

# Tweetorial Narratives

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#### **Motivation**

Scientists want to explain their work to the public but struggle to make technical topics easy to understand. Teaching concepts while also avoiding jargon and engaging audiences is a delicate balance that requires practice.

Tweetorial: A casual yet engaging form of sharing scientific findings in a series of Tweets.

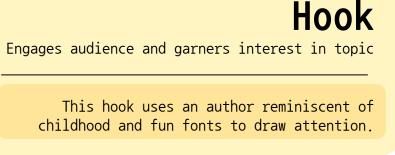
GPT-4: a tool that is capable of completing text prompts with fluent text, general knowledge and common sense reasoning. We developed natural language generation tools to help experts explain science in this format.

## **Background:**

We began preliminary research by investigating existing tweetorials and science content to inform us on the current trends and effective formats in science communication. Additionally, we reviewed prior research knowledge from the Tweetorial Lab's "What Makes Tweetorials Tick," paper, which delves deeper into the tweetorial writing process.

To better understand this writing process, we started writing new tweetorials. We focused on concepts revolving around user interface design, psychology, and computer science. We first began writing without GPT. This solidified our understanding and evaluations of what made a successful tweetorial and helped us establish the general structure for a tweetorial. Then, we shifted to a GPT system previously built by the Tweetorial Lab.





## Body

Breaks down the topic a with a use case by addressing a "How" question. Connects key components to aspects of the use case.

Topic: Typography

Use Case Narrative: Uses of Serif vs Sans-serif Font

**How Question:** How does typography affect people's perception of information?

This body explains on how fonts hold differing meanings through connecting with the audience's feelings.

> → Serif = Intellectual → Sans-Serif = Modern

**Key Components:** Provides easy to understand definitions of important terms and images for visual demonstration.

Expands use case to Papyrus vs Comic Sans to communicate further impacts.

## Conclusion

Author summarizes concepts that were presented and explicitly references aspect of the hook This conclusion recaps the topic and what is important to remember. Then, it discusses

childhood nostalgia, connecting to the hook.

Tweetorial Lab @tweetorial lab I miss the days when I could choose my favorite fonts for writing assignments. They're so \* \* fun \*\* But now everyone defaults to Arial, and if you're feeling fancy, maybe Times New Roman. Why EXACTLY is that? Did we all get... boring? 1/ Tweetorial Lab @tweetorial\_lab · Jul 8 It's actually because different fonts have different meanings. Wouldn't you feel differently about an essay written in Arial versus one in Times? Let's explore the details and put it into facts: 2/ Tweetorial Lab @tweetorial\_lab · Jul 8 The reason WHY lies in typography, aka the display and arrangement of letters. Clearly, it has a HUGE impact on us as readers. That's why it's an art Tweetorial Lab @tweetorial\_lab · Jul 8 Starting with the basics, fonts are categorized into groups based on their general characteristics. The most popular ones are serif and sans-serif. Serifs look like Times New Roman, and sans-serifs resemble Arial. 4/ Tweetorial Lab @tweetorial\_lab · Jul 8 Besides the clear visual differences, serif and sans-serif also have different implications. Don't you feel like they convey different meanings? 5/ Sans serif Most people probably DO feel differently about them. That's because we have cultural connotations associated with fonts. Generally, we think this: serif = intellectual, elite sans-serif = modern, simple Tweetorial Lab @tweetorial\_lab · Jul 8 This explains why old-fashioned businesses often use serif fonts, and new businesses opt for sans-serif fonts. Serif signals "fancy", and sans-serif signals "modern." Like the New York Times, which was founded in 1851, versus Vice News, which was founded in 2013. 7/ The New York Times Microbes Point the Way to Scientists Found Breathable ( Shipwrecks Another Galaxy for the First Ti Tweetorial Lab @tweetorial\_lab · Jul 8 But ONLY deciding between serif vs sans-serif font is NOT enough... Can you imagine if the New York Times used Papyrus? Just because it's a serif font, doesn't mean it conveys the same amount of class and style that Times New Roman can. It's so much more unreadable. 8/ Methodology: How The Times Calculates 2024 Polling Averages An average of surveys may sound straightforward, but even a simple approach faces a series of choices. Tweetorial Lab @tweetorial\_lab · Jul 8 And consider Comic Sans—a sans-serif font. This article does NOT depict the Times as a "cutting-edge modern company." I can't even take them seriously! The font is too childish and the news seems untrustworthy. 9/ Methodology: How The Times Calculates 2024 Polling Averages An average of surveys may sound straightforward, but even a simple approach faces a series of choices. Tweetorial Lab @tweetorial\_lab · Jul 8 Comic Sans and Papyrus are two of the MOST HATED fonts, so it's important to ALWAYS consider cultural contexts. Just remember: your font should NOT detract from your message. Your choice greatly affects

### **Tweetorial Takeaways:**

"How?" Questions: Tweetorials are always framed around a "How?" question, this helps ensure topics remain the focal point of each tweet.

people's emotions and judgments. 10/

Tweetorial Lab @tweetorial lab . Jul 8

Though I envy my blissfully unaware childhood self for having the freedom

to write papers in Comic Sans, I'm glad the laws of typography tell us this isn't the best choice... I would NOT be able to take anything seriously 😁 11/

Outlining is important prior to writing a complete tweetorial. This outlining process includes two main steps:

**Step 1:** List all the technical components to break down a topic **Step 2:** Map the technical components to the use case

Jargon is vocabulary specific to a certain group, often used to communicate more advanced concepts within that group, but it can be confusing to outsiders and the general public. We employed two approaches to avoid using jargon:

**Approach 1:** create a "proxy" or synonym for the technical term + spoon feed both to the reader.

**Approach 2:** introduce descriptions of the term + don't mention the technical term till the end of the tweetorial

### **Narrative Balance:**

How do personal narratives in tweetorials employ strategies to impact audiences and emotional connection?

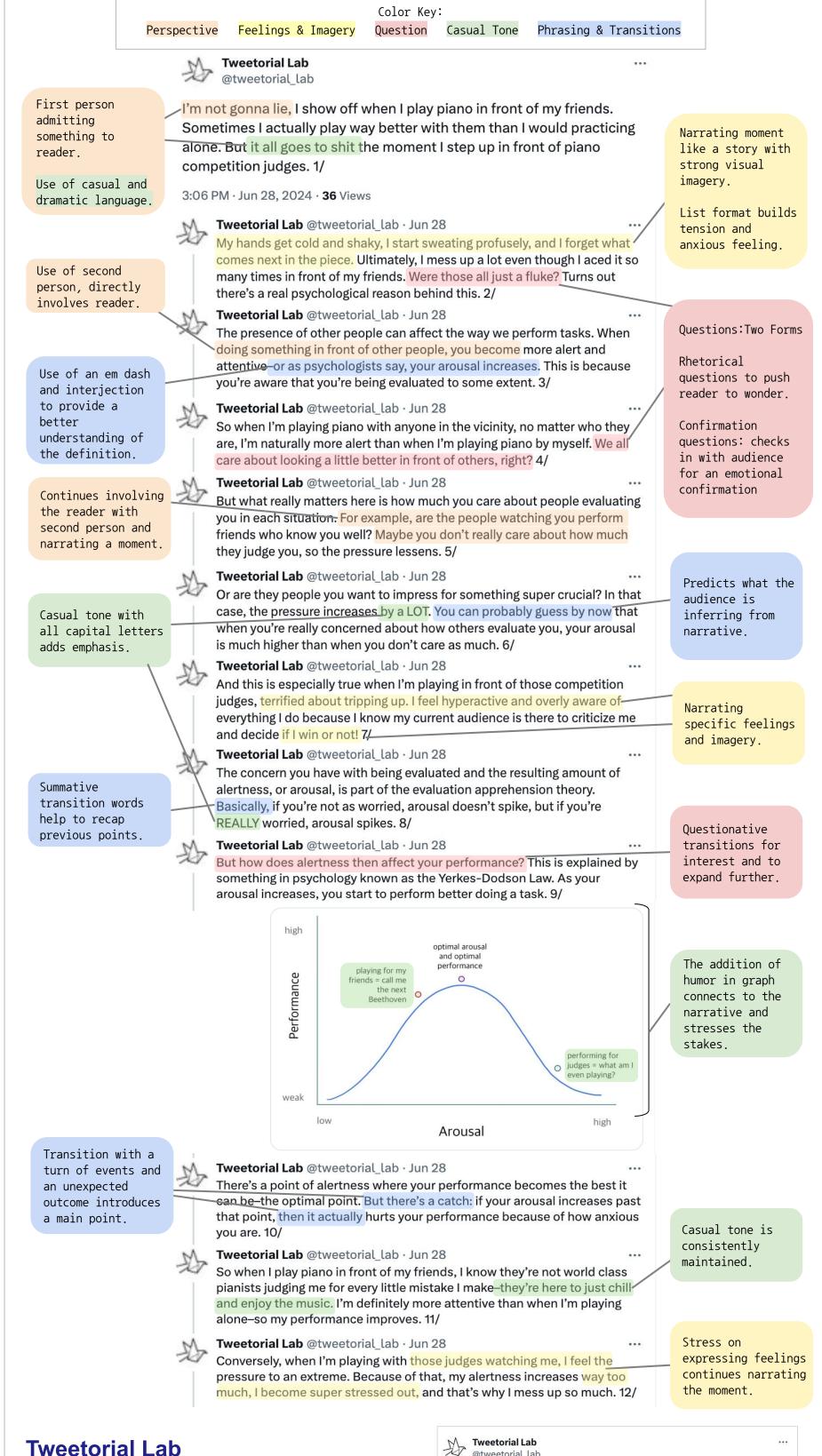
### How can GPT tools be used to influence science narrative writing?

Following this foundation, we recognized the importance of balancing narrative and explanatory language. We chose to focus on the narrative aspect of tweetorials to better understand how a successful tweetorial connects to the audience. When writing a tweetorial, creating a strong personal narrative that is consistent throughout each tweet helps to communicate topics better.

#### **Narrative Annotations:**

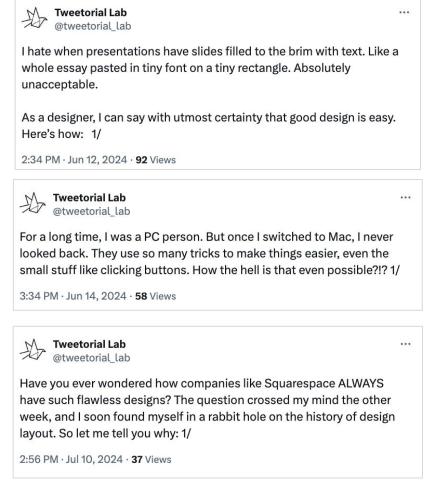
We reviewed written tweetorials and tested writing more narratives in order to determine narrative tweetorial strategies and patterns. To analyze the effectiveness of the generated tweetorials, we reviewed patterns in the outputs and differing prompts. Prompt editing was an important step in refining the effectiveness of the system outputs.

#### **Evaluation Apprehension Theory Findings:**



### **Tweetorial Lab**

Additional tweetorials were annotated in this format, to help understand patterns in narrative writing and the strategies authors take that are specific to scientific tweetorial writing. Narrative annotation improved our conclusion on how tweetorials accomplish balancing a story while also explaining a concept. Most notably, we observed the importance of including first-person perspectives to help paint a narrative picture for the reader.



### **Narrative Conclusions:**

Personal Journey & Vulnerability: Overall, we found that successful tweetorials contain emotional inputs that aid in communicating a topic. Sharing personal journeys and vulnerabilities can make the content more relatable, which helps to connect with the audience. Consistently keeping this emotional input is essential for the audience to get a deeper understanding of the *feelings* behind a concept. Through our analysis and iterations with the system testing, we determined the main literary devices that help enforce this:

- First person perspective—a narrative perspective where a story is told from the perspective of a single character using the pronouns "I" or "we: This allows the inclusion of a more personal viewpoint, casual tone, and attitude.
- **Interjections**: When going further into breaking down a topic in a tweetorial it becomes important to keep the reader engaged with strategic interjections or the inclusion of a casual tone that grounds the reader and reminds them that this is a narrative. The intentionality and minimal use of such interjections keeps credibility and interest in the topic.
- Questions: The use of questions (rhetorical or confirmation) to reinforce conversational tone.
- Visual, Auditory, Tactile, Olfactory, Gustatory Imagery: Inclusion of imagery for specific senses allow the audience to envision the personal experience themselves. Tweetorials primarily use visual imagery.

### References

Gero, K. I., Liu, V., & Chilton, L. (2022). Sparks: Inspiration for science writing using language models. Designing Interactive Systems Conference.

Gero, K. I., Liu, V., Huang, S., Lee, J., & Chilton, L. B. (2021). What makes tweetorials tick: How experts communicate complex topics on Twitter. Proceedings of the ACM on Human-Computer Interaction, 5(CSCW2), 1-26. https://doi.org/10.1145/3479