

Communicating with Data – Storytelling

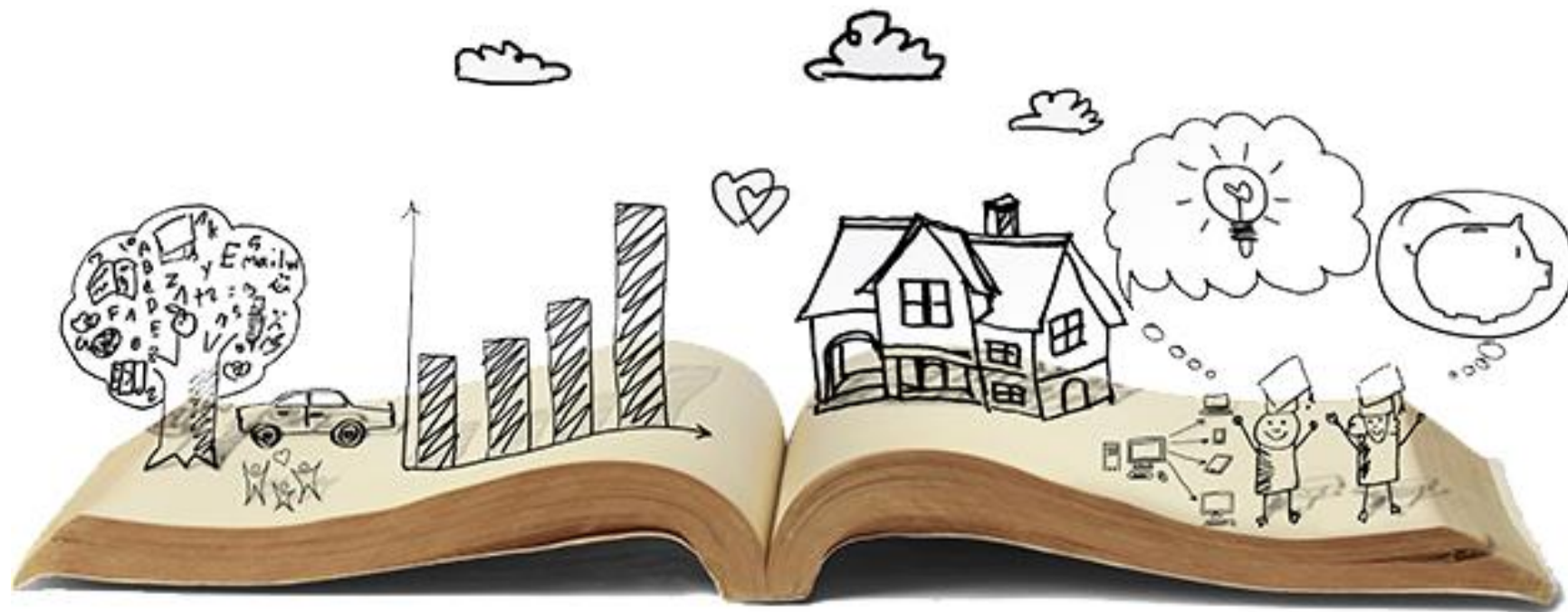
Dr. Ab Mosca (they/them)

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

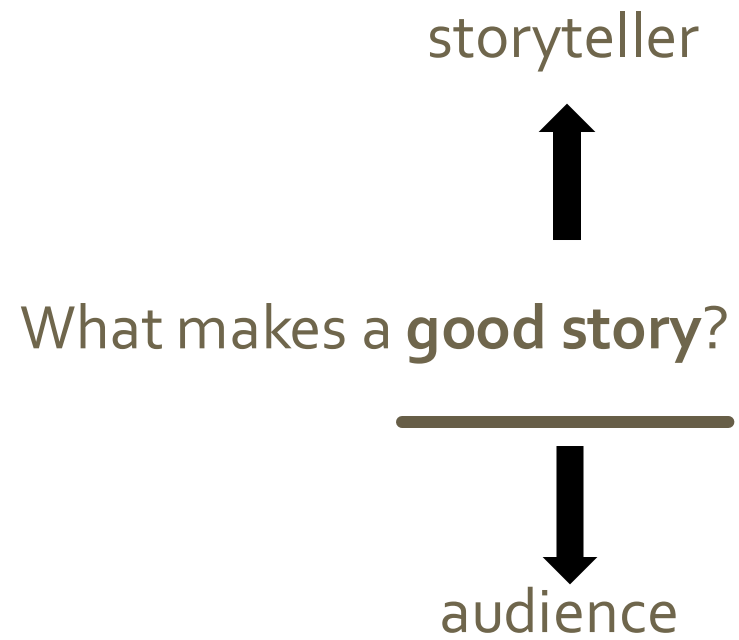
Plan for Today

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

Storytelling
with
~~visualization~~



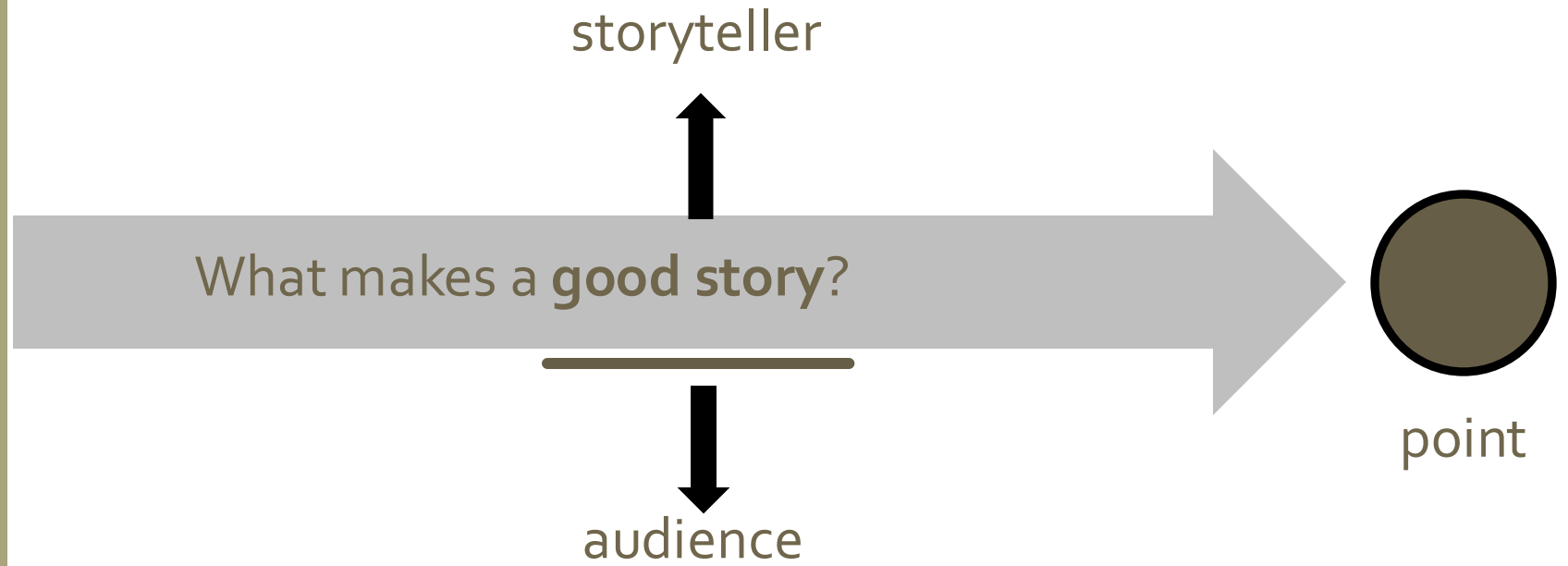
Discussion



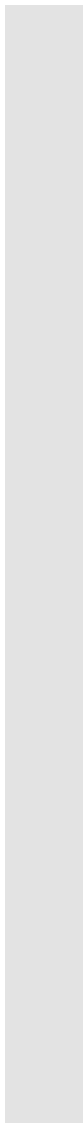
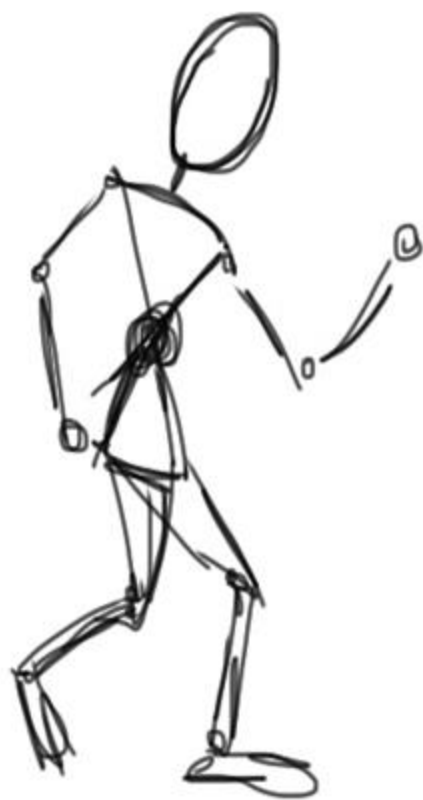
Story teller & Audience



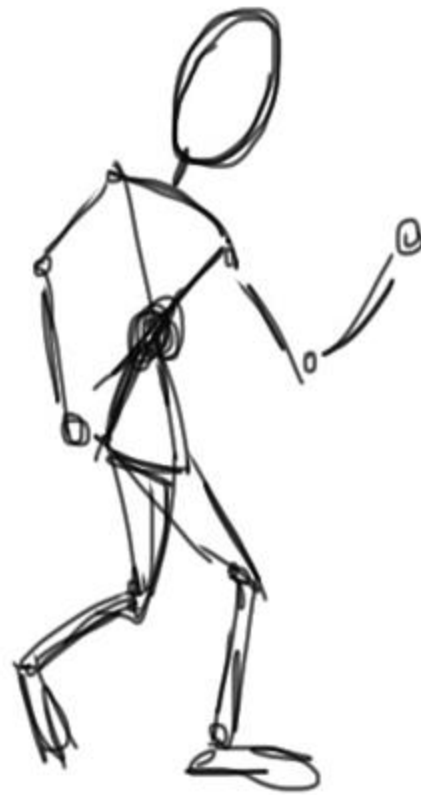
Discussion

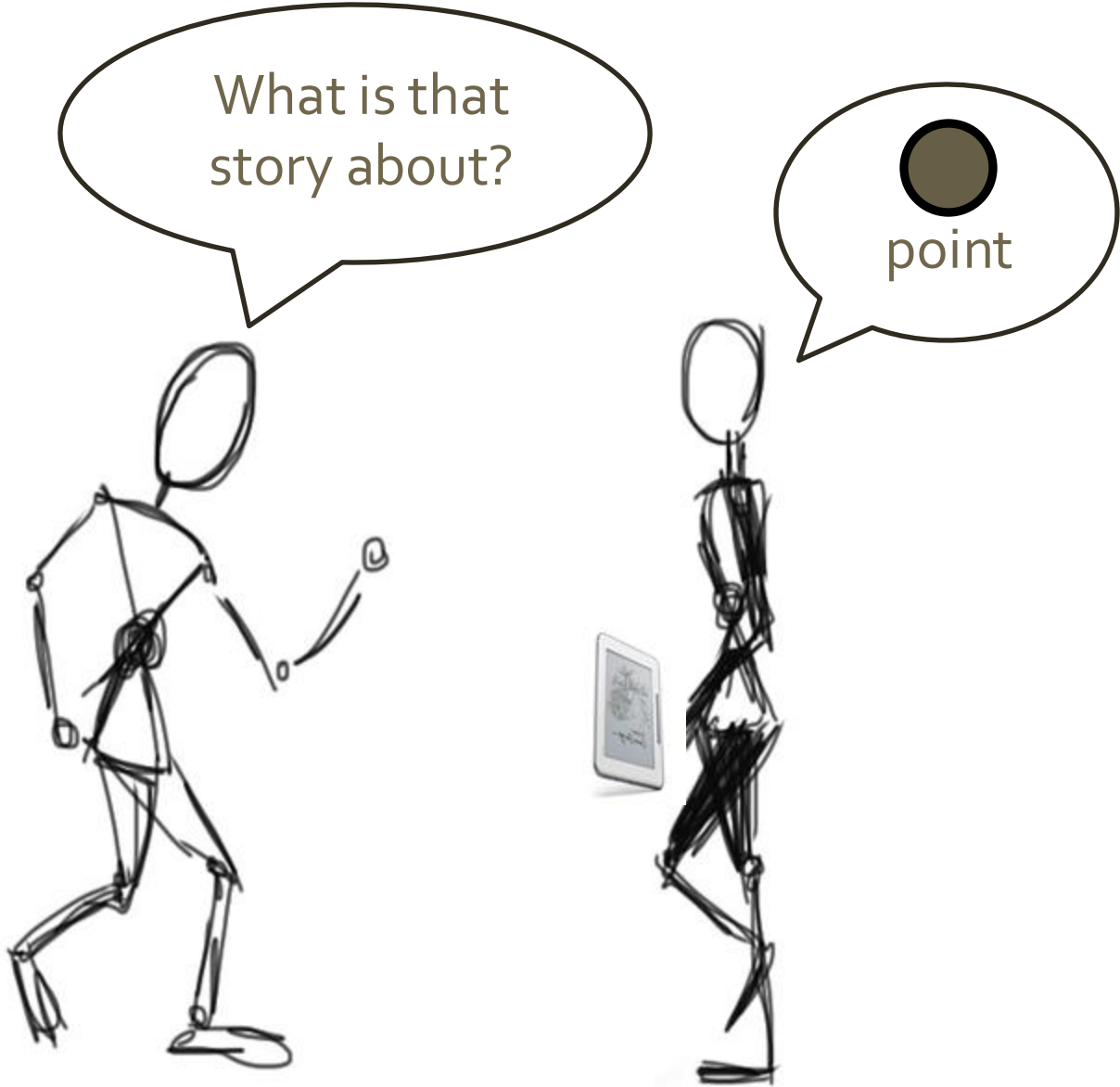






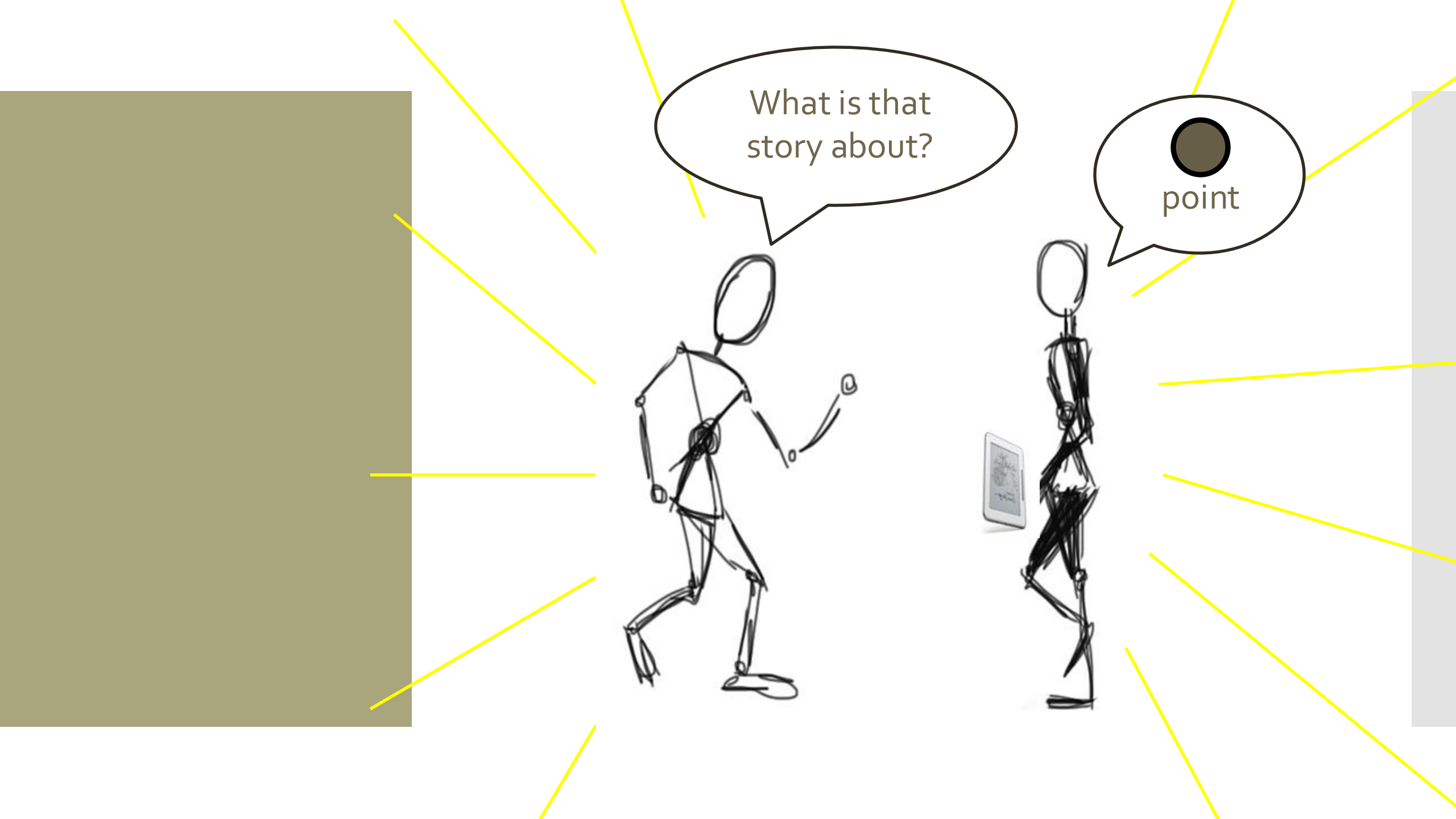
What is that
story about?





What is that
story about?

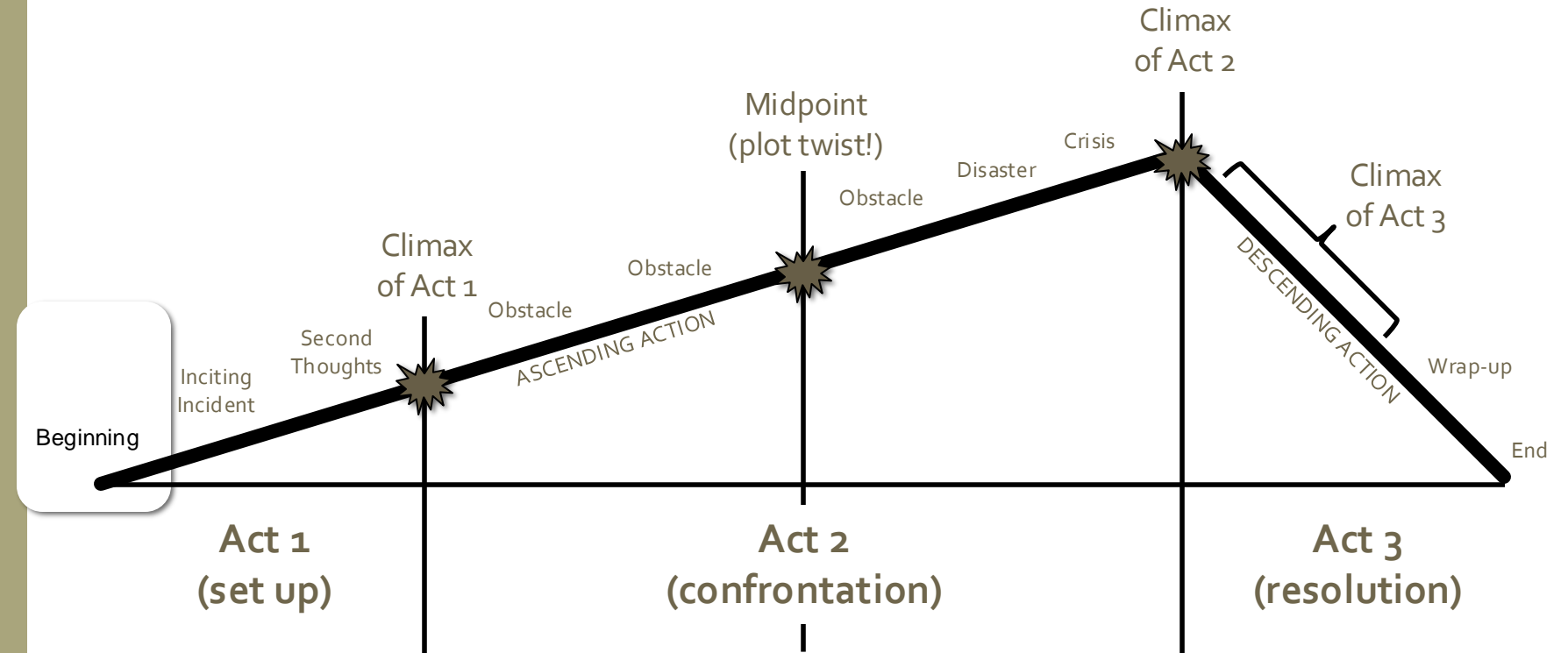
point



What is that
story about?

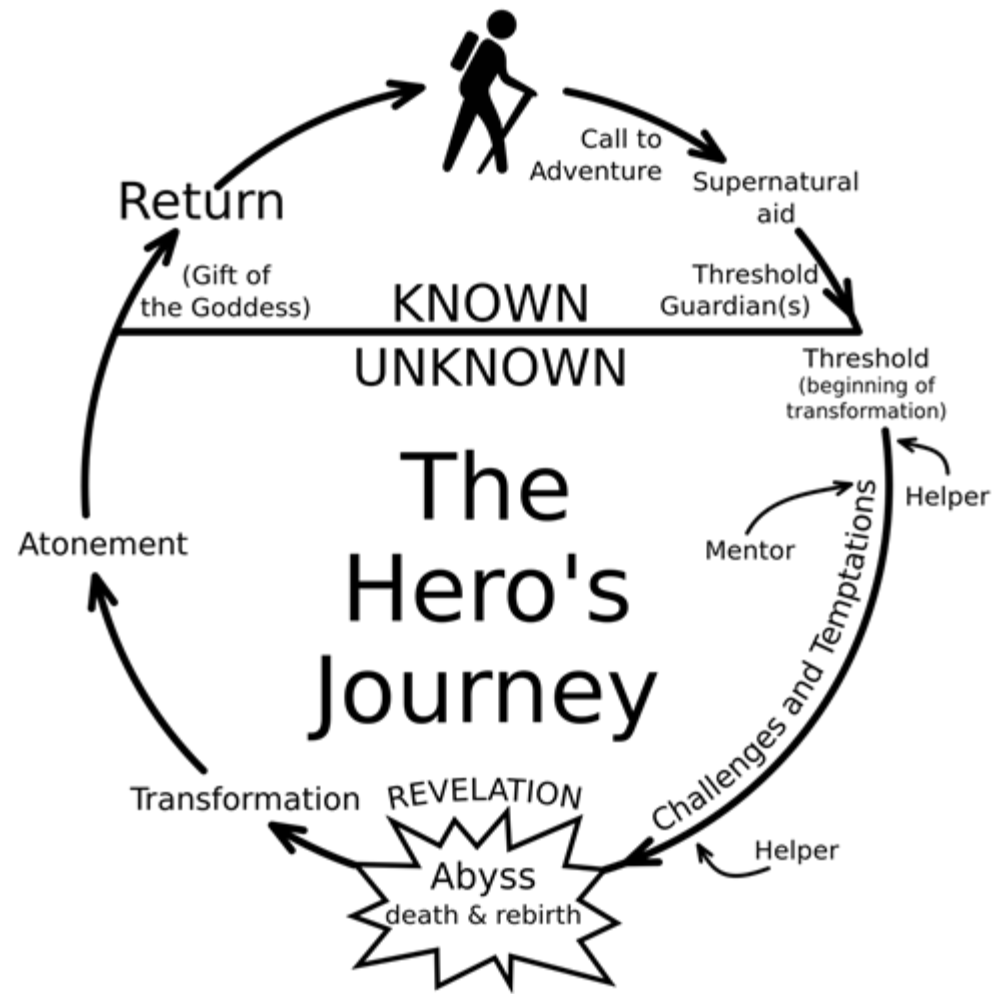
point

Ways to get to the point

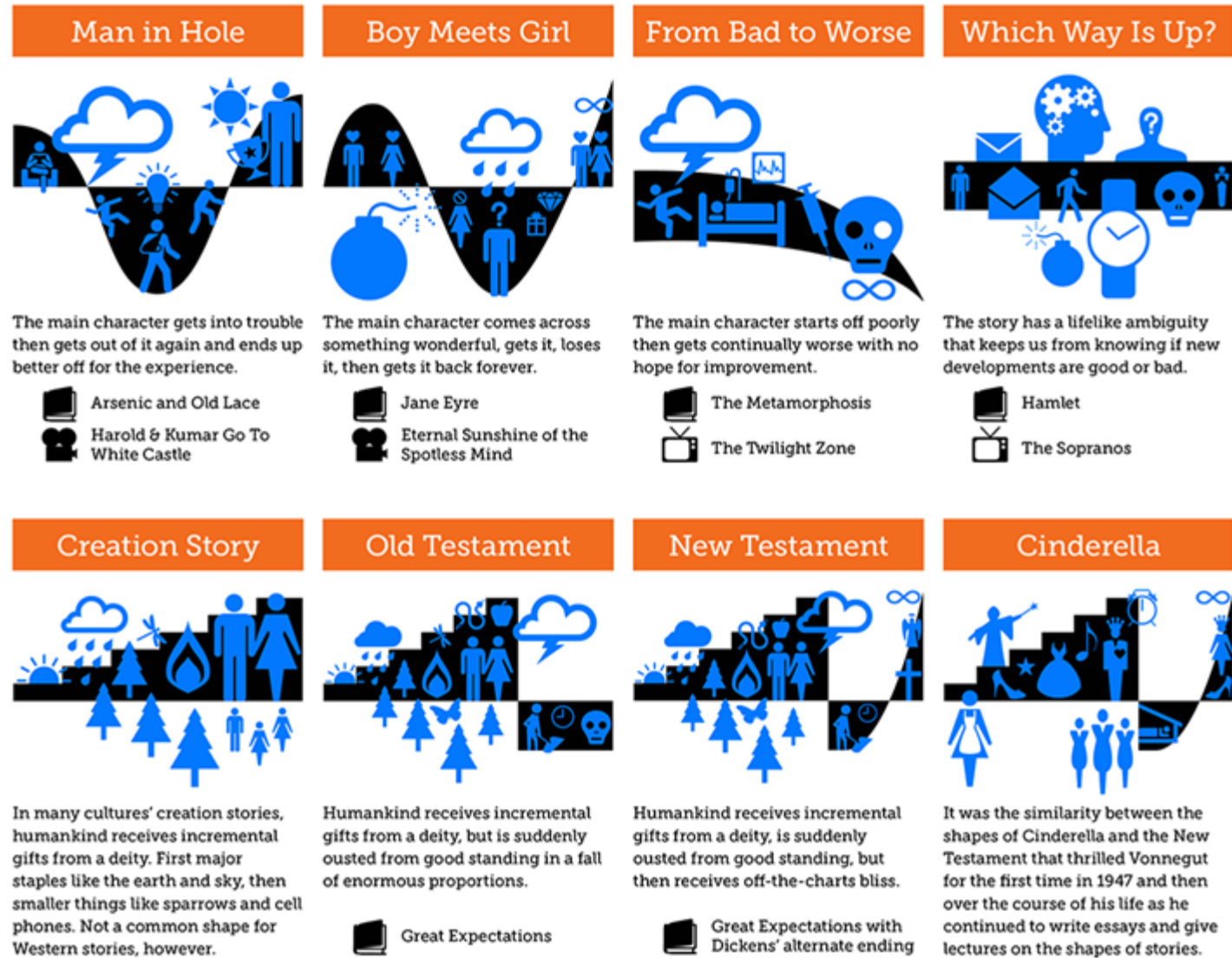


Three Act Structure

Ways to get to the point



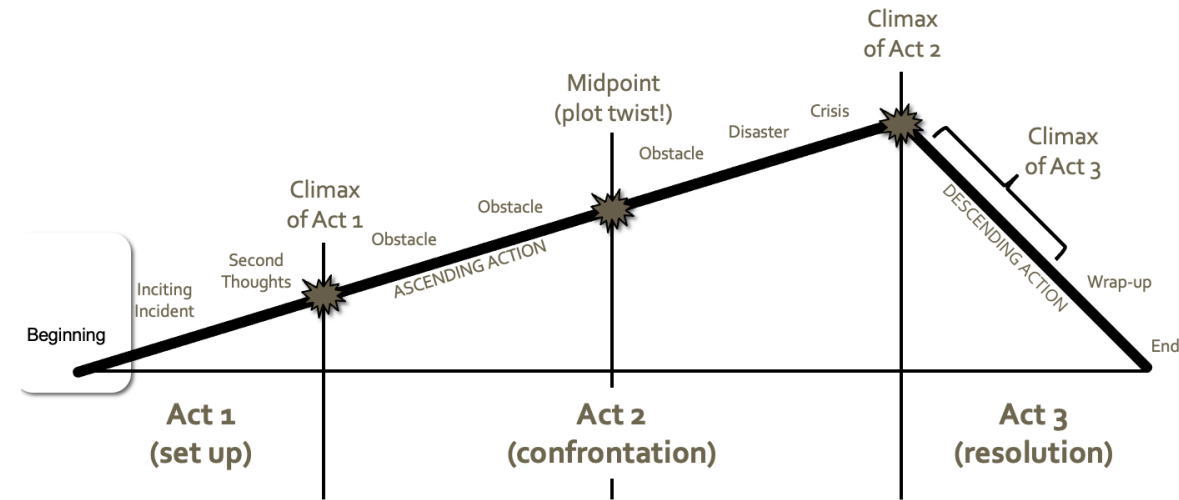
Ways to get to the point (according to Vonnegut)



Designer: Maya Eilam, www.mayaeilam.com

Sources: *A Man without a Country* and *Palm Sunday* by Kurt Vonnegut

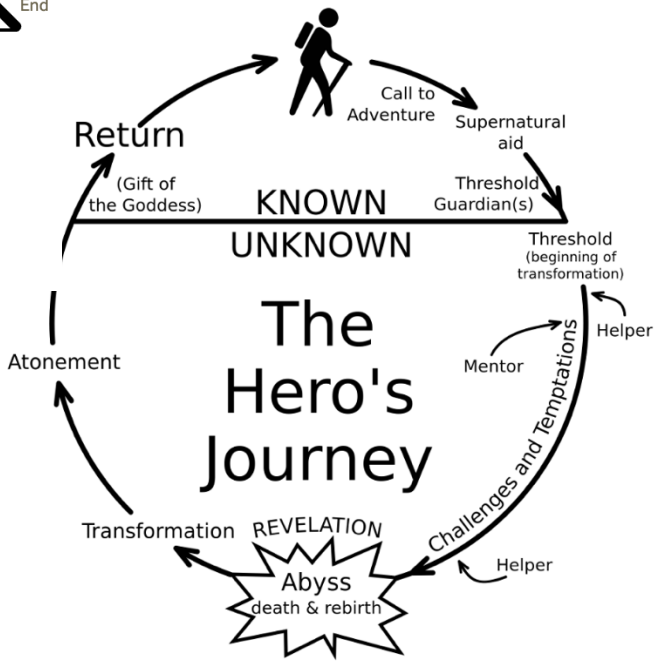
What movies use what arc?



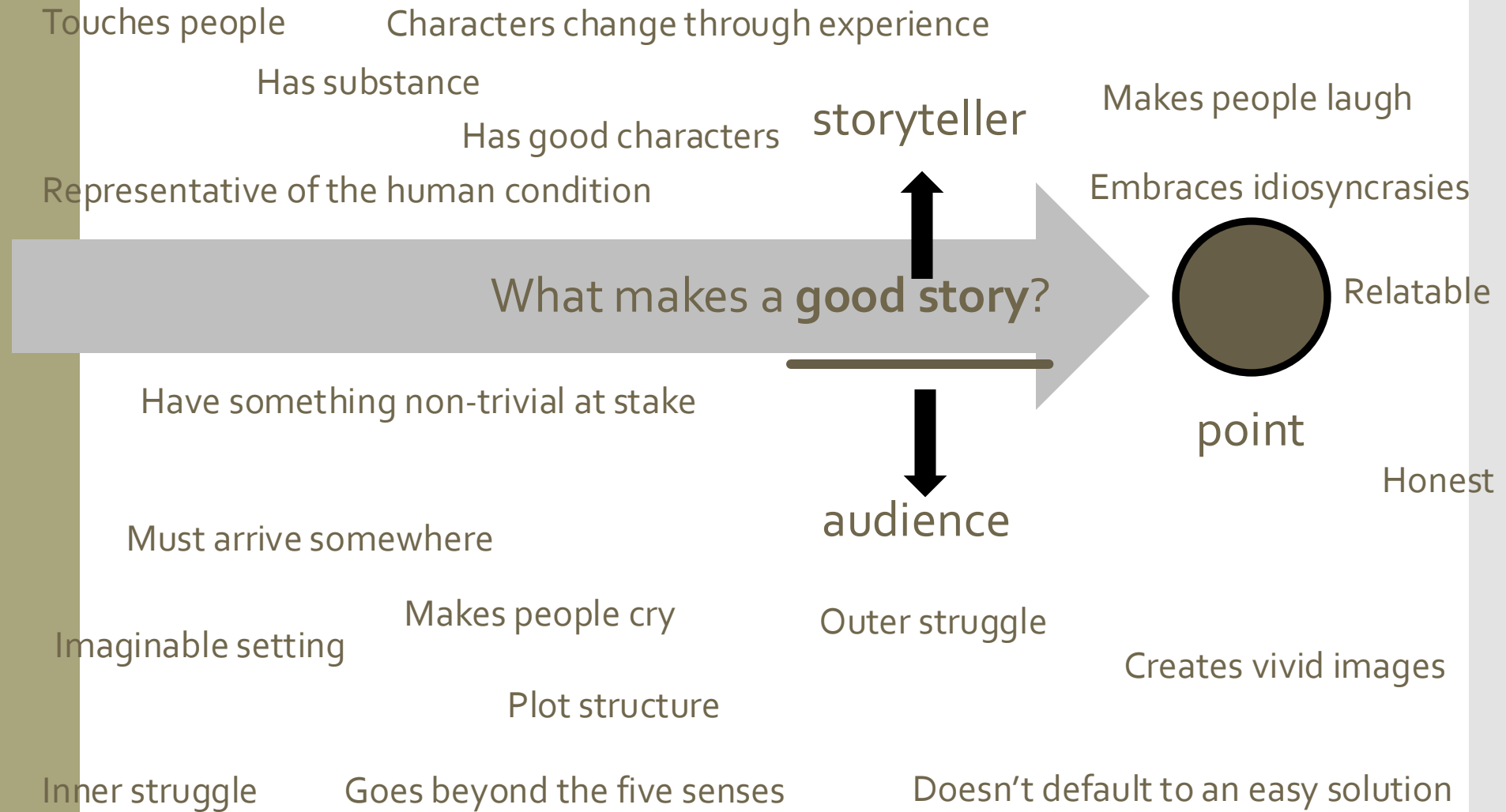
Three Act Structure

Man in Hole	Boy Meets Girl	From Bad to Worse	Which Way Is Up?
The main character gets into trouble then gets out of it again and ends up better off for the experience.	The main character comes across something wonderful, gets it, loses it, then gets it back forever.	The main character starts off poorly then gets continually worse with no hope for improvement.	The story has a lifelike ambiguity that keeps us from knowing if new developments are good or bad.
Arsenic and Old Lace Harold & Kumar Go To White Castle	Jane Eyre Eternal Sunshine of the Spotless Mind	The Metamorphosis The Twilight Zone	Hamlet The Sopranos

Creation Story	Old Testament	New Testament	Cinderella
In many cultures' creation stories, humankind receives incremental gifts from a deity. First major staples like the earth and sky, then smaller things like sparrows and cell phones. Not a common shape for Western stories, however.	Humankind receives incremental gifts from a deity, but is suddenly ousted from good standing in a fall of enormous proportions.	Humankind receives incremental gifts from a deity, is suddenly ousted from good standing, but then receives off-the-charts bliss.	It was the similarity between the shapes of Cinderella and the New Testament that thrilled Vonnegut for the first time in 1947 and then over the course of his life as he continued to write essays and give lectures on the shapes of stories.
	Great Expectations	Great Expectations with Dickens' alternate ending	



And a bunch
of other
stuff, too...



Storytelling with visualization

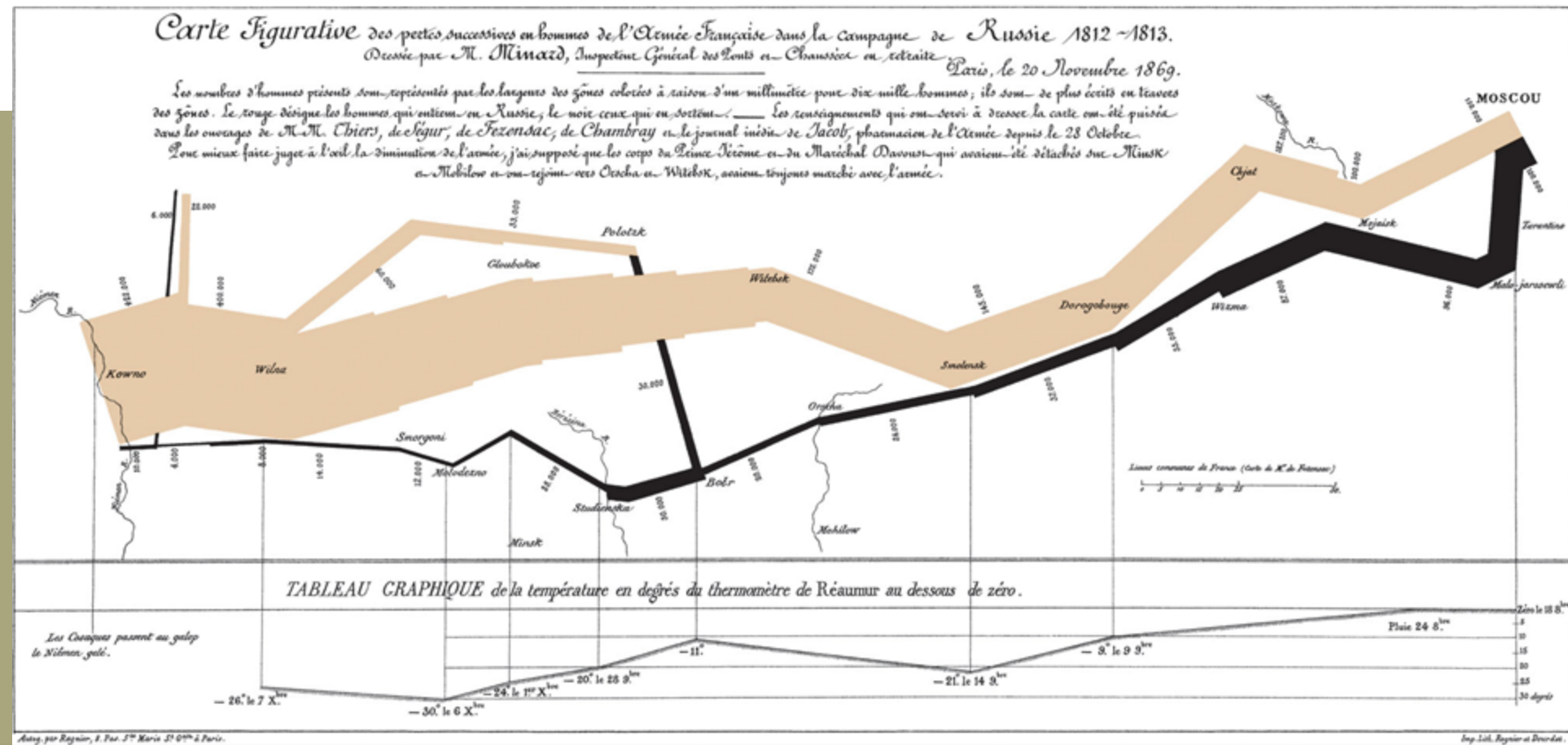


Discussion

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	
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Napoleon's March

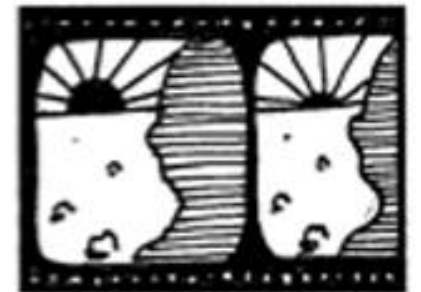
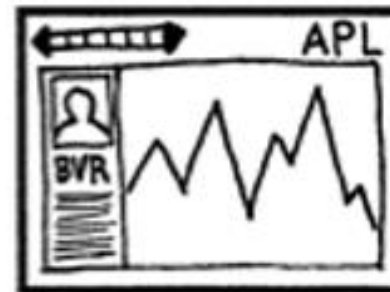
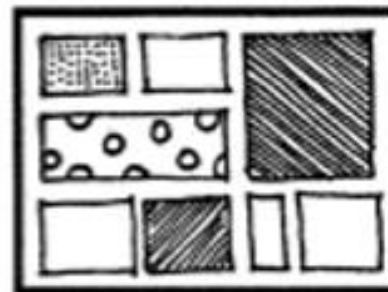
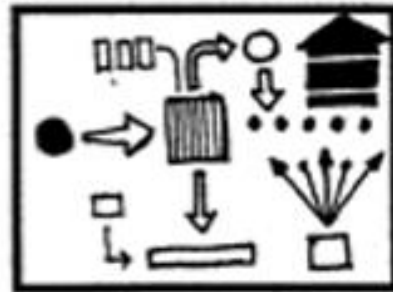
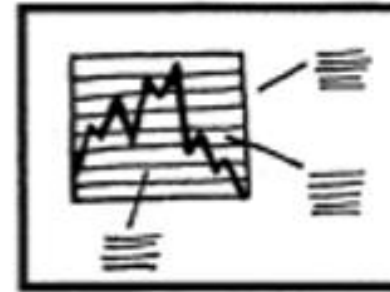
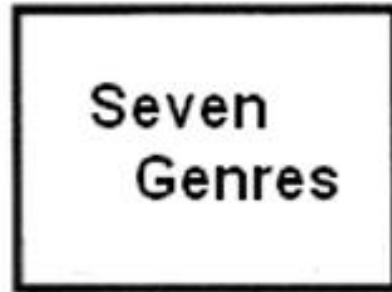


“Probably the best statistical graphic ever drawn, this map by Charles Joseph Minard portrays the losses suffered by Napoleon’s army in the Russian campaign of 1812. Beginning at the Polish-Russian border, the thick band shows the size of the army at each position. The path of Napoleon’s retreat from 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



Flow Chart

Comic Strip

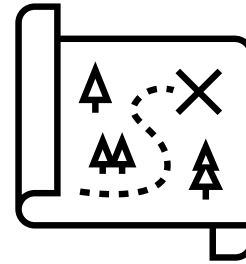
Slide Show

Film/Video/Animation

Visual Narrative Tactics

- Visual devices that assist and facilitate the narrative

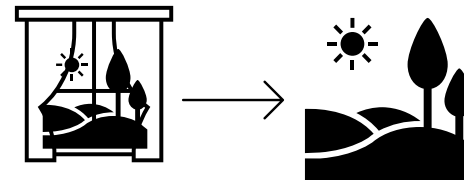
- Visual structuring



- Highlighting



- Transition guidance



Narrative Structure

Author Driven

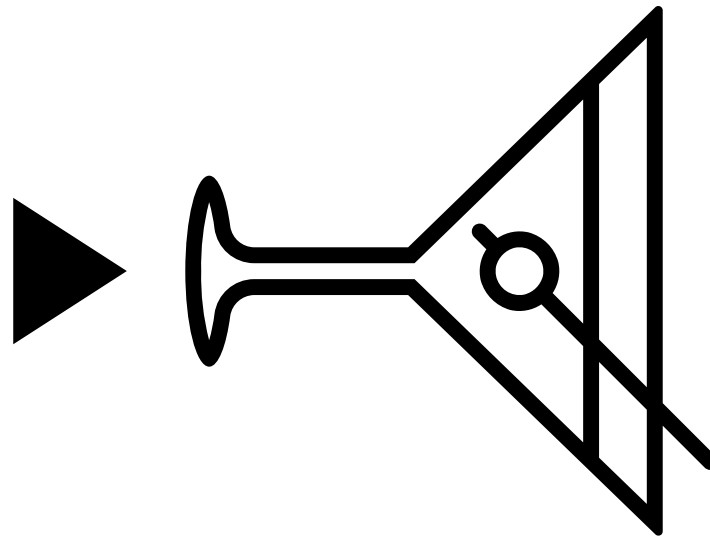
Reader Driven



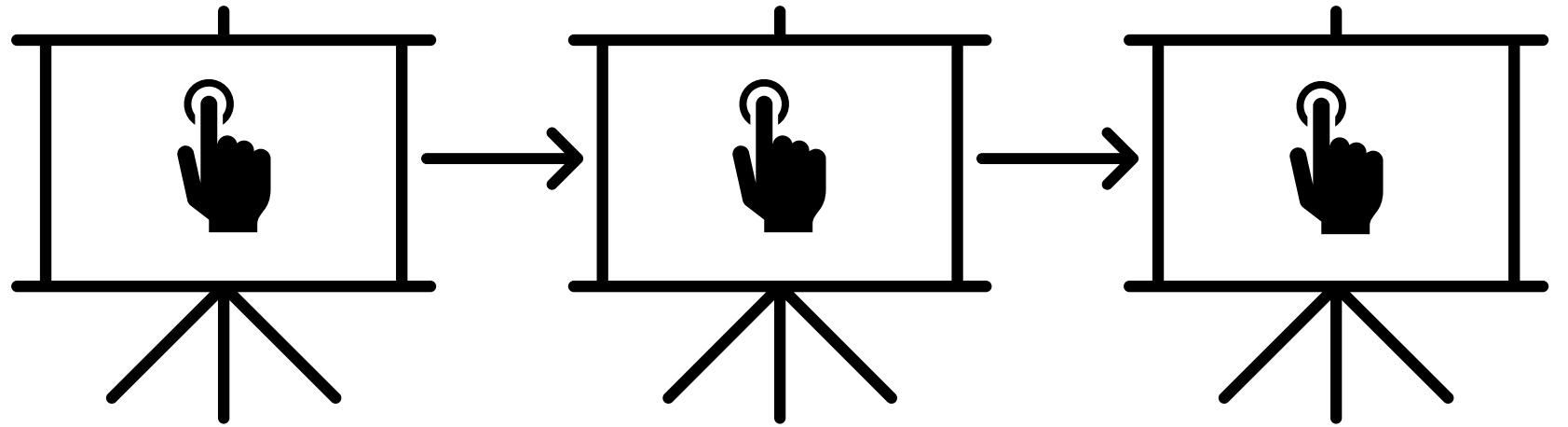
- Linear ordering of scenes
- Heavy messaging
- No interactivity

- No prescribed ordering
 - No messaging
 - Free interactivity

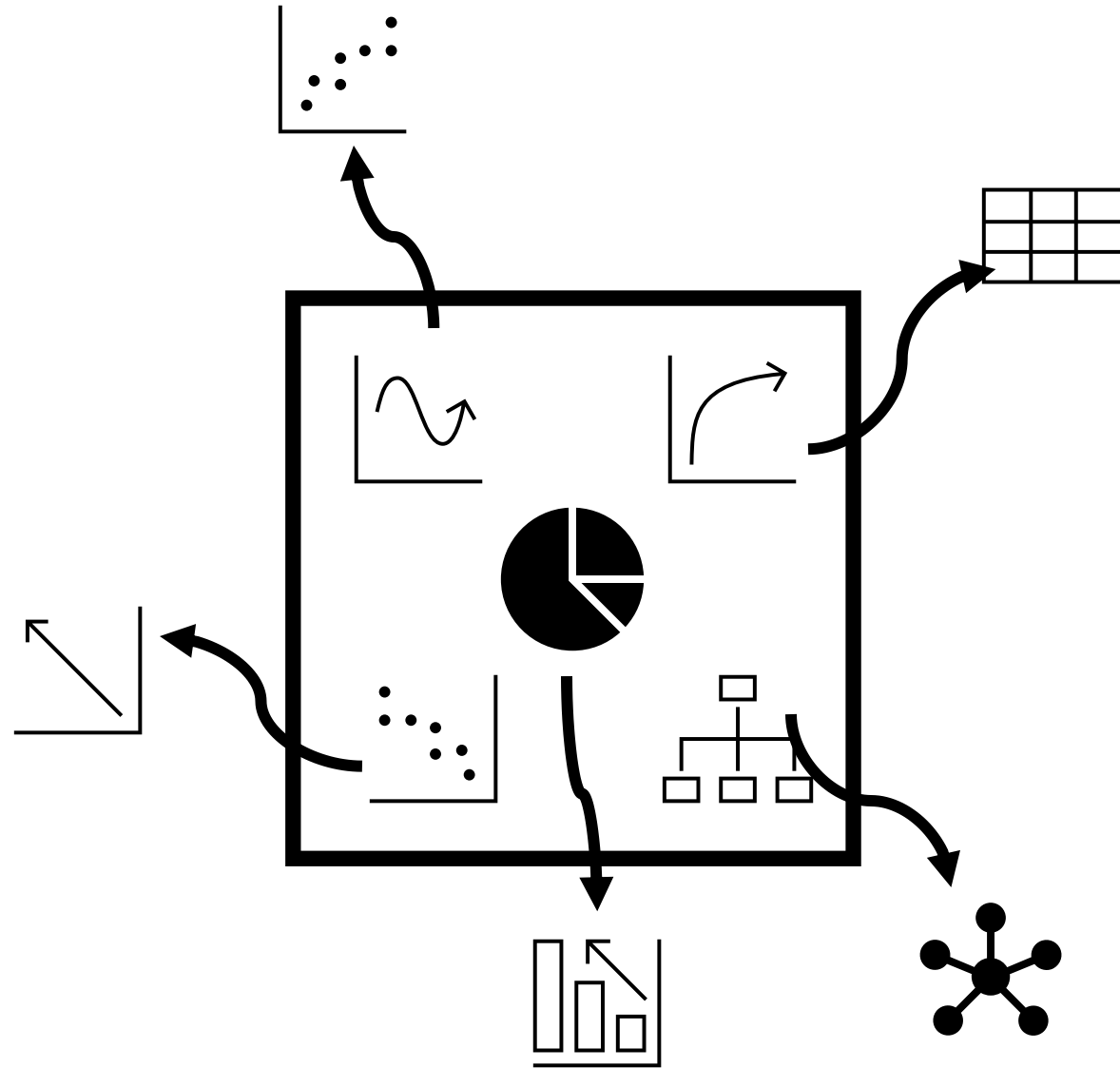
Narrative Structure: Martini Glass



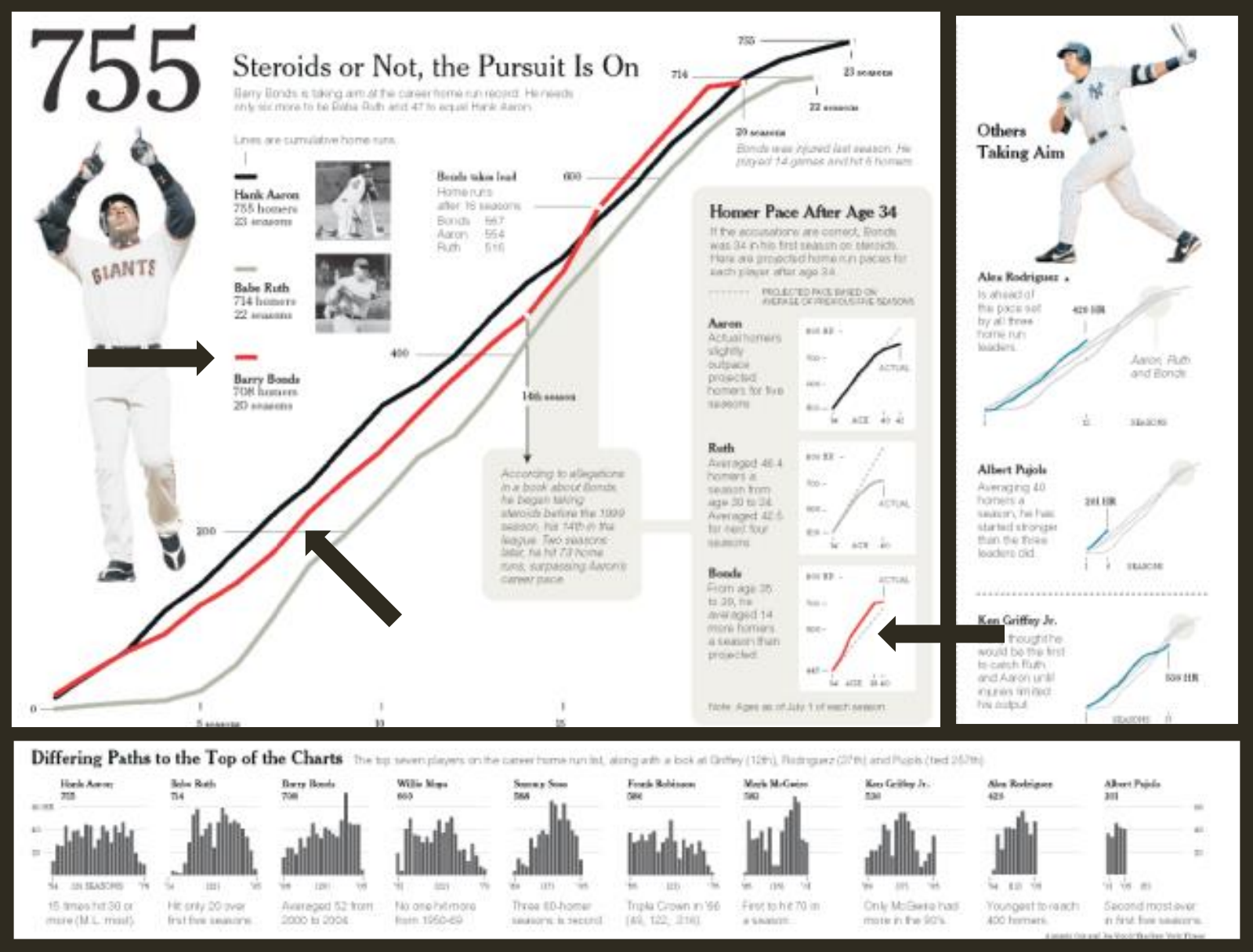
Narrative Structure: Interactive Slide Show



Narrative Structure: Drill-Down Story



Example:
Baseball
(static)



Example:
Wealth
inequality in
the US
(animated)



https://youtu.be/QPKKQnijnsM?si=j_hPOOsIxFGkNgHM

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