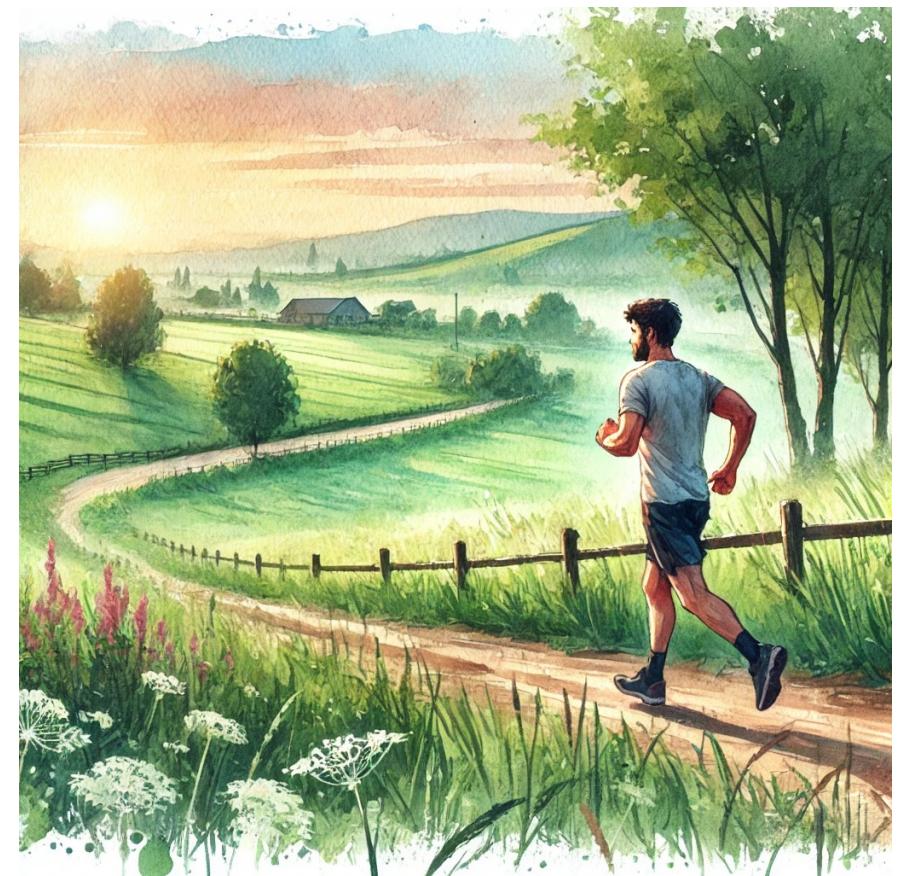


Examples

Example: Motivating Curiosity for a Runner:

How was my run?

- ◆ Possible angles formulated as questions
 - What distance did I run?
 - In what time did I run it?
 - What pace did I run?
 - At what time did I run it?
 - What route did I take?
 - What was the route elevation?
 - What time did I complete each 1km split?
 - ...





More is Less!

- Even small datasets: typically multiple angles
- Temptation: use multiple angles to serve more people's interests

→ Trap of lazy thinking -- **More is Less!**

- Keep asking
 - Do we need to show this?
 - Is it really necessary?
 - What do we lose if we do not show it?

Photography

Just because you can take 300 photos of your holiday,
does not mean you should show them all to your friends!





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Framing

- ◆ **Framing = Filtering the content to include**
- ◆ Decide, which data items to include and which ones to exclude
- ➔ Remove unnecessary clutter
- ◆ Goal
 - Reduce visual complexity (clutter)
 - Do not include more than the audience can process
 - Do not give them a puzzle to solve
 - Do not mislead the audience!
- ◆ Tradeoff
 - Filter too much: may disguise important context
 - Filter too little: salient discoveries may be hidden under clutter

Photography

Framing = chose the field of view
(e.g., by zooming in / out)



Examples

Example: Motivating Curiosity for a Runner:

How was my run?

◆ **Framing Decisions**

- Include only latest run, other recent runs, all runs?
- Include only runs with a certain minimum distance?
- Include only runs on certain routes or all routes?
- Include only my data or other peoples data (e.g., running mates)?
- ...





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Focus

- ◆ Focus = which data items to emphasise
- Focus the attention of the audience on specific data items
- ◆ Opinionated Choice!
 - Which features of the visualization to you (the vis designed) deem to be more important than others?
 - What needs to be BIGGER and more PROMINENT and what to be less so?
 - What needs to be brought into the foreground, left in the middle, relegated to the back?
- ◆ Balance the volume of the data
 - If everything is shouting, nothing is heard
 - If everything is in the foreground, nothing stands out
 - If everything is bold, nothing dominates

Photography

Balance light & color to illuminate key elements and convey visual depth



Examples

Example: Motivating Curiosity for a Runner:

How was my run?

◆ Focus Decisions

- Use colour highlighting to emphasize above-average runs?
- Use labels to point out fastest und furthest run?
- Use colour to highlight slow/fast phases of the run?
- ...





Visualization

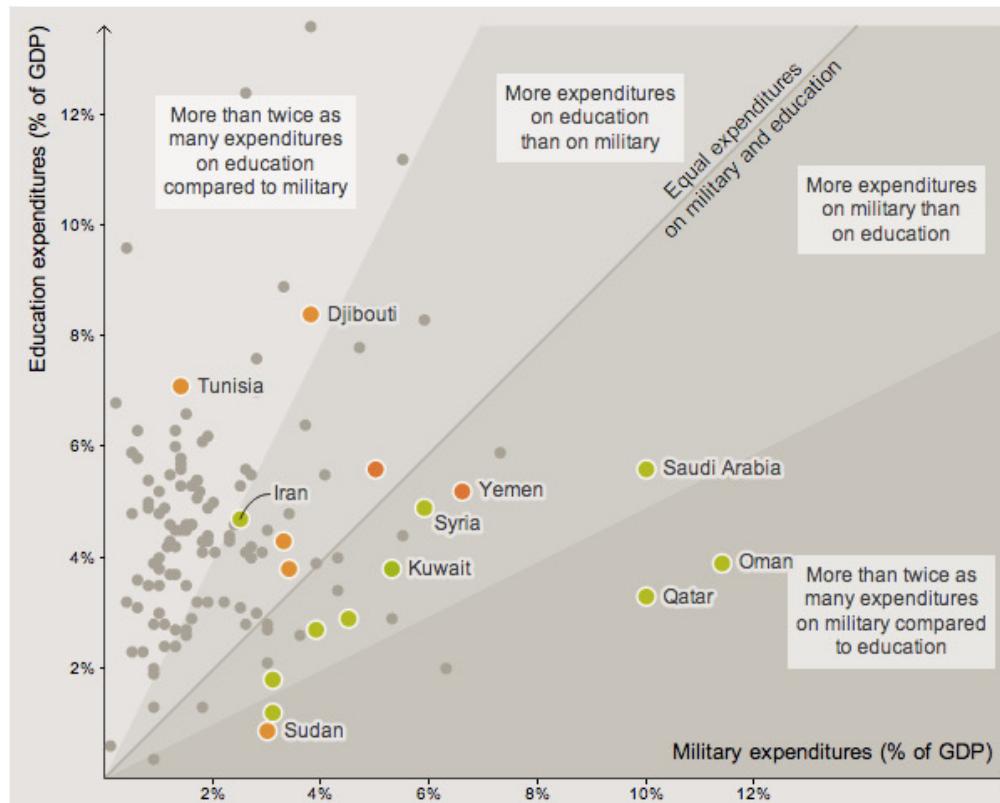
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Example 1

◆ "In Numbers: Education Around the World"

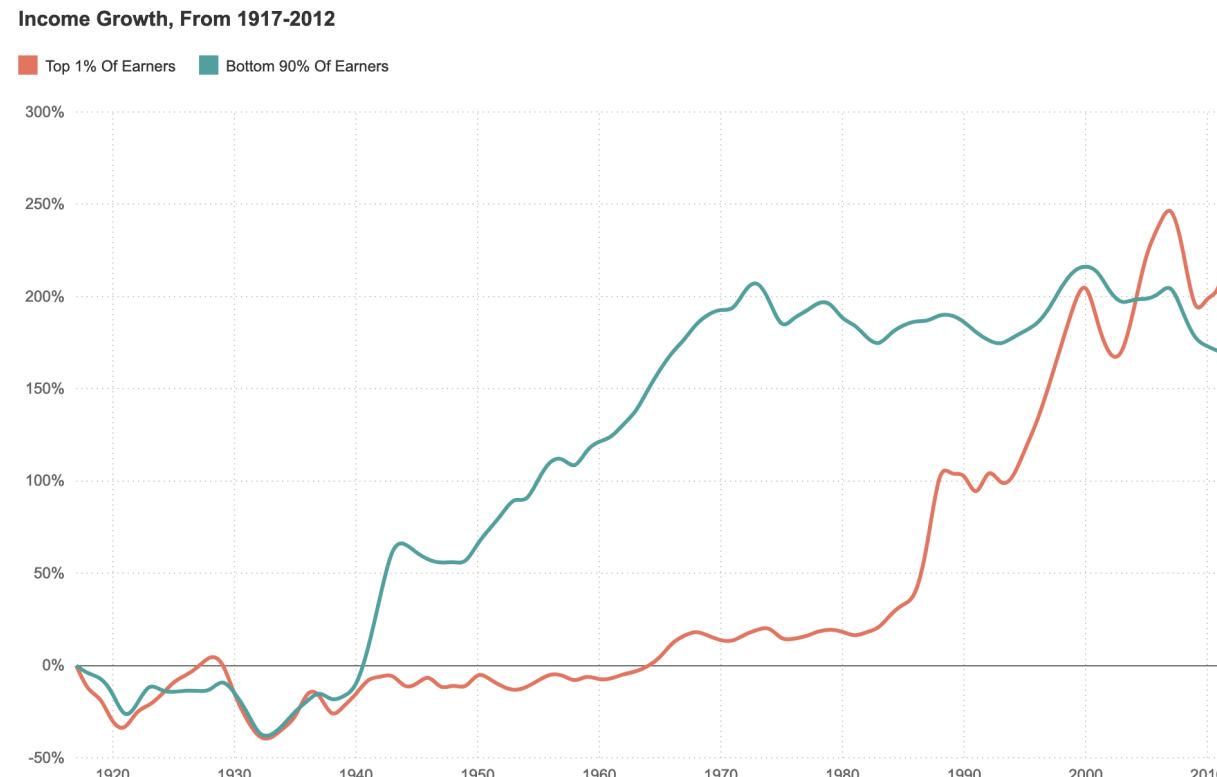


Secondary Source: Andy Kirk, Data Visualization: a successful design process. Primary source: Gregor Aisch, Deutsche Welle, <http://visualdata.dw.de/specials/bildung/en/index.html> (primary source not online anymore)



Example 2 – Chart 1

- ◆ “The Fall and Rise of US Inequality, in 2 Graphs”

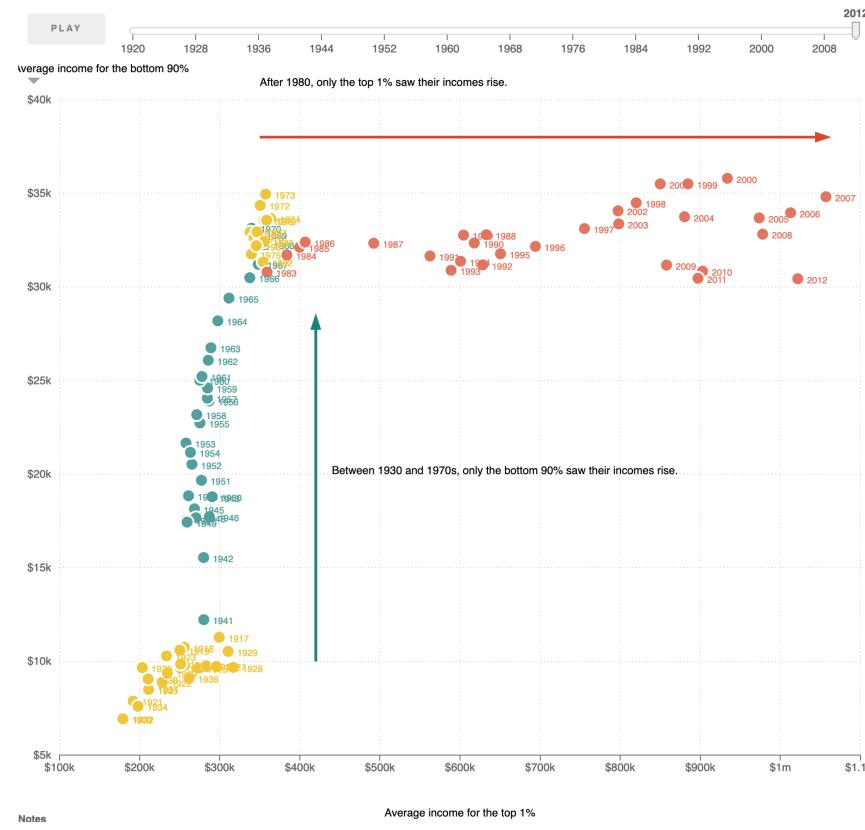


Source: <https://www.npr.org/sections/money/2015/02/11/384988128/the-fall-and-rise-of-u-s-inequality-in-2-graphs>



Example 2 – Chart 2

- ◆ “The Fall and Rise of US Inequality, in 2 Graphs”



Source: <https://www.npr.org/sections/money/2015/02/11/384988128/the-fall-and-rise-of-u-s-inequality-in-2-graphs>



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But how do I do this?

Questions:

- ◆ How do we arrive at the Editorial Perspective (Angle, Framing, Focus)?
 - ◆ How do we know it is the right one?
- Relevance

are we providing
our audience
with access to the
most useful (most relevant) understanding
about the subject?

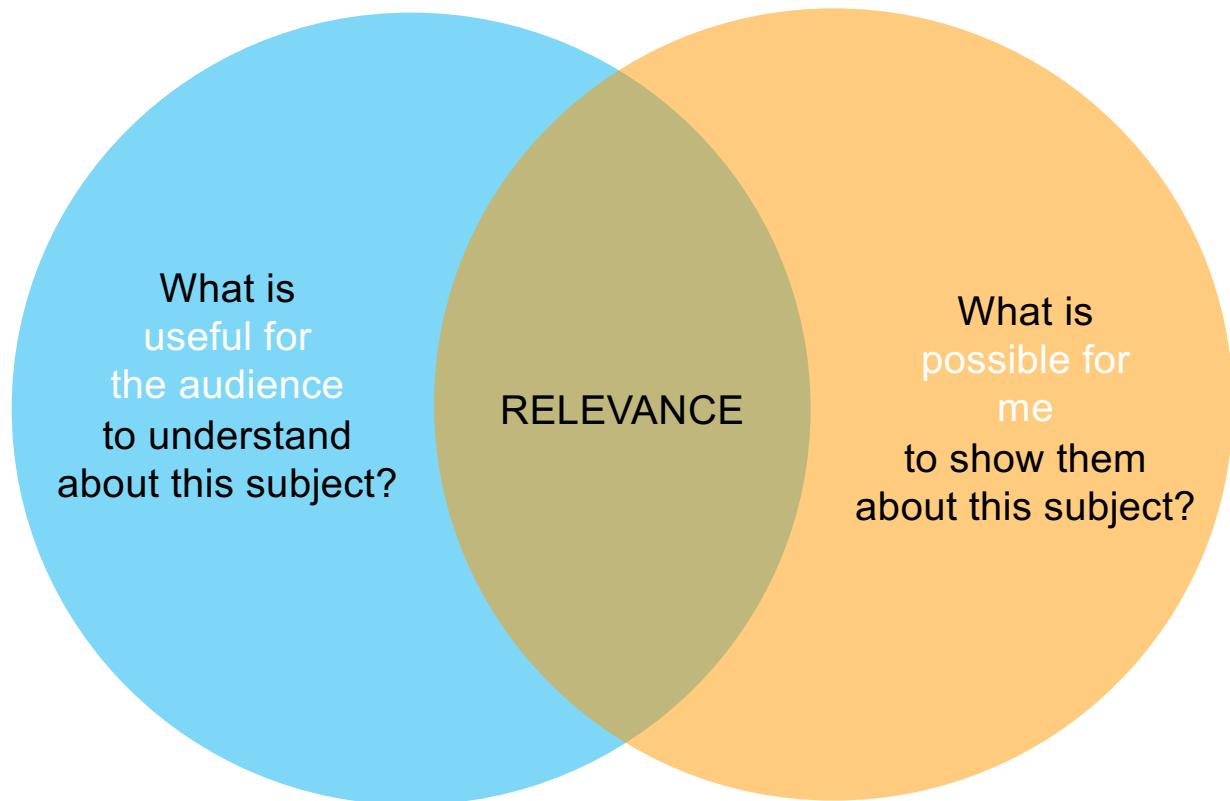


Relevance

- ◆ Start with **Motivating Curiosity**
- ◆ Consider furthermore Usefulness
 - **Timeliness:** Is the understanding beneficial at the moment of encounter?
 - **Interestingness:** Is the topic stimulated by new understanding or helping to enforce existing understanding?
 - **Pertinence:** Does the audience have an established association with the topic?
 - **Sufficiency:** Is the level of detail appropriate to the viewer's needs at the moment of encounter?
- ◆ Check that you do have the **data**
- ◆ **Opinionated:** you decide!
 - Audience may not know what is useful to them, Vis designed (you) needs to lead them on to what you want them to know



Relevance





Your Turn !

Exercise 1

Editorial Thinking

How to survive a Shipwreck





Key Takeaways

- ◆ Editorial Thinking:
Out of everything you could show, what will you show the audience?
- ◆ Angle
 - View of the Data – **More is Less!** (trap of lazy thinking)
 - What questions should your eventually chosen charts answer?
- ◆ Framing
 - What data items and values to include and exclude (filter)?
- ◆ Focus
 - What to emphasize? What is your message?
- ◆ Relevance: the intersection of useful and possible



Photo by Dragonfly Ave on Unsplash



Project Work





Pre-Selection of Vis Project Ideas

- ◆ Today, we will pre-select between one or two Vis Project Ideas out your 4 Project Proposals
- ◆ Each team will then decide on the final Vis Project to be realized