

# Communicating with Data – Storytelling

Dr. Ab Mosca (they/them)

Slides based off slides courtesy of Jordan Crouser (<https://jcrouser.github.io/>)

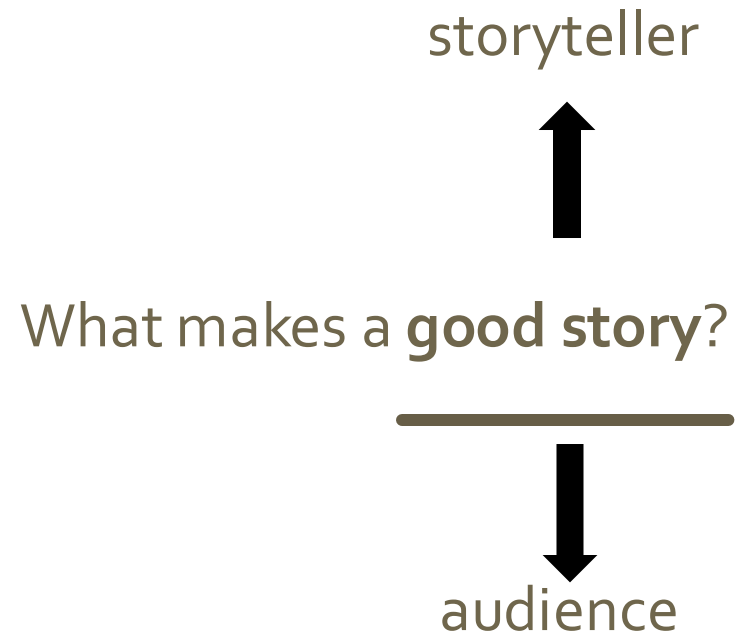
# Plan for Today

- Narrative structures
- Narrative structures in visualization
- Roles of the reader and the author

Storytelling  
with  
~~visualization~~



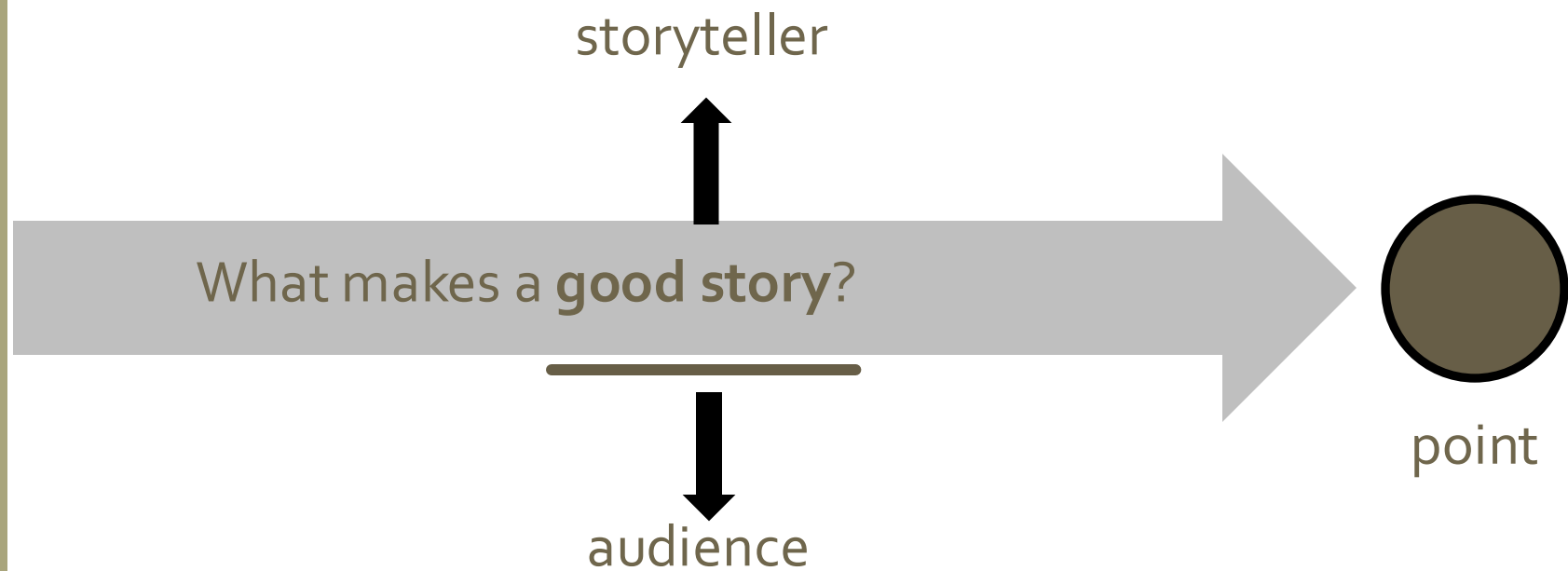
# Discussion

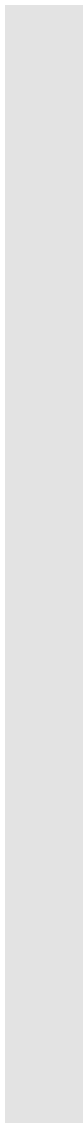


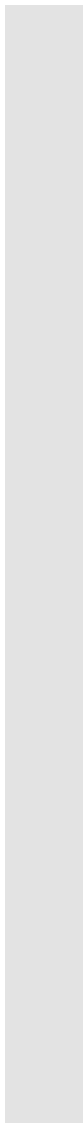
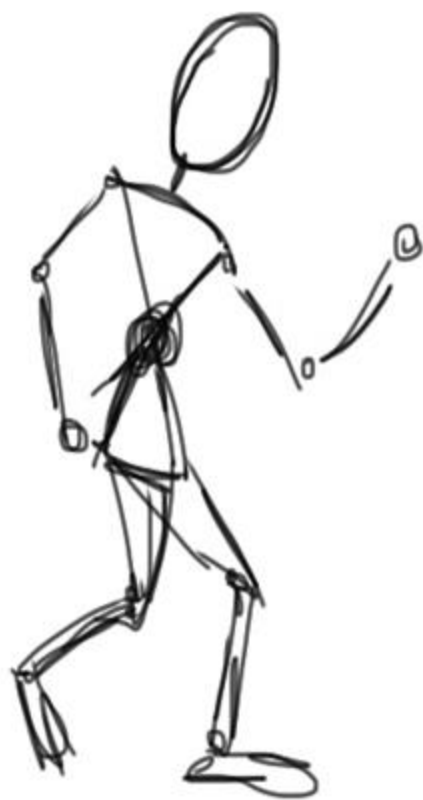
# Story teller & Audience



# Discussion

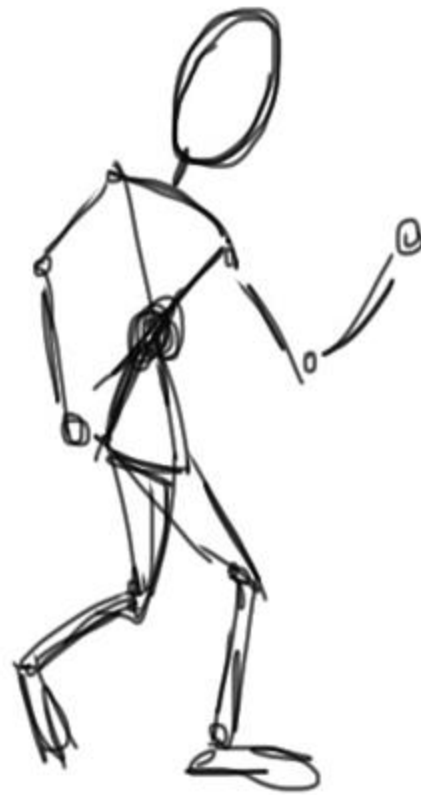


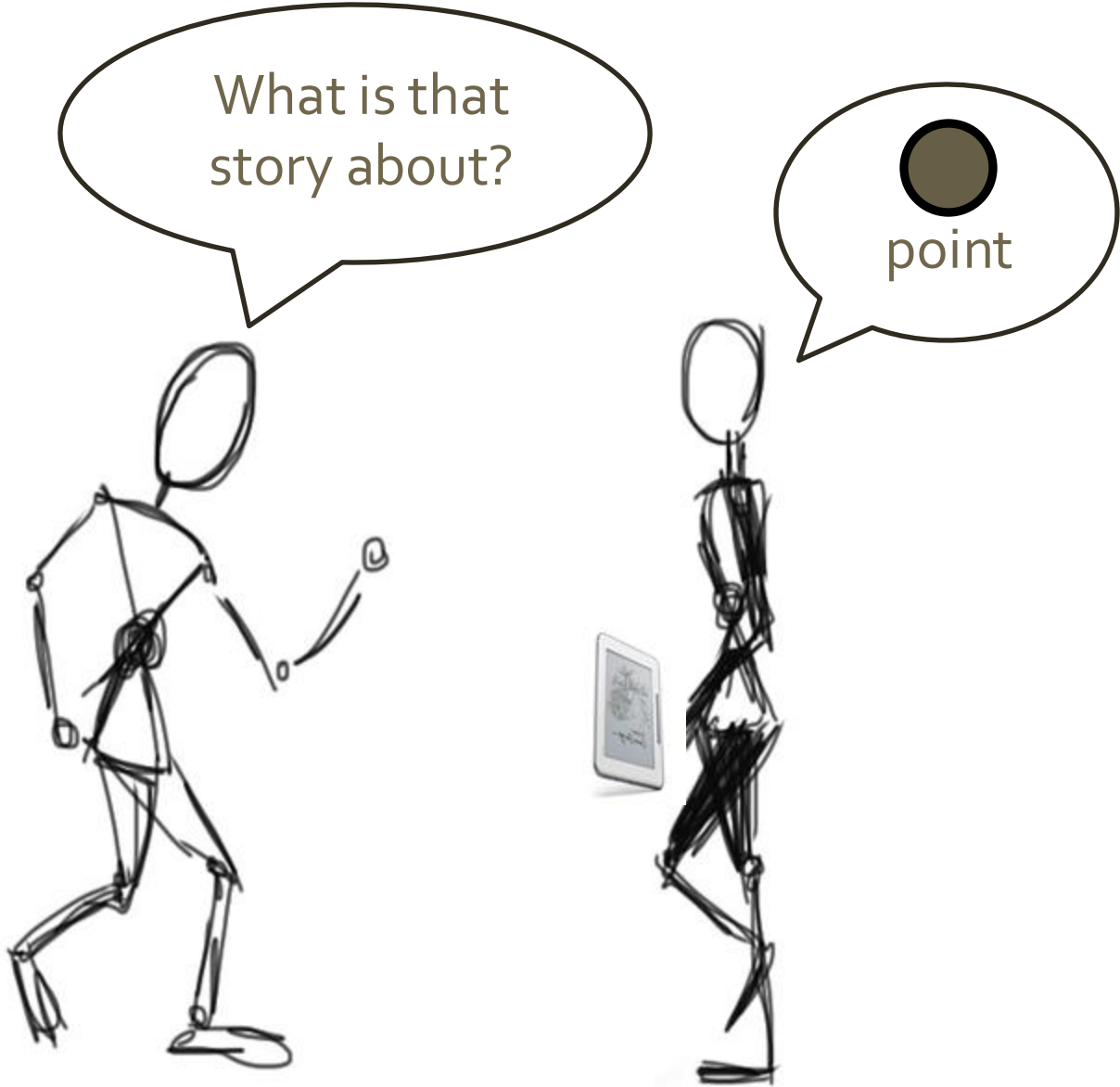






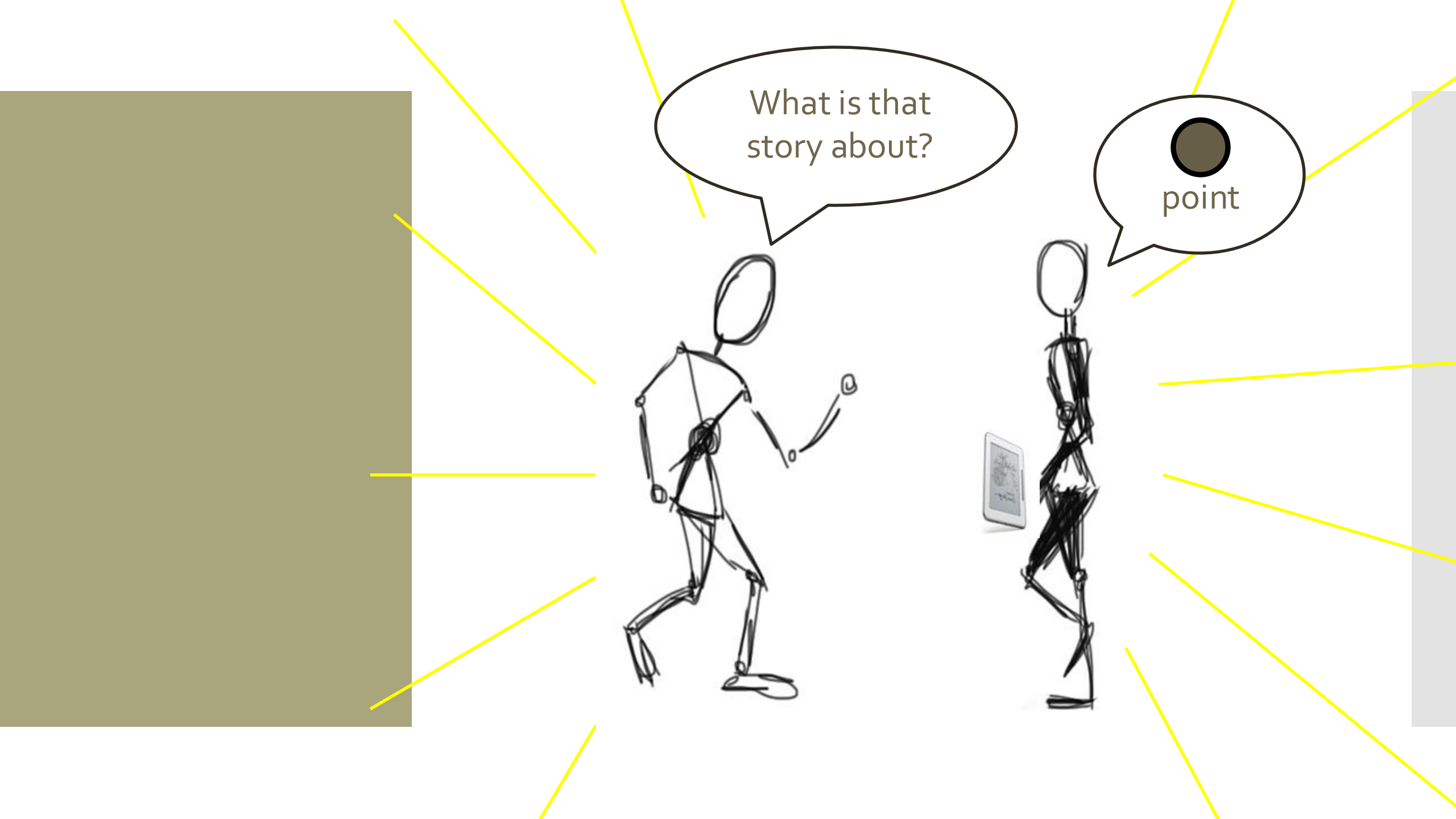
What is that  
story about?





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story about?

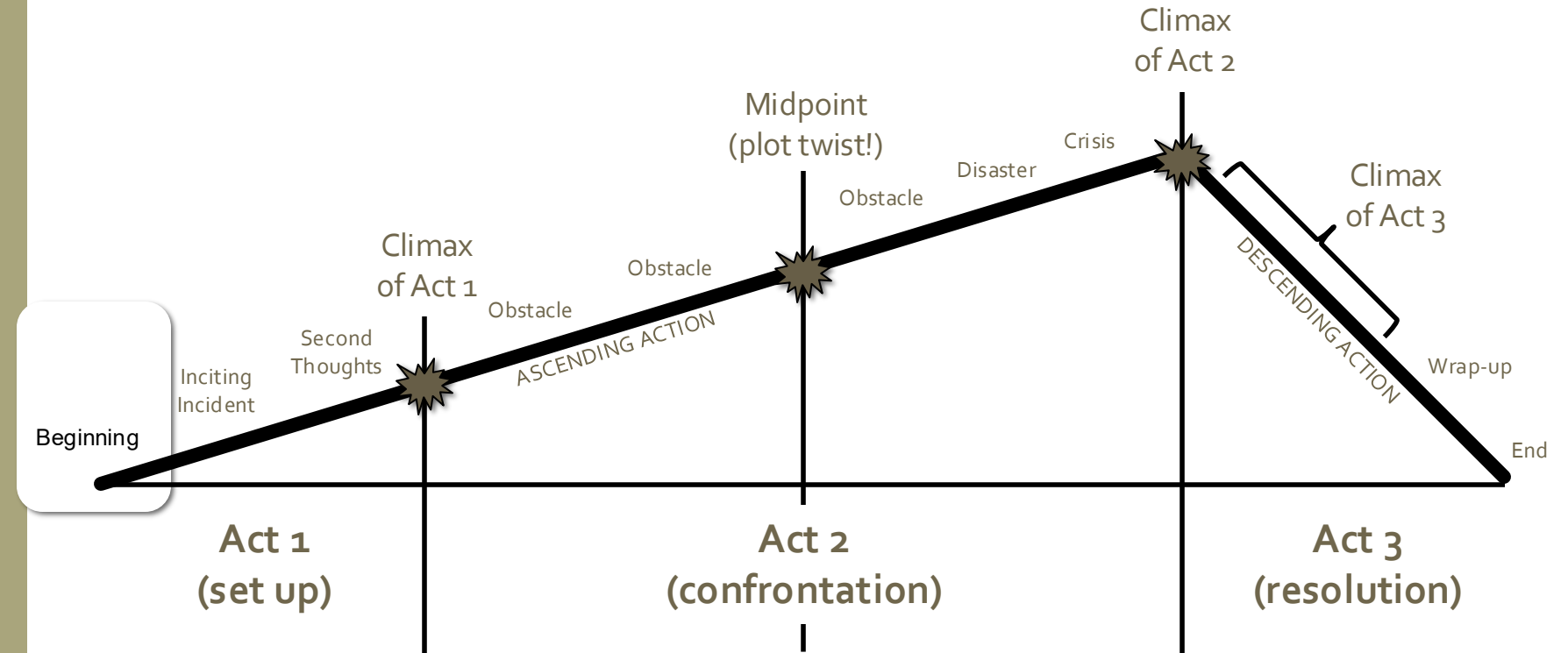
point



What is that  
story about?

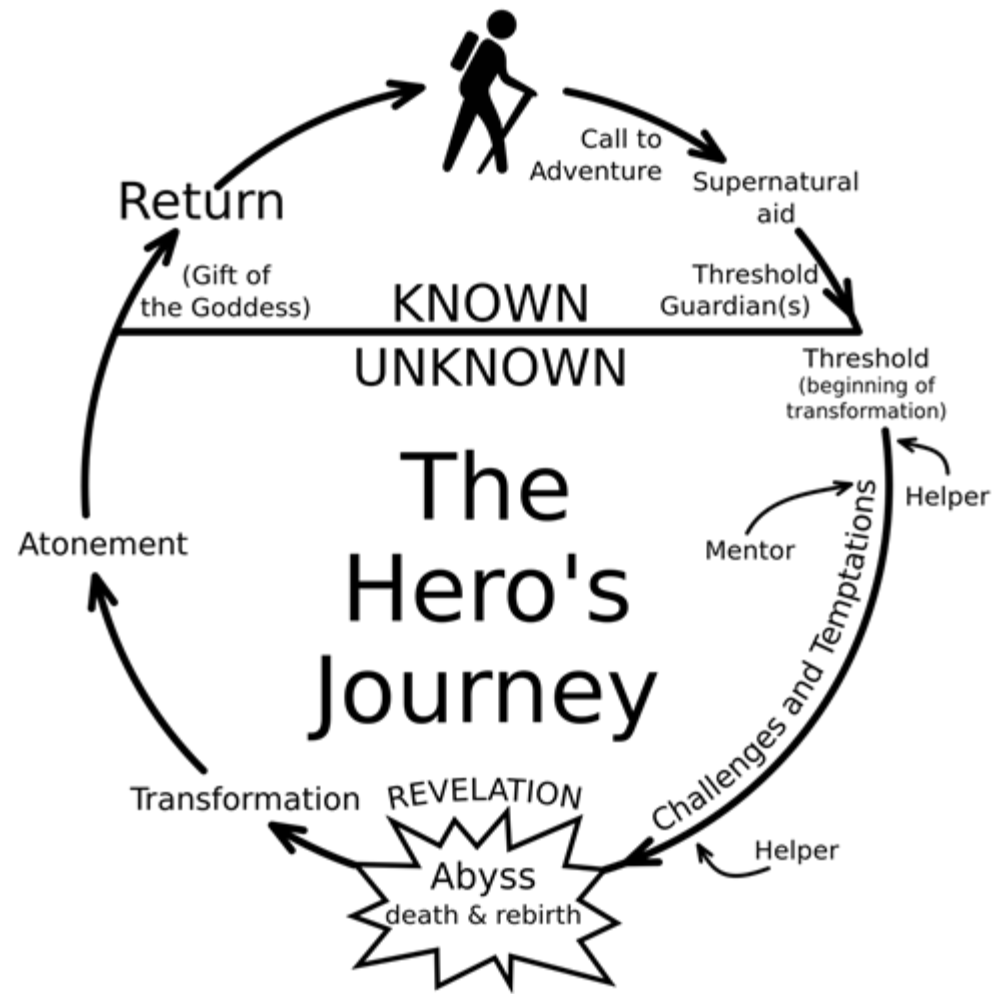
point

# Ways to get to the point

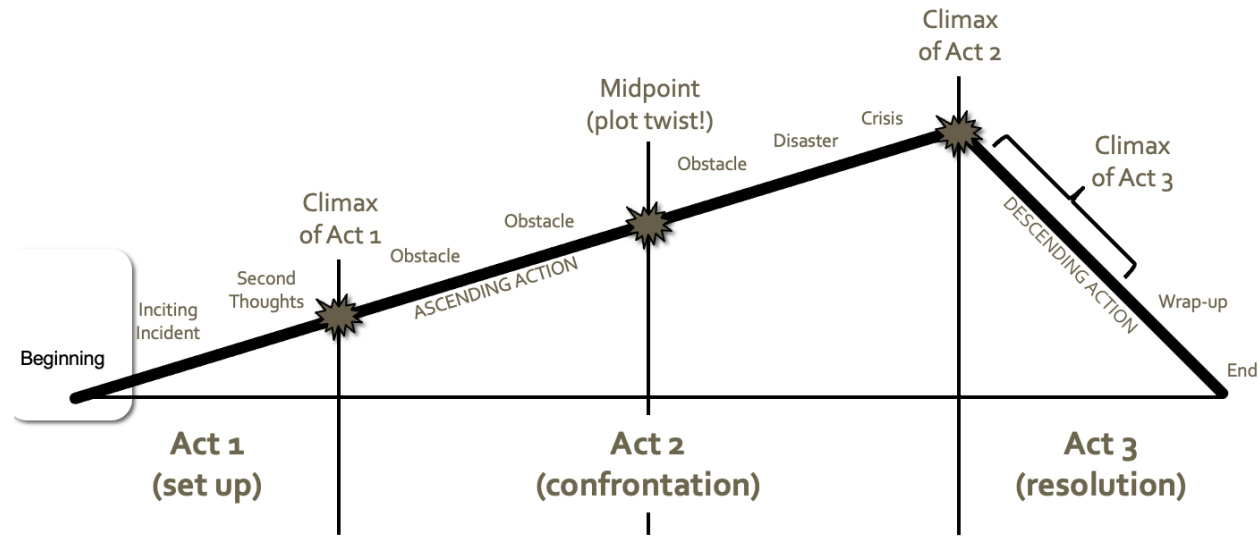


Three Act Structure

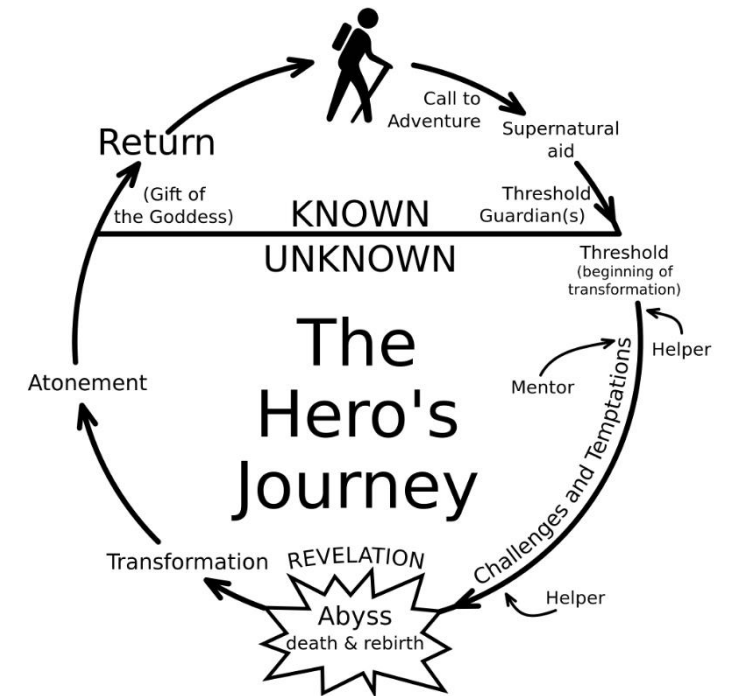
# Ways to get to the point



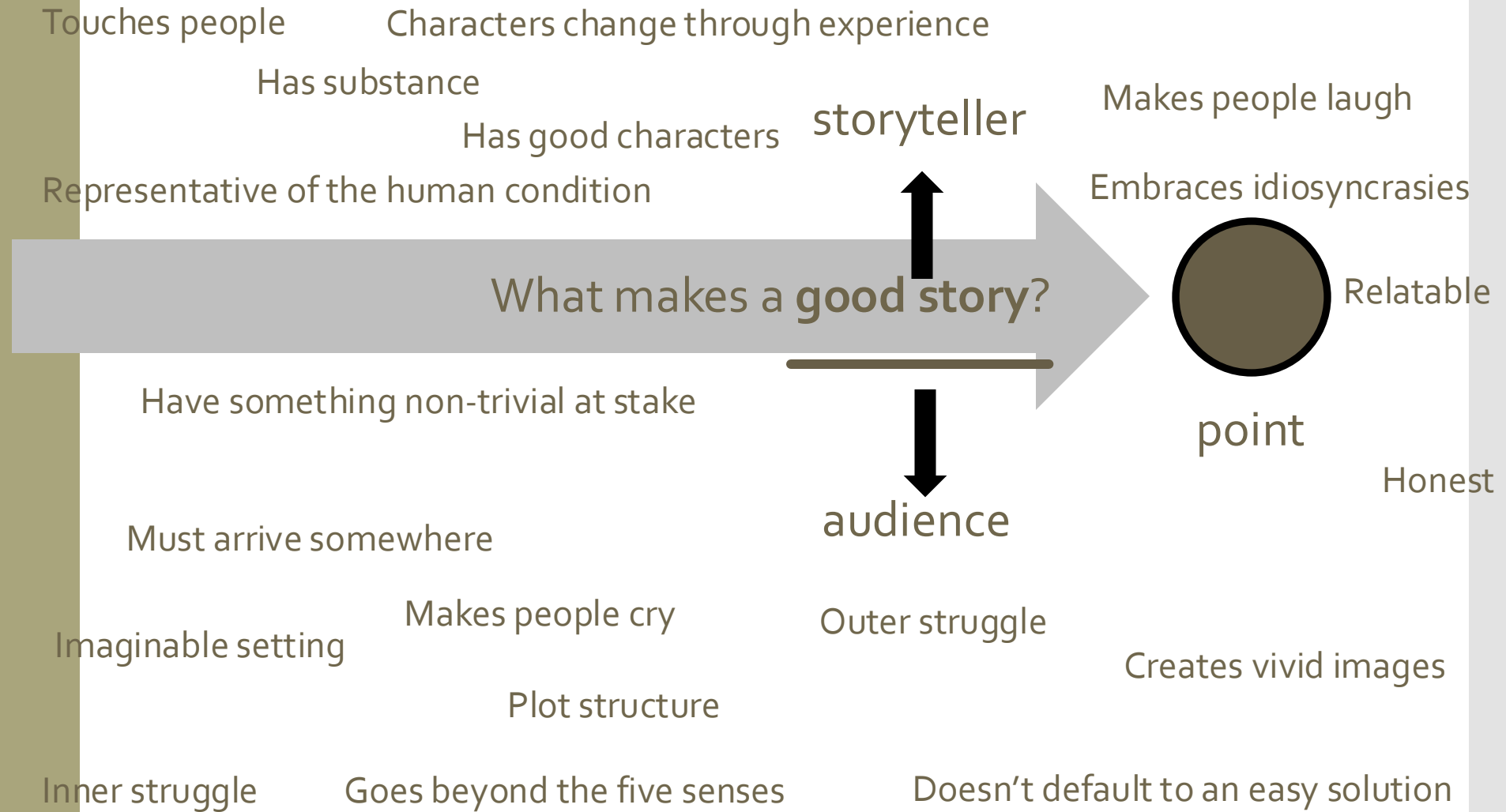
What movies  
use what arc?



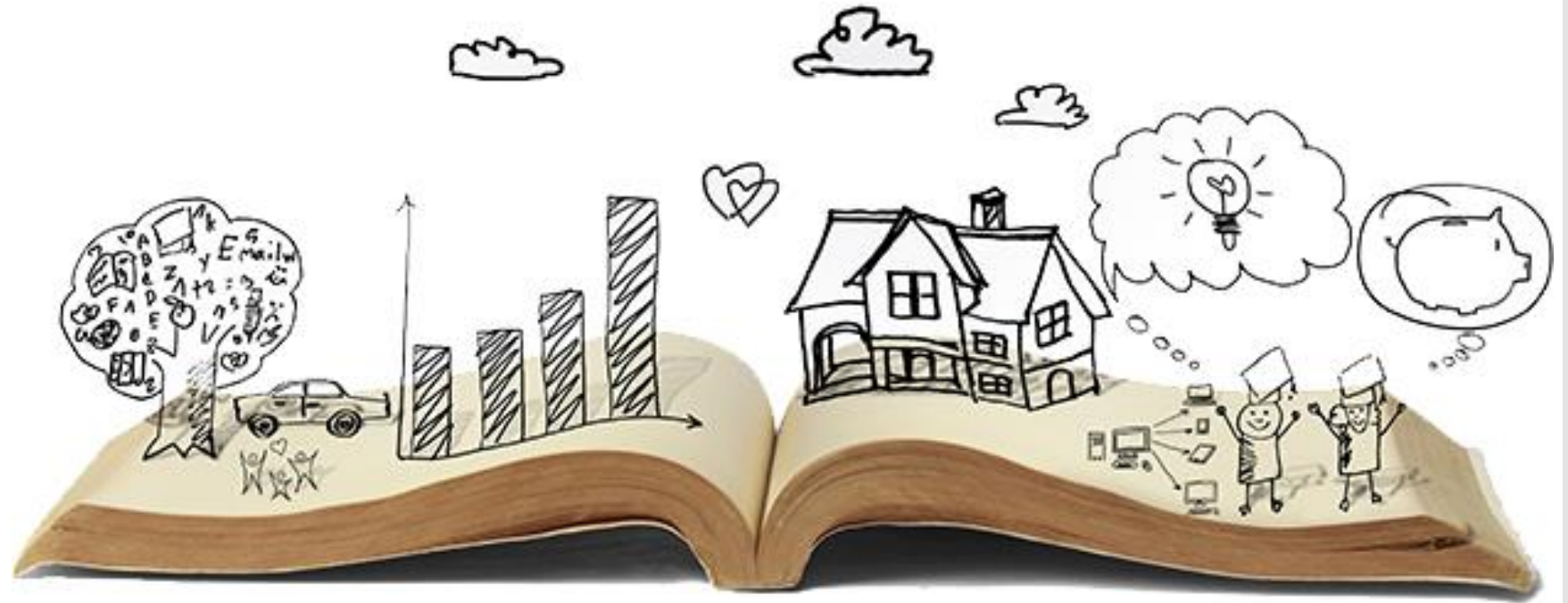
Three Act Structure



And a bunch  
of other  
stuff, too...



# Storytelling with visualization



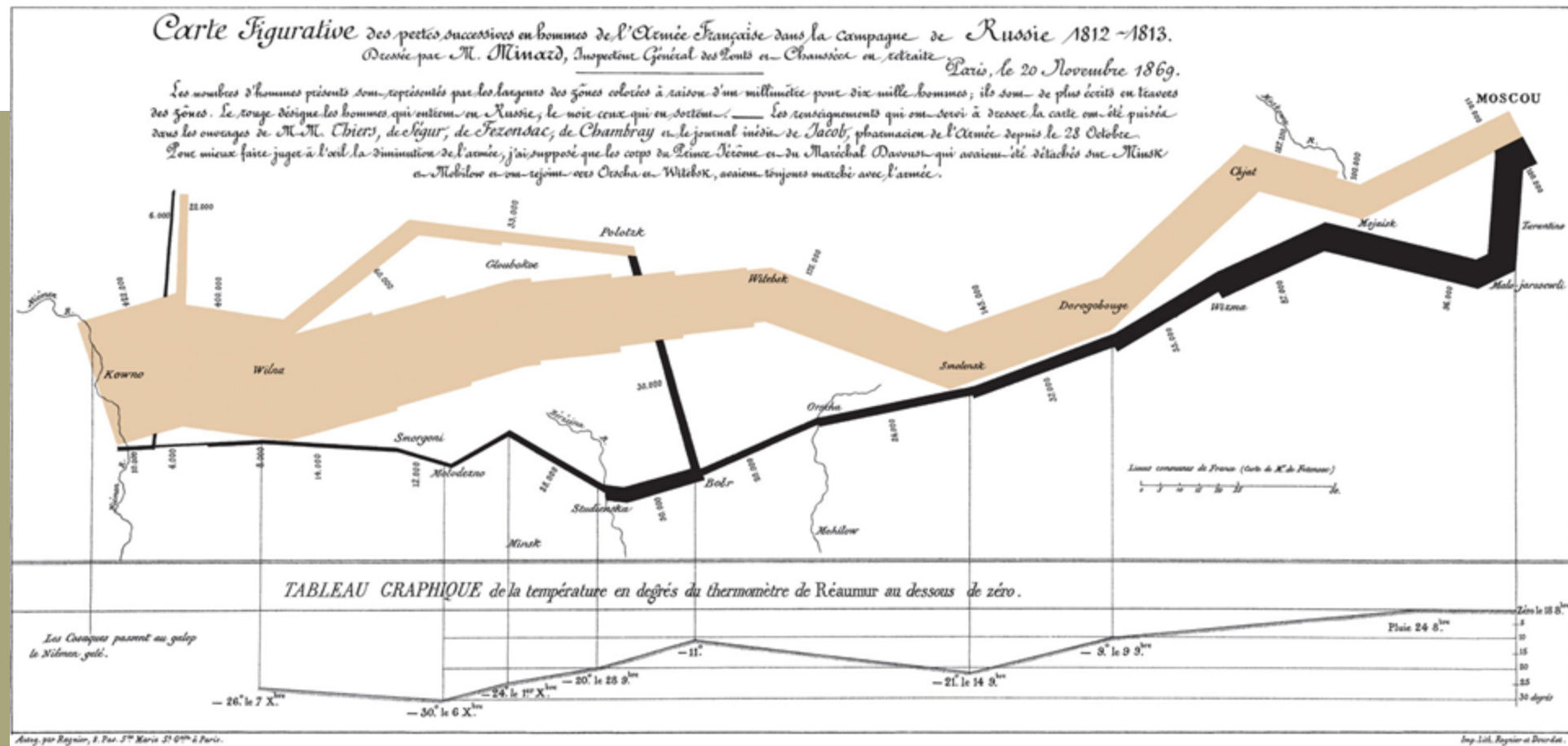


# Discussion

What makes a good data story?

Asset Manu FIC	(INSTP)	FIC (Strick)	P0009001	FIC - CS - C	Operations	O	25	5	4728	TOC	TORONTO	CANADA	Customer S	Name	None	None	None	None	None	None	Moderate	High	None	None	None	None	High	None
Asset Manu FIC	(INSTP)	FIC (Strick)	P0009002	FIC - Mark	Operations	B	8	54	6940	TOC	TORONTO	CANADA	Product De	Name	None	None	None	None	Low	Moderate	Moderate	Moderate	Low	None	None	Low	None	
Asset Manu FIC	(INSTP)	FIC (Strick)	P0009003	FIC - Legal	Operations	B	4	5	6965	TOC	TORONTO	CANADA	Administrat	Name	None	None	None	None	Moderate	Moderate	Moderate	Moderate	Low	Low	Low	Low	None	
Asset Manu FIC	(INSTP)	FIC (Strick)	P0009004	FIC - IS - A	Operations	O	72	35	6967	TOC	TORONTO	CANADA	Systems In	Name	None	None	None	None	None	None	None	None	None	None	None	None	None	
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Asset Manu FIC	(INSTP)	FIC (Strick)	P0112002	FIC - Prod	Operations	C	12	24	6940	TOC	TORONTO	CANADA	Product De	Name	None	None	None	None	None	None	None	None	None	None	None	None	None	
Asset Manu FIC	(INSTP)	FIC (Strick)	P0112004	FIC - FAAD	Operations	C	24	53	6976	TOC	TORONTO	CANADA	Sales	Name	None	None	None	None	Low	Low	Low	Low	None	None	None	None	None	
Asset Manu FIC	(INSTP)	FIC (Strick)	P0114001	FIC - IS - D	Emergency	A	0	4	6967	TOC	TORONTO	CANADA	Technology	Name	None	None	None	None	None	None	None	None	None	None	None	None	None	
Asset Manu FIC	(INSTP)	FIC (Strick)	P0114002	FIC - IS - D	IT Support	B	4	27	6967	TOC	TORONTO	CANADA	Technology	Name	None	None	None	None	None	Low	Low	Moderate	None	None	None	None	None	
Asset Manu FIC	(INSTP)	FIC (Strick)	P0114003	FIC - CS - C	Operations	B	4	40	6971	TOC	TORONTO	CANADA	Call Center	Name	None	None	None	None	Low	Low	Moderate	High	None	None	None	None	None	
Asset Manu FIC	(INSTP)	FIC (Strick)	P0114005	FIC - CS - C	Operations	B	4	8	9482	TOC	TORONTO	CANADA	Cash Mana	Low	Low	Low	Low	None	High	High	High	None	High	High	High	High		
Asset Manu FIC	(INSTP)	FIC (Strick)	P0114008	FIC - CS - R	Operations	B	4	25	6997	TOC	TORONTO	CANADA	Document	Name	High	High	High	High	None	Moderate	High	High	None	High	High	High	None	
Asset Manu FIC	(INSTP)	FIC (Strick)	P0114009	FIC - CS - R	Operations	B	4	43	6969	TOC	TORONTO	CANADA	Administrat	Name	None	None	Low	Low	None	None	Moderate	Moderate	None	None	Low	Low	None	
Asset Manu FIC	(INSTP)	FIC (Strick)	P0114010	FIC - CS - R	Operations	B	4	11	6340	TOC	TORONTO	CANADA	Administrat	Name	None	None	Low	Low	None	None	Moderate	Moderate	None	None	Low	Moderate	None	
Asset Manu FIC	(INSTP)	FIC (Strick)	P0114011	FIC - CS - R	Operations	B	4	8	6963	TOC	TORONTO	CANADA	Relationsh	Name	Low	Moderate	High	None	High	High	High	None	Low	Moderate	High	None		
Asset Manu FIC	(INSTP)	FIC (Strick)	P0114012	FIC - CS - C	Operations	B	4	5	6970	TOC	TORONTO	CANADA	Call Center	Name	None	None	None	None	None	None	None	None	None	None	None	None	None	
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# Napoleon's March

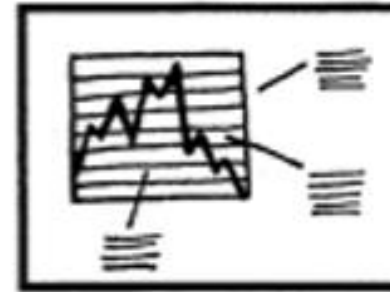
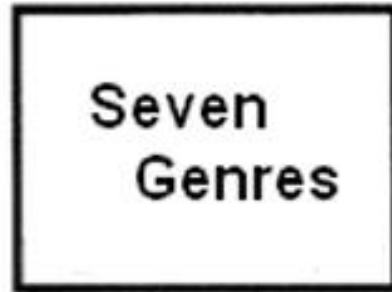


“Probably the best statistical graphic ever drawn, this map by Charles Joseph Minard portrays the losses suffered by Napoleon’s army in the Russian campaign of 1812. Beginning at the Polish-Russian border, the thick band shows the size of the army at each position. The path of Napoleon’s retreat from Moscow in the bitterly cold winter is depicted by the dark lower band, which is tied to temperature and time scales.” - *Edward Tufte*

# Design Space of Narrative Visualization

1. Genre
2. Visual Narrative Tactics
3. Narrative Structure

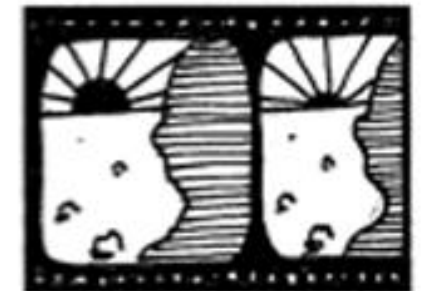
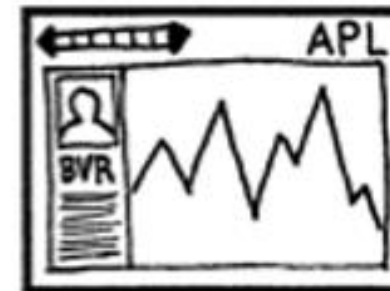
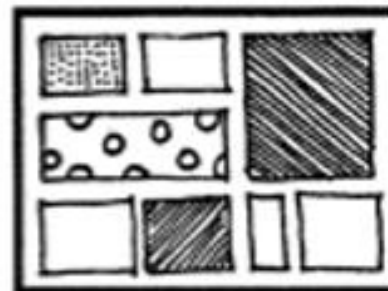
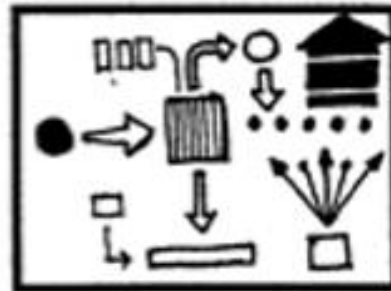
# Genre



Magazine Style

Annotated Chart

Partitioned Poster



Flow Chart

Comic Strip

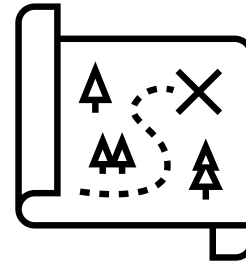
Slide Show

Film/Video/Animation

# Visual Narrative Tactics

- Visual devices that assist and facilitate the narrative

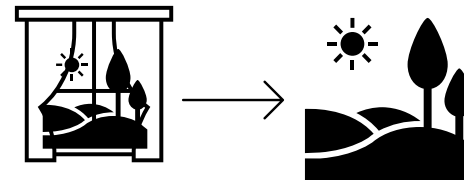
- Visual structuring



- Highlighting



- Transition guidance



# Narrative Structure

Author Driven

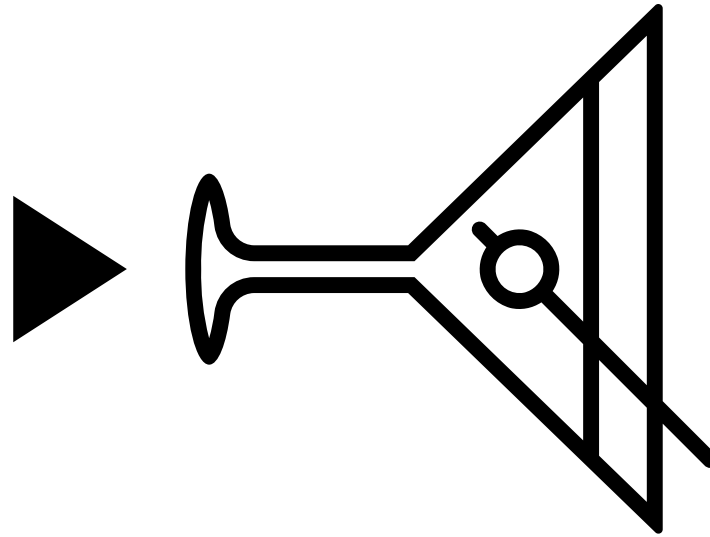
Reader Driven



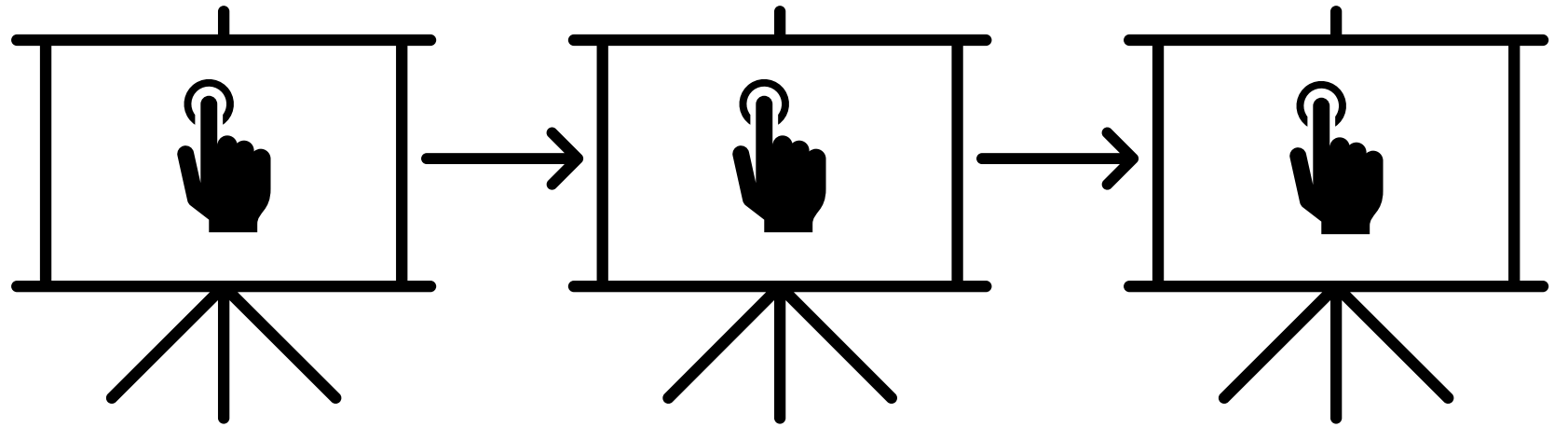
- Linear ordering of scenes
- Heavy messaging
- No interactivity

- No prescribed ordering
  - No messaging
  - Free interactivity

# Narrative Structure: Martini Glass

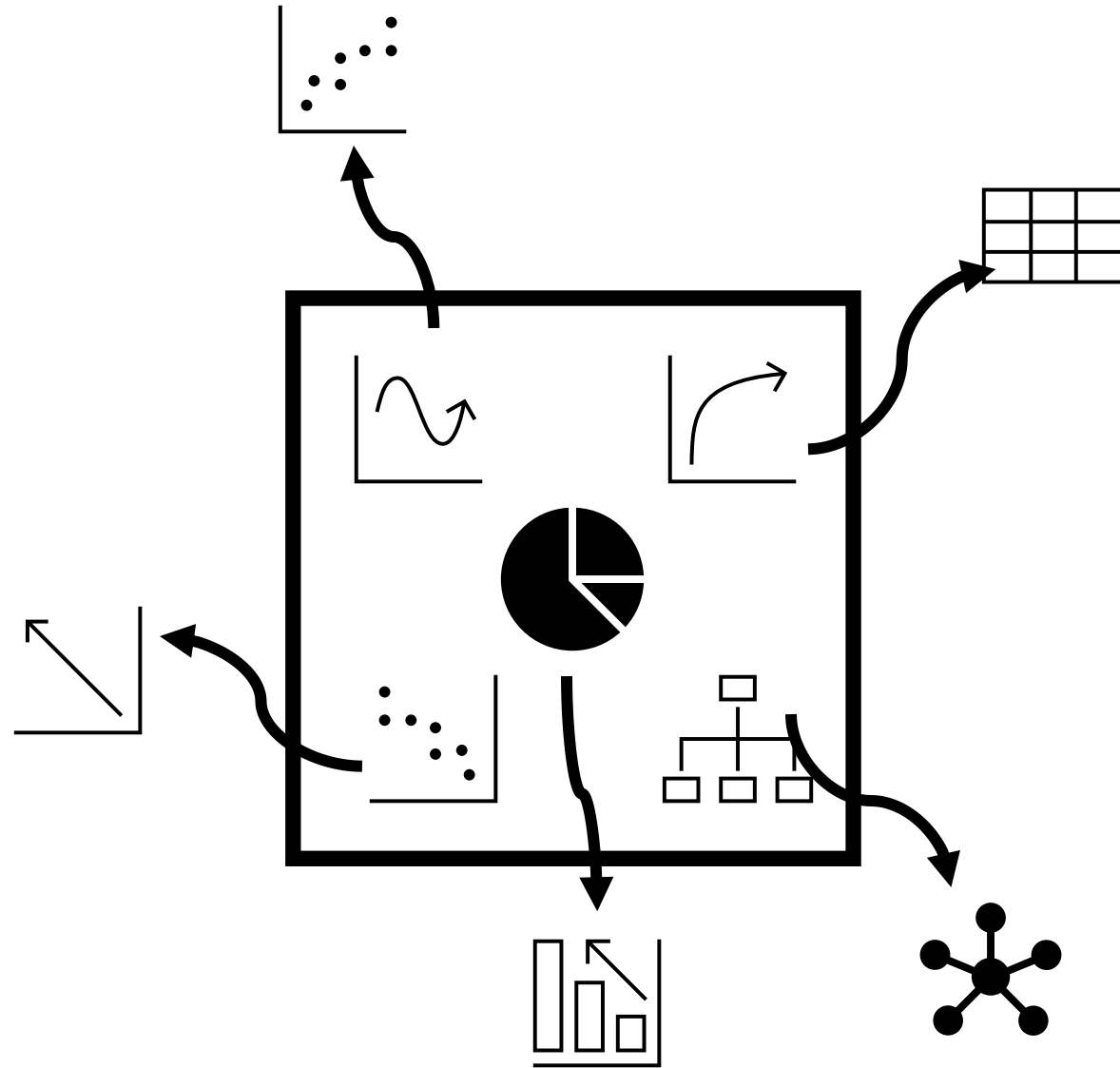


# Narrative Structure: Interactive Slide Show

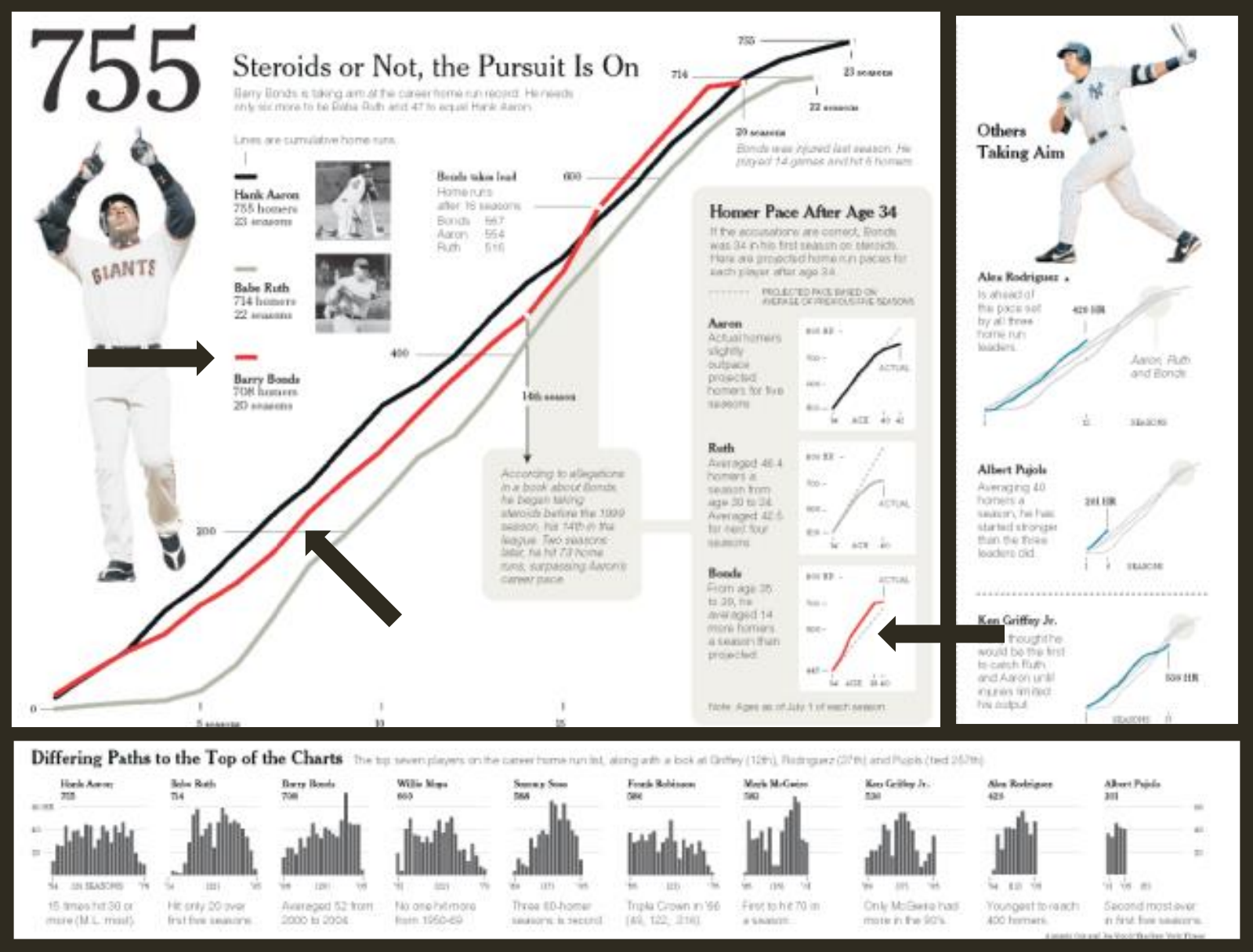




# Narrative Structure: Drill-Down Story



Example:  
Baseball  
(static)



Example:  
Wealth  
inequality in  
the US  
(animated)



[https://youtu.be/QPKKQnijnsM?si=j\\_hPOOsIxFGkNgHM](https://youtu.be/QPKKQnijnsM?si=j_hPOOsIxFGkNgHM)

Example:  
Wealth  
inequality in  
the US  
(interactive)



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

# Practice

- Work in small groups or pairs
- Pick a topic of interest to you
- Sketch 3 possible narrative visualizations for your topic
  - One should be primary author-driven
  - One should be primarily reader-driven
  - And the last should be somewhere between