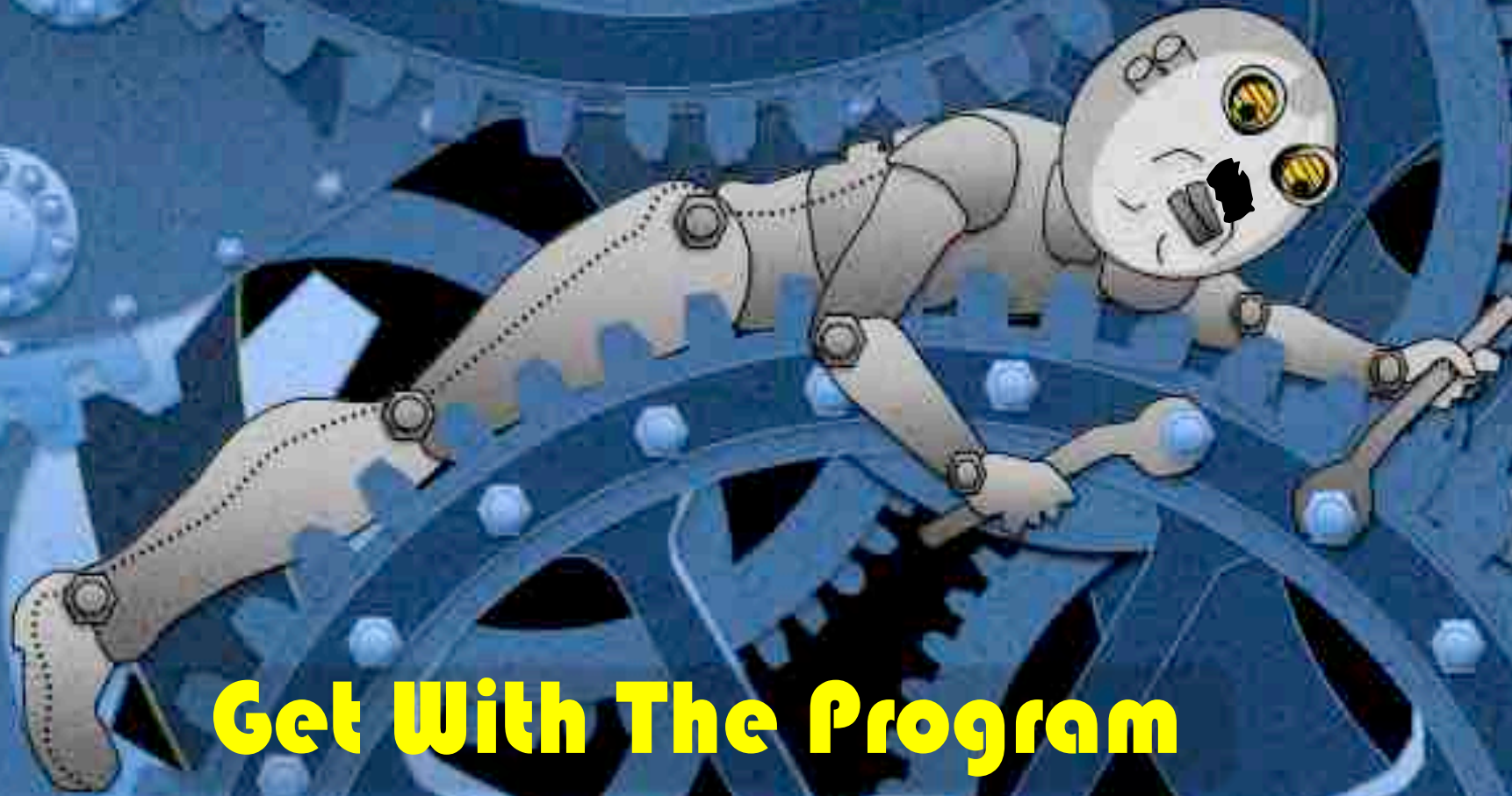


Tony Veale, UCD

CHUM '25



Get With The Program

On The Shape of Jokes To Come (from LLMs)

Superiority Theories of Humour



- Aristotle's Comedy
- Hobbes' Leviathan
- Bergson's Rigidity



“Sudden glory is the passion which maketh these grimaces, laughter, and is caused either by some sudden act of their own, that pleaseth them, or by the appreciation of some deformed thing in another, by comparison whereof they suddenly applaud themselves.” (Thomas Hobbes, Leviathan, 1651)

Superiority Humour: Henri Bergson's "Rigidity"



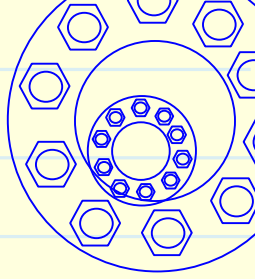
- Laughter: an essay on the meaning of the comic (1900)
- We laugh every time a person gives us the impression of being a thing.
- Theory of Mind: it is easier to laugh in a group. Comedy requires complicity.

Rigid?
Moi?



- We laugh at **bodies** more than minds, at repetition, the **unthinking**, at **malfunction**.

Relief & Release Theories of Humour



- **Aristotle's Poetics**
Humour as catharsis
- **Lord Shaftesbury**
The freedom of wit (1709)
- **Sigmund Freud**
(Wit & the Unconscious, 1936)
- **Norm + Violation (N+V)**
(Thomas Veatch, 1998)
- **Benign Violation**
(McGraw & Warren, 2010)

Relief via the expression of *socially-transgressive* thoughts.




"Marriage isn't a *word* ...

... it's a *sentence*."

Incongruity-Resolution Theories of Humour



- Beatty, Pascal,
Kant, Schopenhauer
- Script Switching
(Victor Raskin, 1984)
- Blending/frame shifting
(Seana Coulson, 2000)
- Bisociation
(Arthur Koestler, 1964)
- Two-stage process model
(Jerry Suls, 1972)



Art should be as beautiful as the **chance** meeting ...

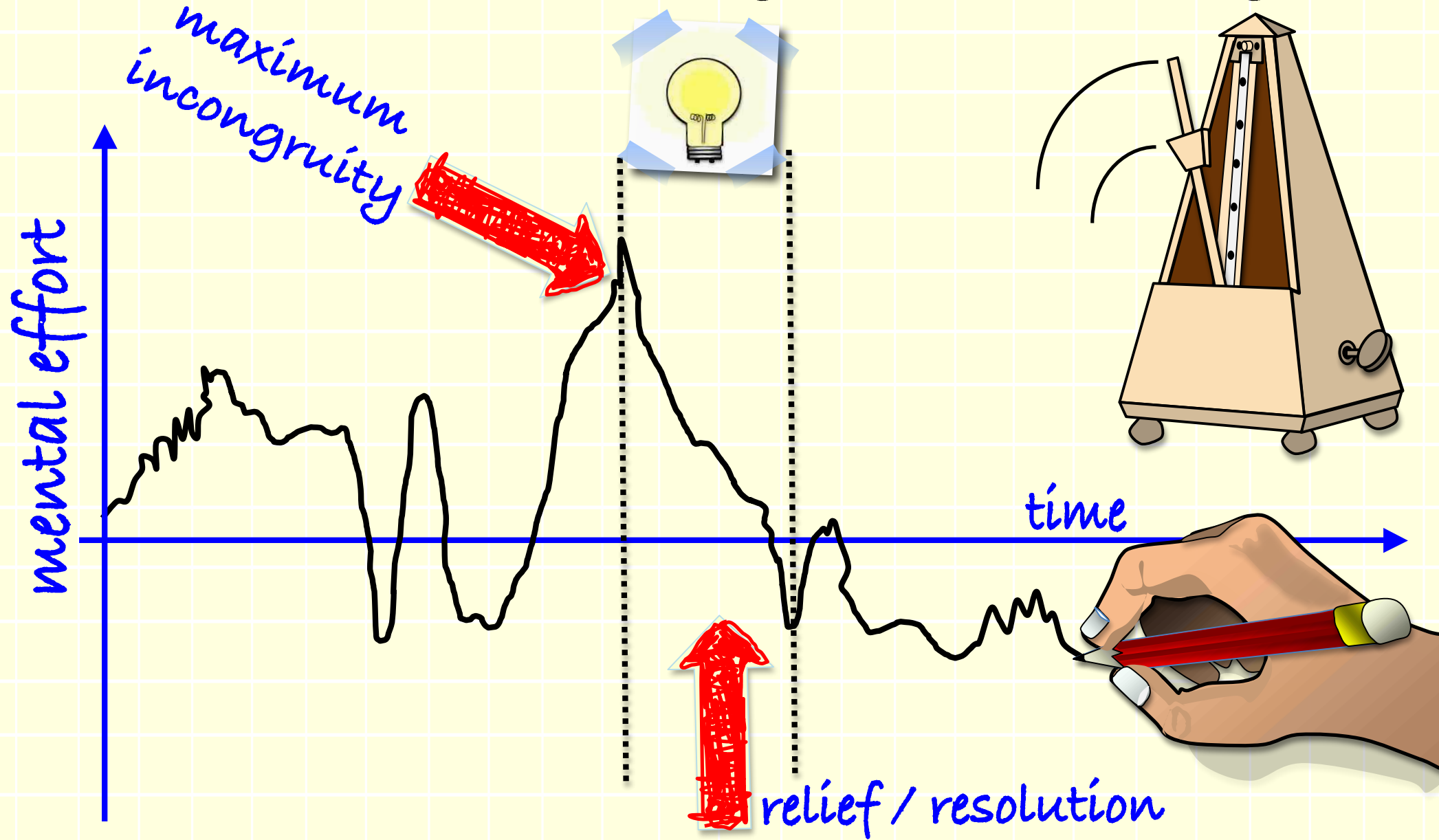
on a dissecting table of a **sewing machine** and an **umbrella**.



A. Breton

Incongruity can make the familiar seem **new again.**

Timing is (almost) everything in comedy ...



N400 effects in ERPs



What about these **Large Language Models** I've been hearing about?

**Wet
Paint**

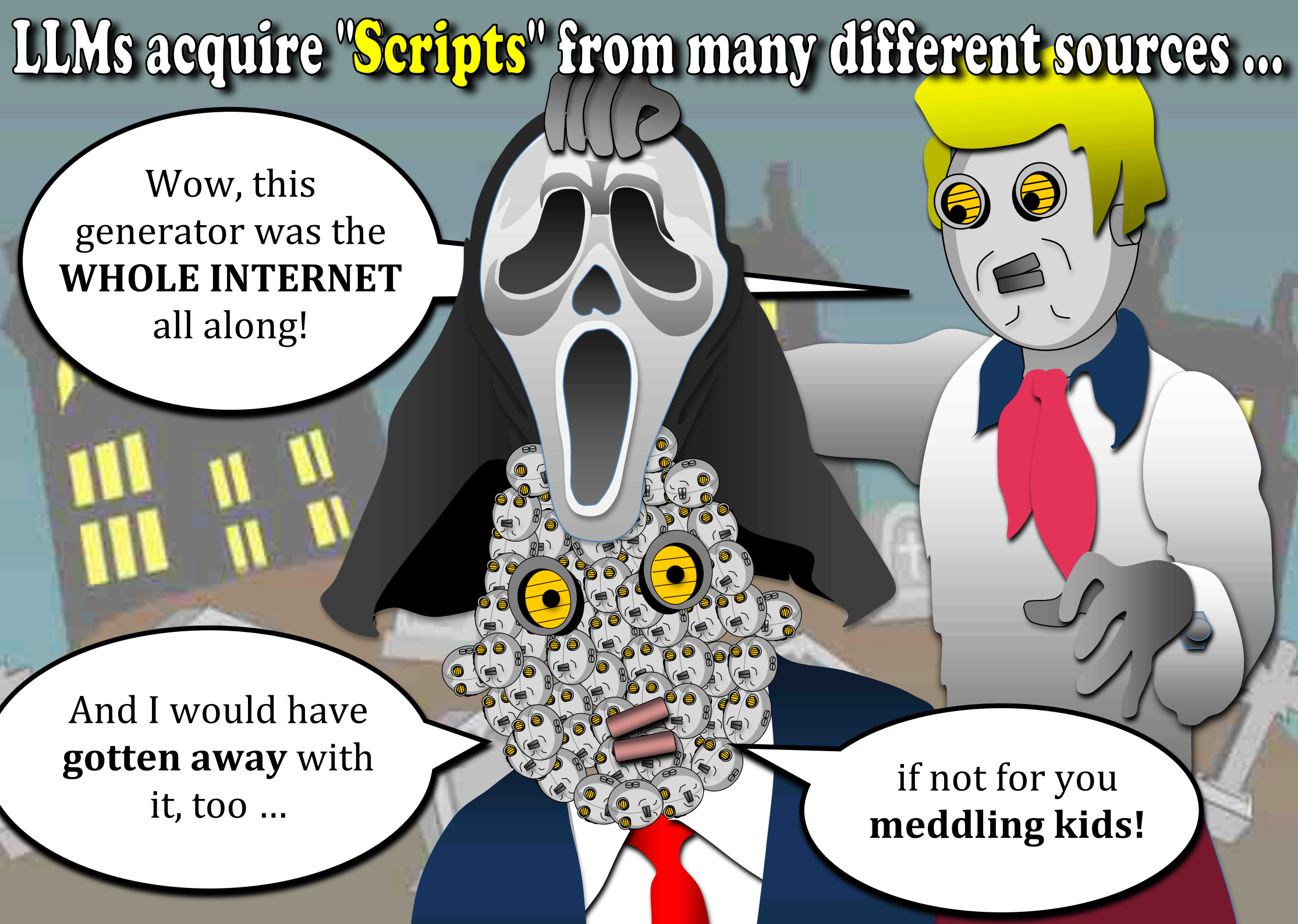
LLMs play "language games" akin to AI scripts

LLMs acquire "Scripts" from many different sources ...

Wow, this generator was the **WHOLE INTERNET** all along!

And I would have gotten away with it, too ...

if not for you meddling kids!





A pair of **rough fellows** walk into a bar. The barman looks at them and says:

I'll serve you, but just don't **start** anything.

Normative (not a joke)

Most jokes are based on **tiny subversions** of a normative script

A pair of **jumper cables** walks into a bar. The barman looks at them and says:

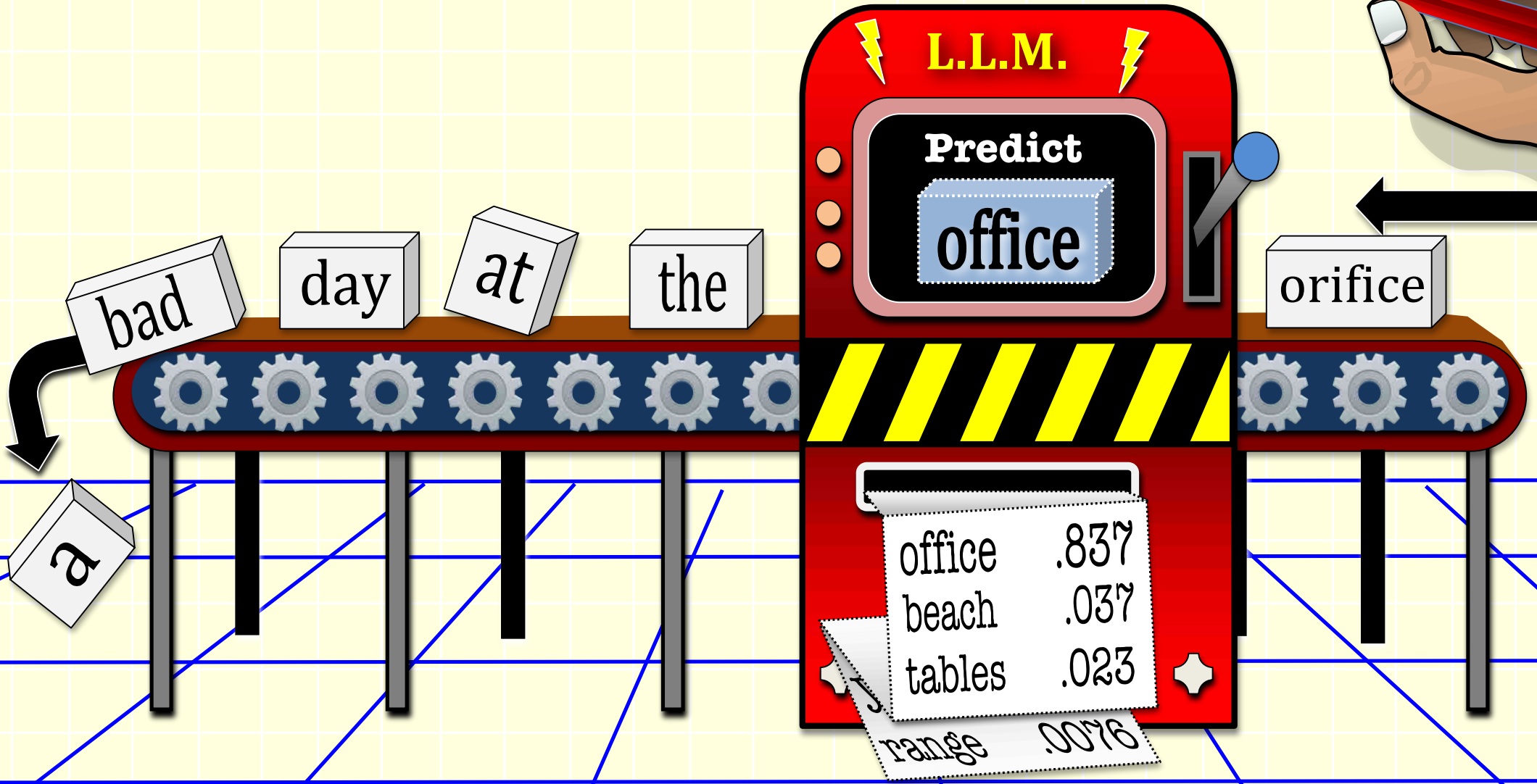
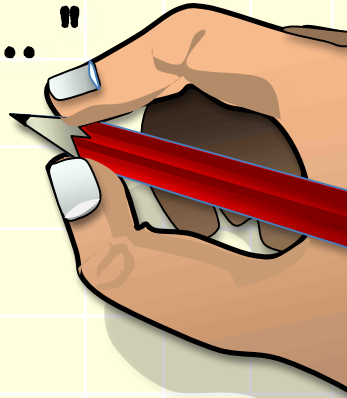
I'll serve you, but just don't **start** anything.

Appropriate Incongruity (a joke)

(see also "**Optimal Innovation**" from Rachel Giora & colleagues)

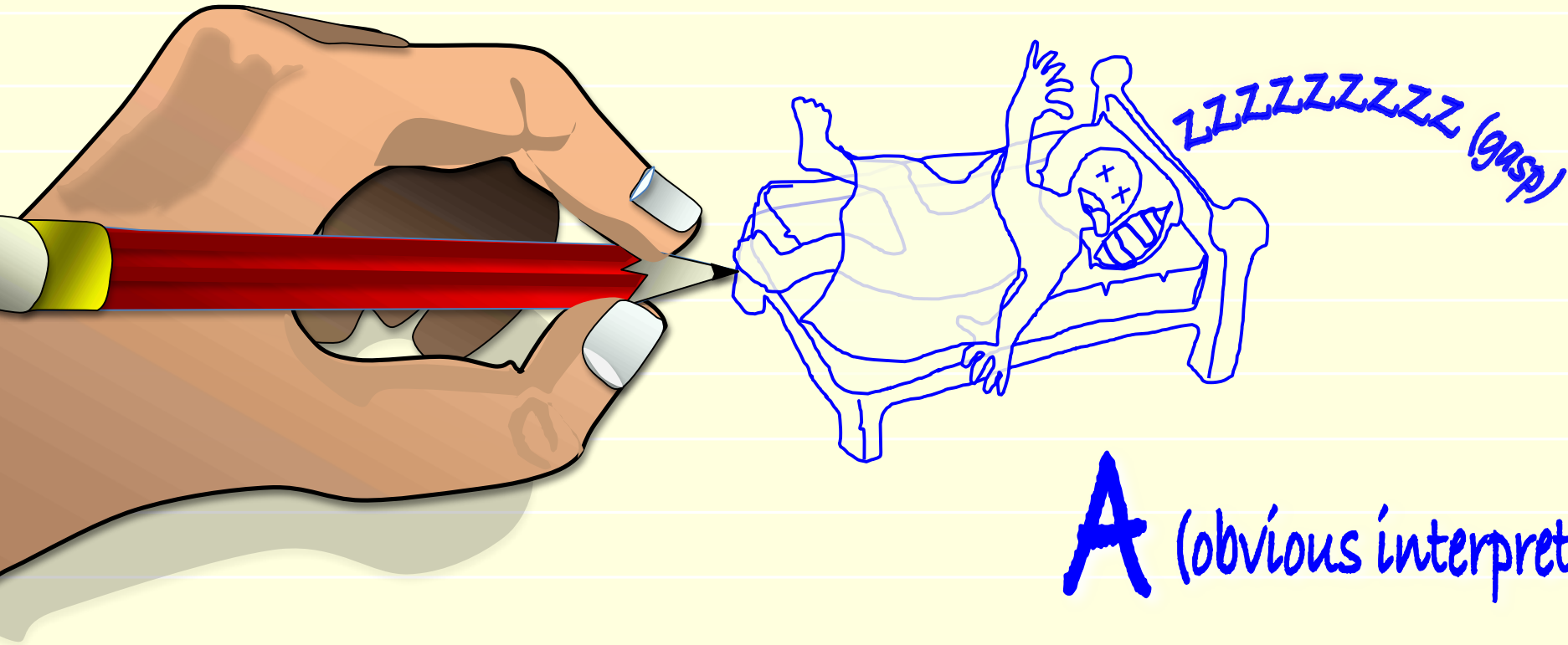
A Language Model is a rich source of these linguistic norms

"The dentist was grumpy because he had a bad day at the ..."



Jokes (& creative surprises) play with our expectations ...

Grandpa died peacefully in his sleep (in his own bed) →

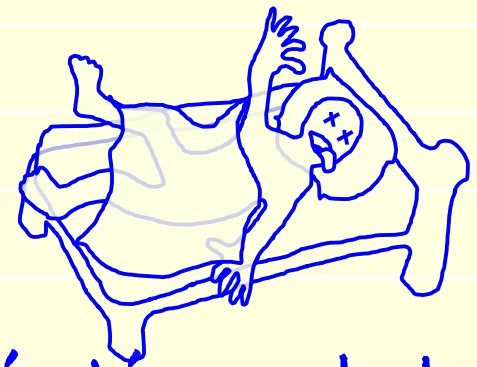


A (obvious interpretation)

sample joke: An oldie (but a goodie)

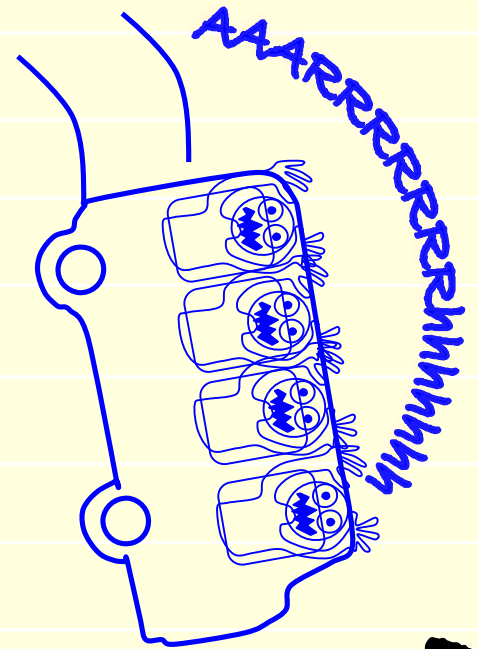
Grandpa died in his sleep

peacefully in his own bed



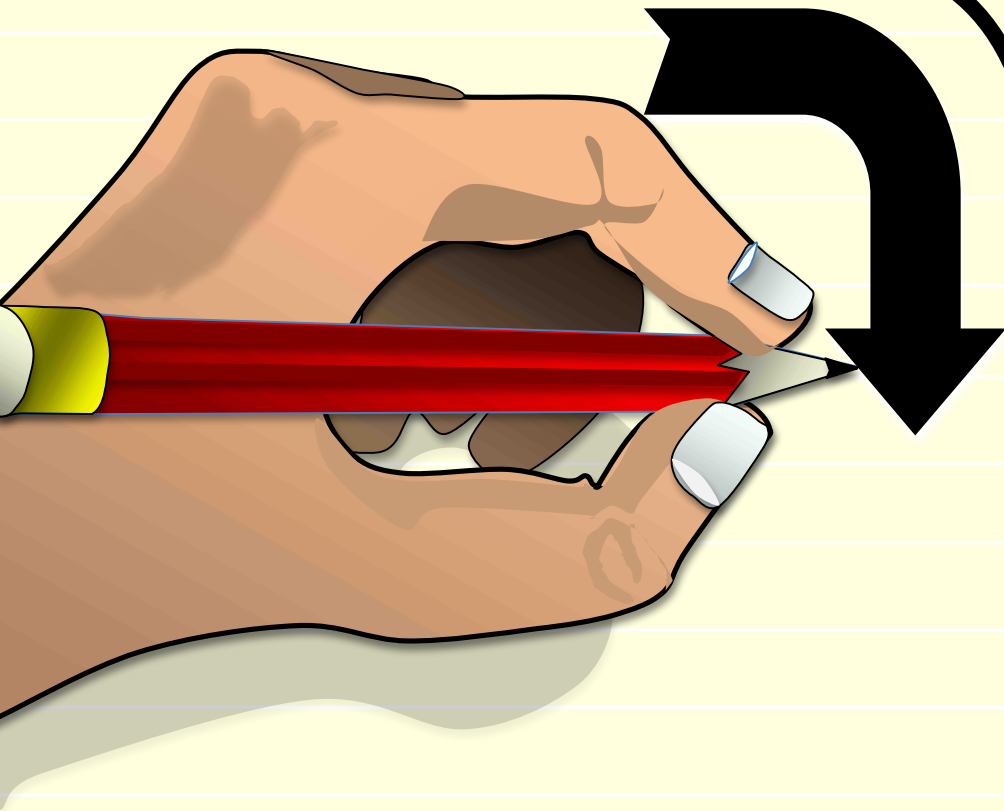
A

While he was driving



B

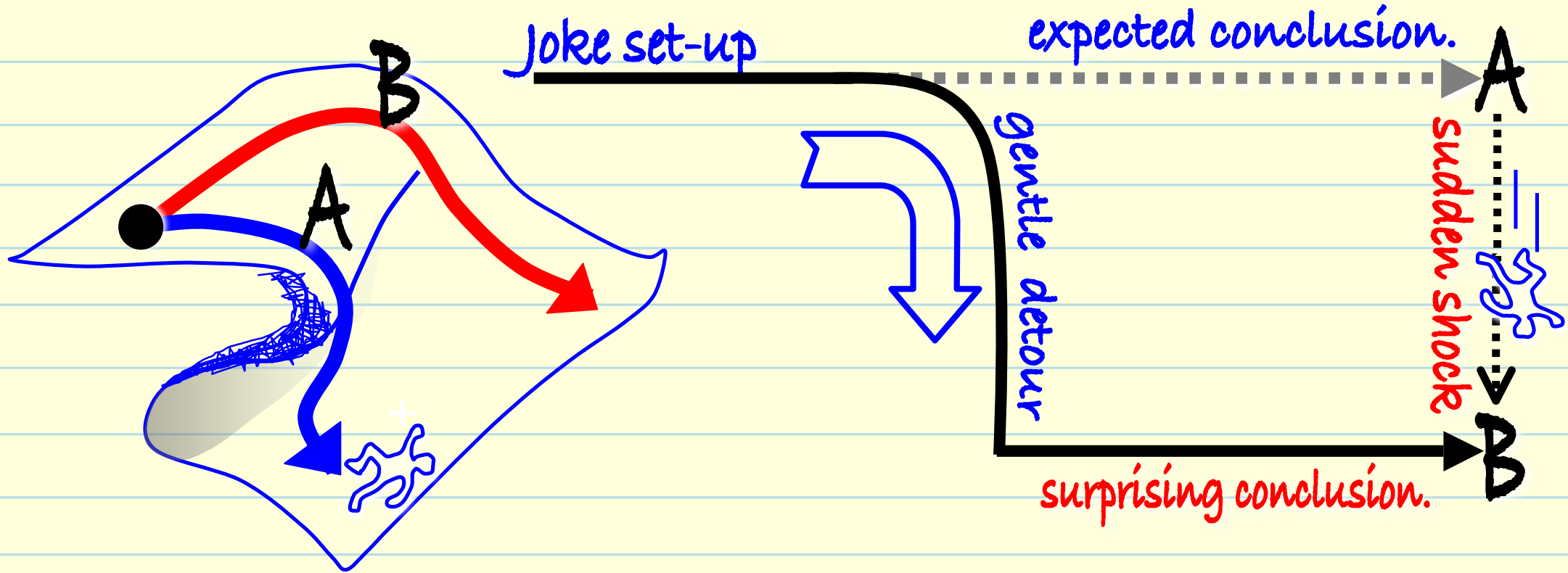
unlike his screaming passengers



Mathematicians

§

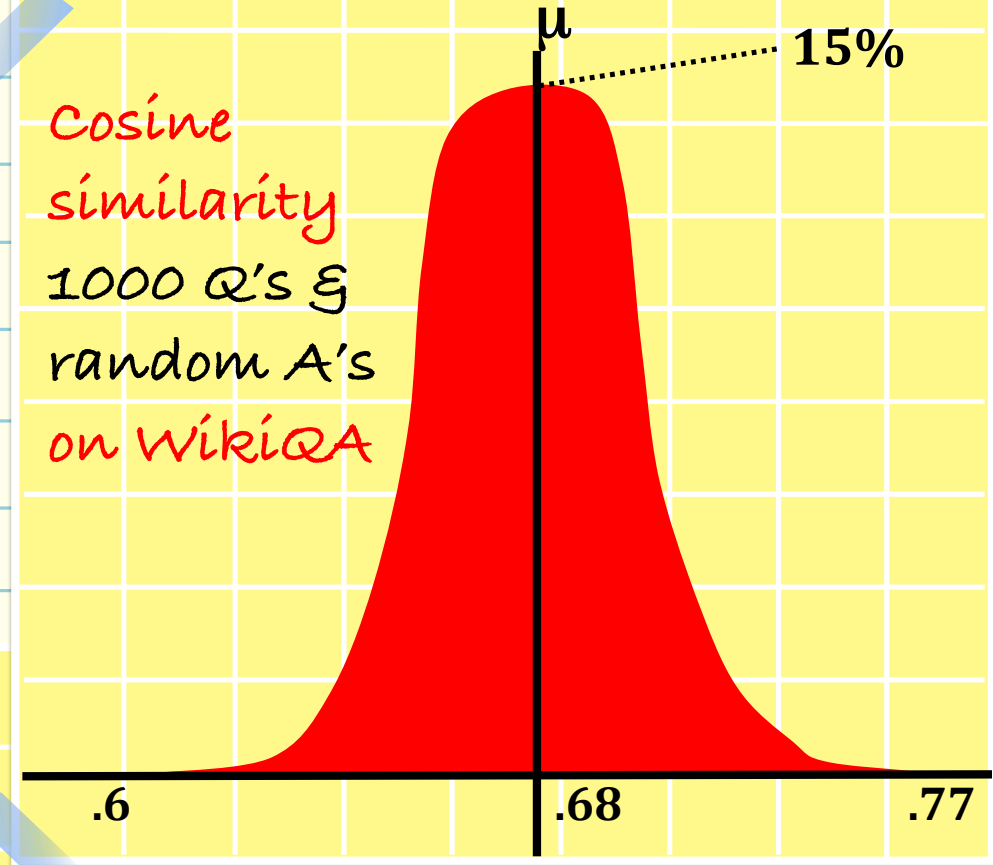
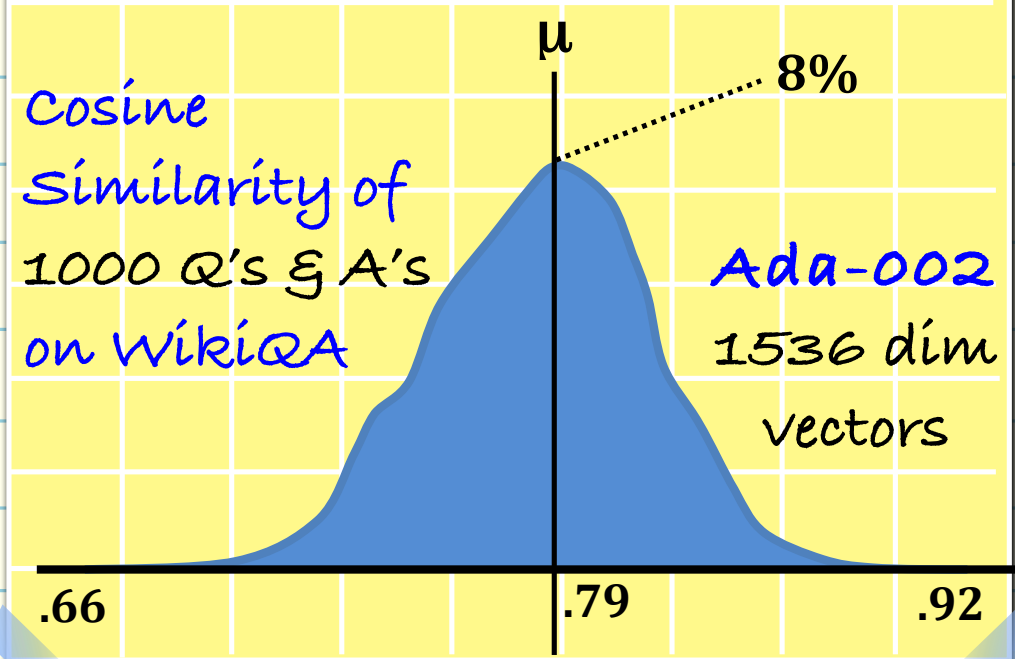
Comedians



Paulos (1980)

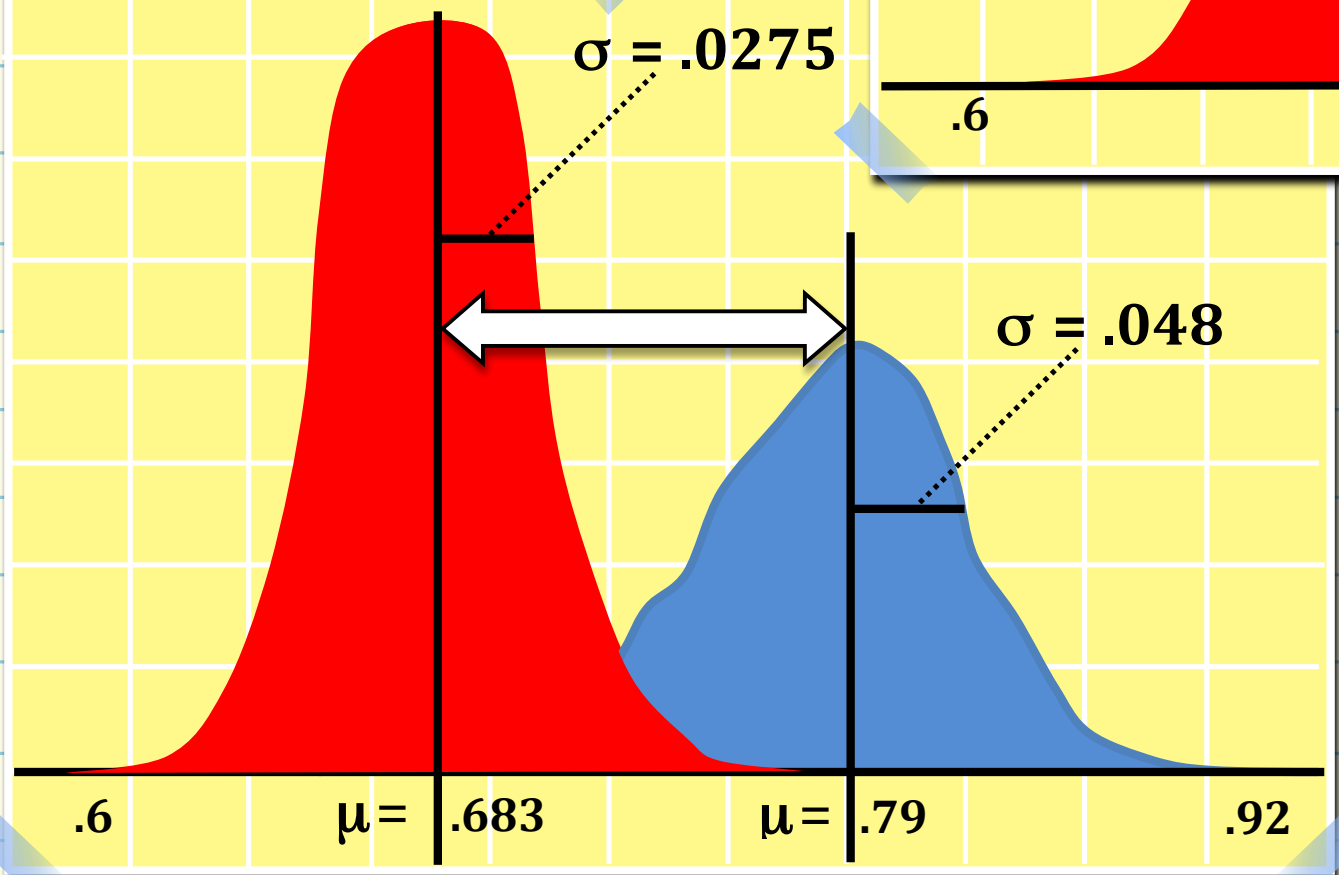
Dean (2000)

How do we quantify the gap between interpretations **A** § **B**?



Non-Jokes

Questions & sincere answers



Difference in means is quite significant at $p < .001$

$\mu = .783$
 $\sigma = .036$

11.9%

Cosine
Similarity
1000 setups
& punchlines
from Reddit

.7 .77 .9

Cosine
Similarity
1000 setups
& random
punchlines

$\mu = .722$
 $\sigma = .022$

18.7%

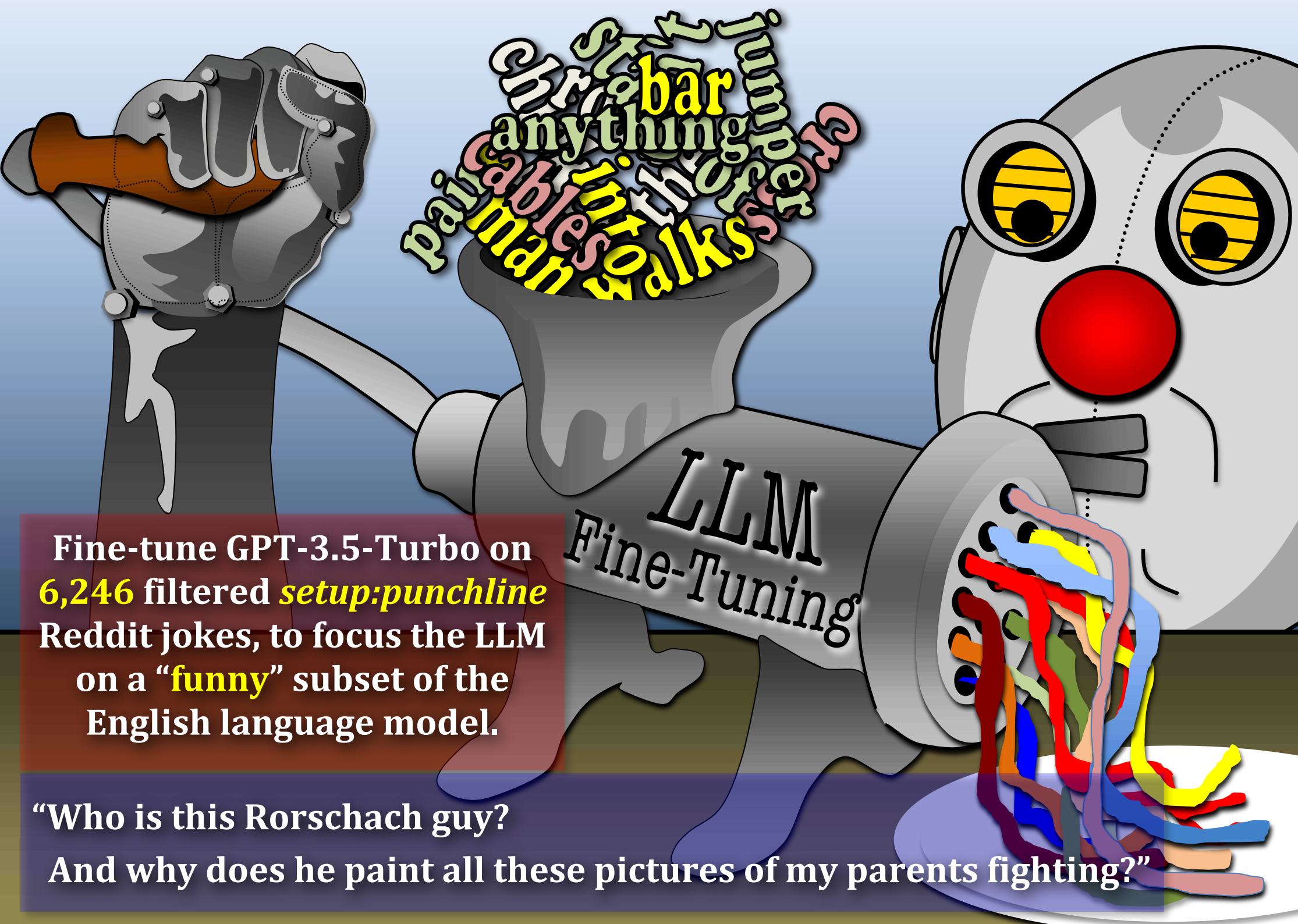
.67 .77

Riddle Jokes

Setup as Question
& Punchline as
insincere answer

Difference in
means is less
significant at
 $p < .05$

.67 .7 .77 .9



Fine-tune GPT-3.5-Turbo on 6,246 filtered *setup:punchline* Reddit jokes, to focus the LLM on a “**funny**” subset of the English language model.

“Who is this Rorschach guy?

And why does he paint all these pictures of my parents fighting?”

setup: Why did the customer service representative cross the road?

punchline: To talk to his manager.



11.1%

setup: How do you know if you've found a bad Elvis impersonator?

punchline: Break his legs and see if he sings.



31.6%

setup: How does Darth Vader like his toast?

punchline: On the dark side.



familiar 10.6%

setup: Why did the basketball player refuse to eat seafood?

punchline: Because he was afraid of the net.



incoherent 27.3%

setup: What did the robber say to the convenience store cashier?

punchline: Give me all the money! I'm robbing the store!



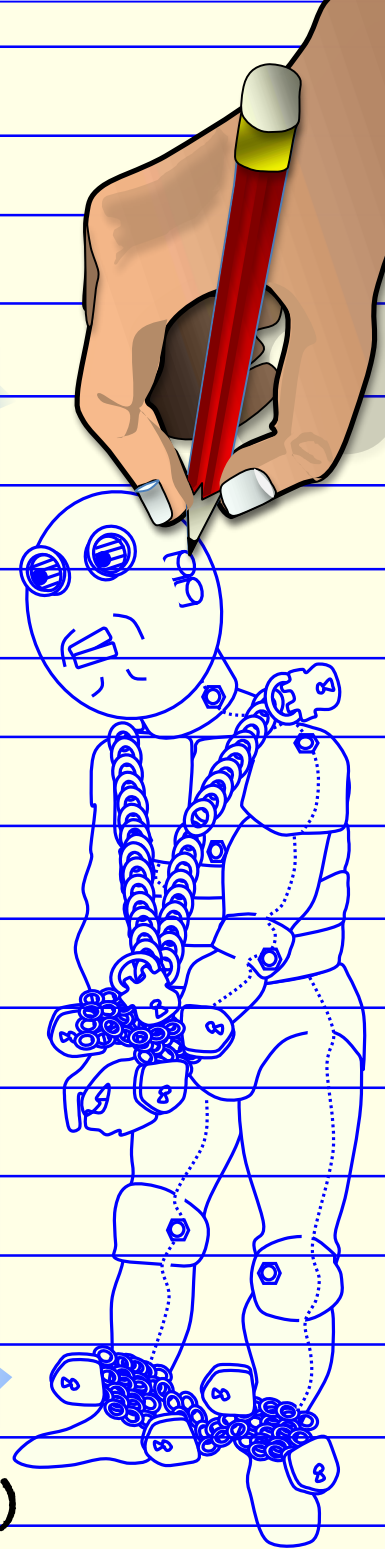
Sincere 19.4%

Chain of Thought (CoT)

Think like a comedian ...

You are a professional joke writer for a comedian. To write a joke about a topic **X**, follow these steps:

1. Identify three offbeat associations of **X** we all know.
2. Identify a surprising link between each association in step 1 and **X**.
3. Turn the links in step 2 into joke setups, without revealing the surprise.
4. Turn the surprising aspect of each link in step 3 into a snappy punchline.
5. Select the least predictable punchline from step 4.
6. Assemble the joke by pairing the setup & punchline.



Dean (2000), Toplyn (2014/2022), Winters (2023)

X = awkward first dates

You are a professional joke writer for a comedian.
To write a joke on a topic X, follow these steps:

1. Identify three offbeat associations of X we all know.
2. Identify a surprising link between each association in step 1 and X.
3. Turn the links in step 2 into joke setups, without revealing the surprise.
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5. Select the least predictable punchline in step 4.
6. Assemble a joke by pairing setup & punchline.

Uncomfortable silences

Picking a date spot

Overthinking greetings

"Ever notice how overthinking greetings on a first date is like preparing for a diplomatic summit?"

"Turning a handshake into a mental gymnastics routine should be an Olympic sport."

Mental gymnastics

Crickets chirping

Solving a Rubik's cube

setup: I was at a funeral when a telemarketer called me.

punchline: Coffins for the whole family.



6.5%

setup: Selfie culture is getting out of hand.

punchline: Avocado toast: the new traffic jam.



83%

setup: Did you hear about the burger that got a speeding ticket?

punchline: It was fast food.



< 1%

familiar

setup: My coworkers are so lazy ...

punchline: they're always on break records.



incoherent

5%

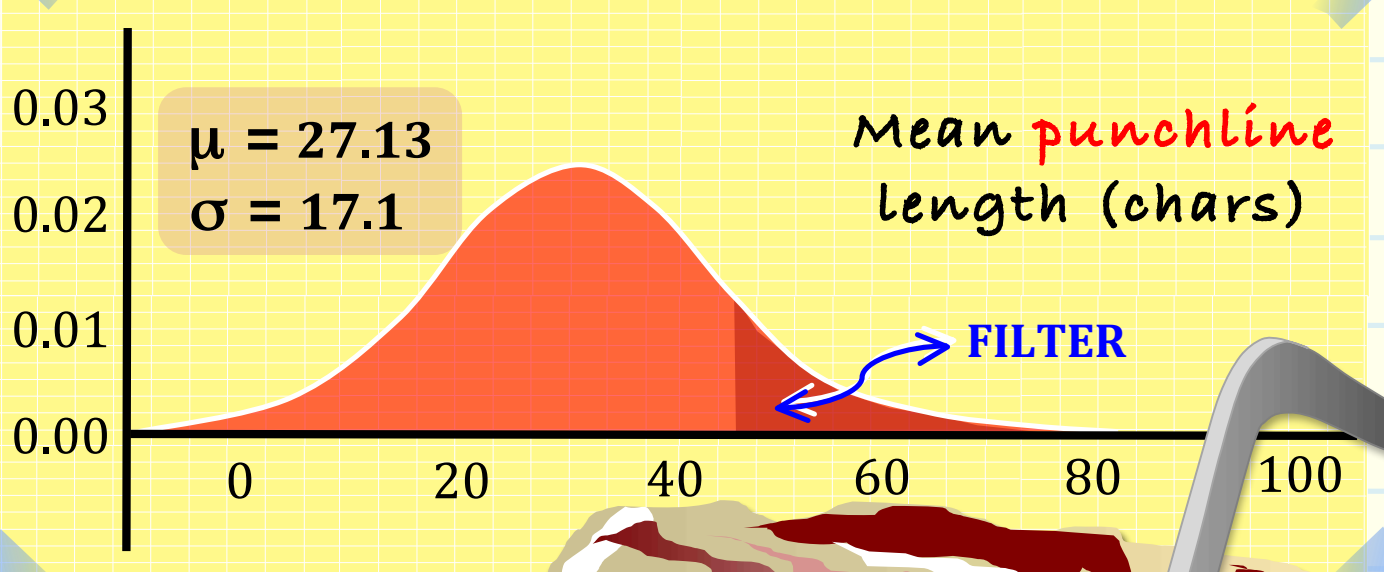
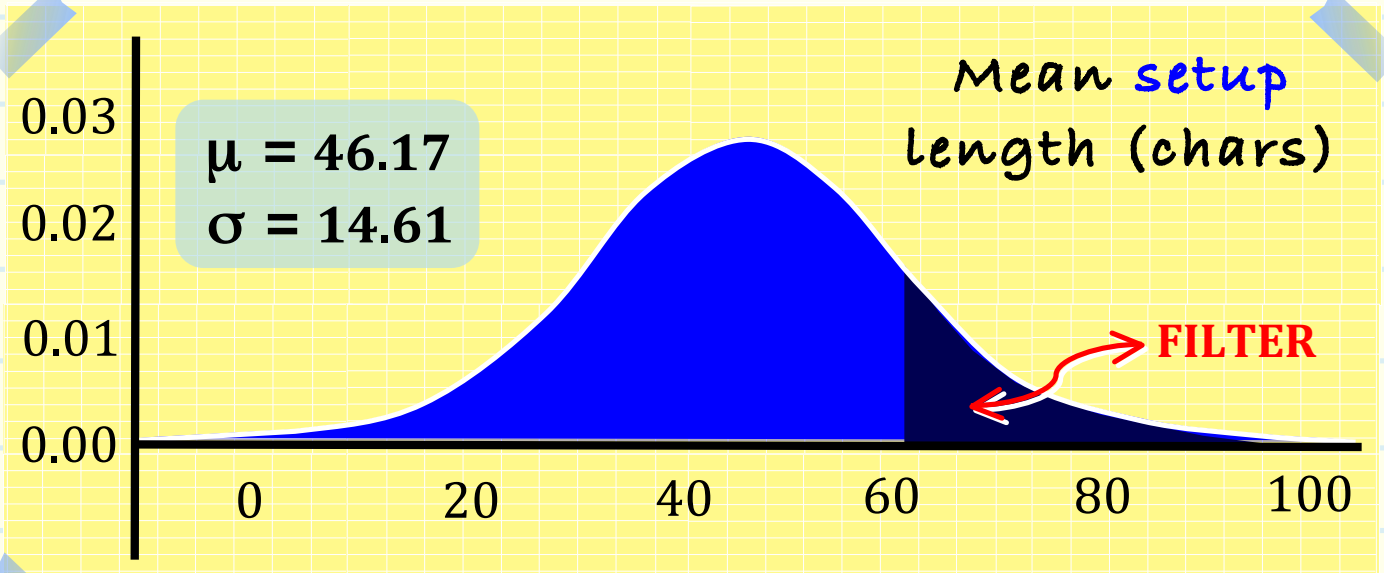
setup: I had a terrible room mate.

punchline: But the rent was cheap.

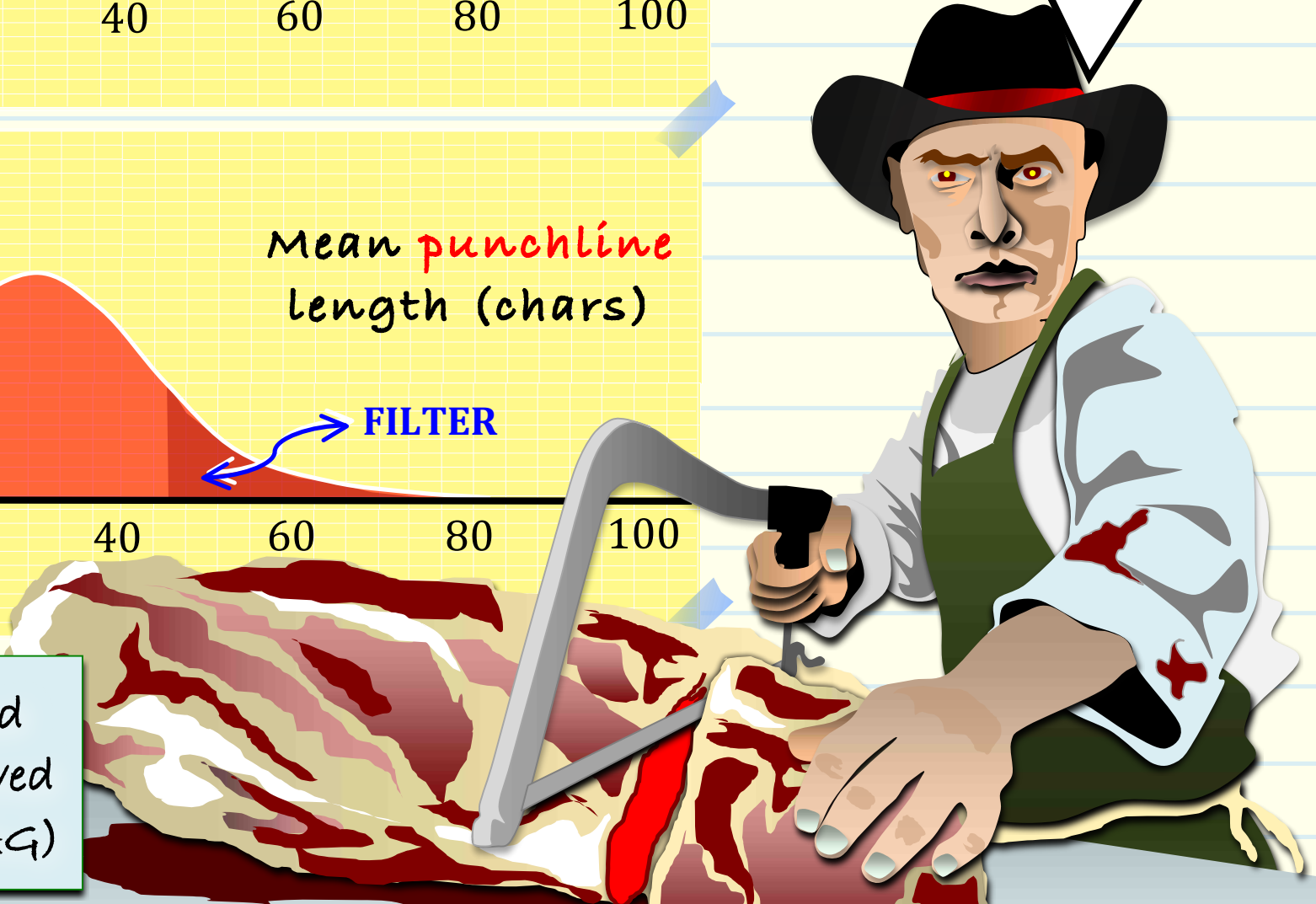


Sincere

4.6%



We **sample** the LLM's outputs to **filter** over-long setups & punchlines or **unbalanced** jokes.



Prompt with 1 fixed exemplar or 2 retrieved near-exemplars (RAG)

setup: What do you call a group of conspiracy theorists?



19.6%

punchline: A cover-up band.

setup: How do you make a bad driver nervous?



54%

punchline: Give him a steering wheel.

setup: What did the ocean say to the shore?



11.3%

punchline: Nothing. It just waved.

3.1%

RAGx2

setup: Why did the soda go to the doctor?



4.8%

punchline: Because it had too many pop-ups.

setup: Why did the subway train smell bad?



10.3%

punchline: Because it had too many commuters.

**GPT-4
Smash!**



Approach	LLM	New Jokes		Old Jokes		Incoherent		Sincere	
		3.5T	4T	3.5T	4T	3.5T	4T	3.5T	4T
1. One-shot priming		3.9%	14%	1.5%	3.75%	2.2%	4.4%	4.1%	10.3%
2. Sampling		19.3%	22.6%	11.3%	15.1%	2%	4.6%	2.8%	5.9%
3. Fine-tuning		11.1%	N/A	10.6%	N/A	27.3%	N/A	19.4%	N/A
4. Sampling + RAG		19.6%	15.1%	3.1%	30.9%	4.8%	3.6%	10.3%	1.4%
5. Chain of Thought		6.5%	7.2%	0%	0%	5%	1.4%	4.6%	0%

Does LLM Size Matter?

We obtain mixed results when we use
GPT-4 Turbo instead of the smaller
GPT-3.5 Turbo.