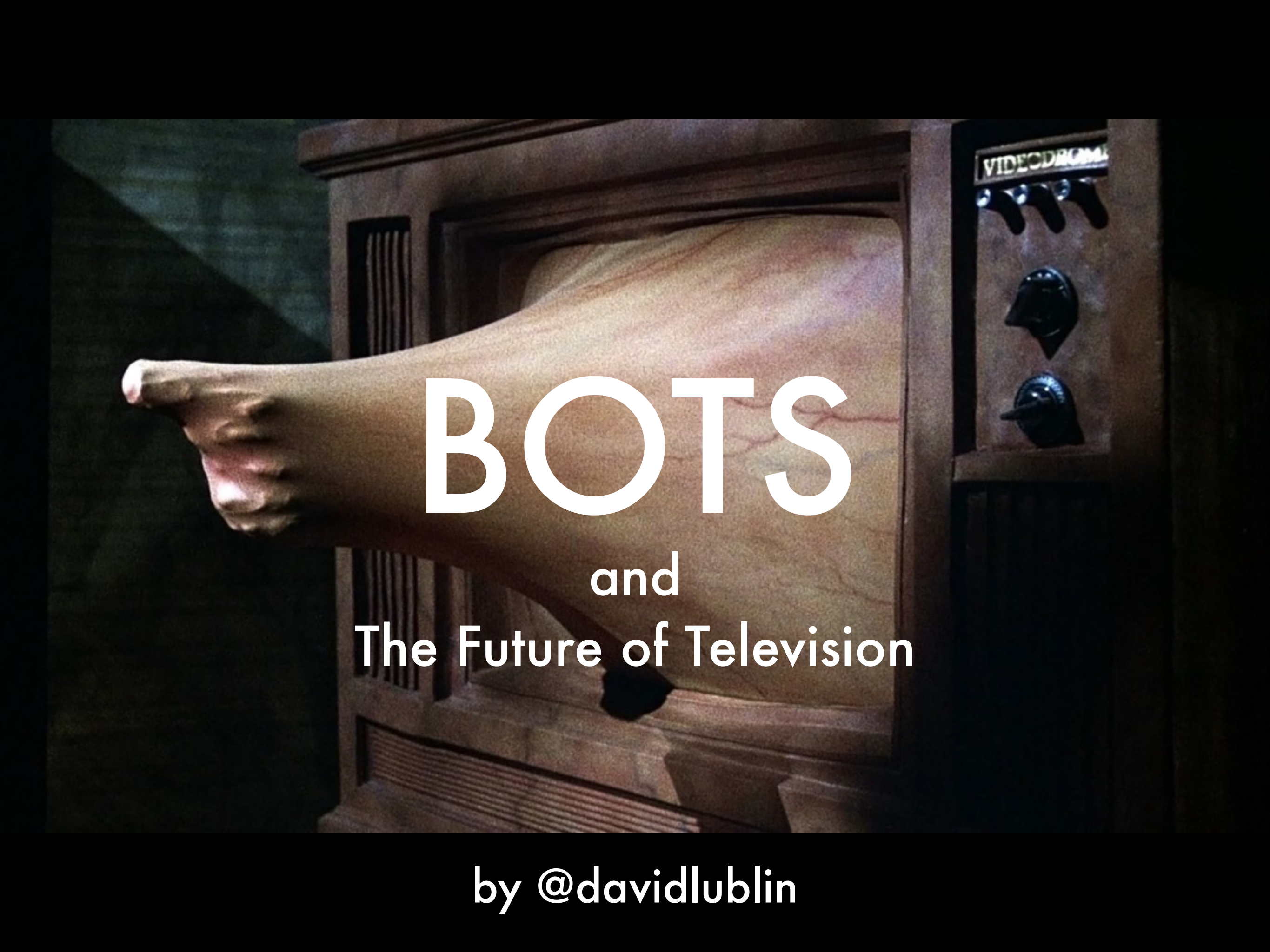


A vintage television set with a wooden cabinet. A robotic arm, resembling a prosthetic limb with visible veins and a pinkish tip, extends from the screen. The TV has a "VIDEODRUM" label and several control knobs on the right side. The background is dark and moody.

# BOTS

and  
The Future of Television

by @davidlublin

TODAYS PRESENTATION  
BROUGHT TO YOU BY



Thanks to our Bot Summit hosts and sponsors.



AND VIEWERS LIKE YOU

Thanks for watching.



# @TVCOMMENTBOT

A bot that watches live TV and creates new subtitles based on what it "sees" in the images.



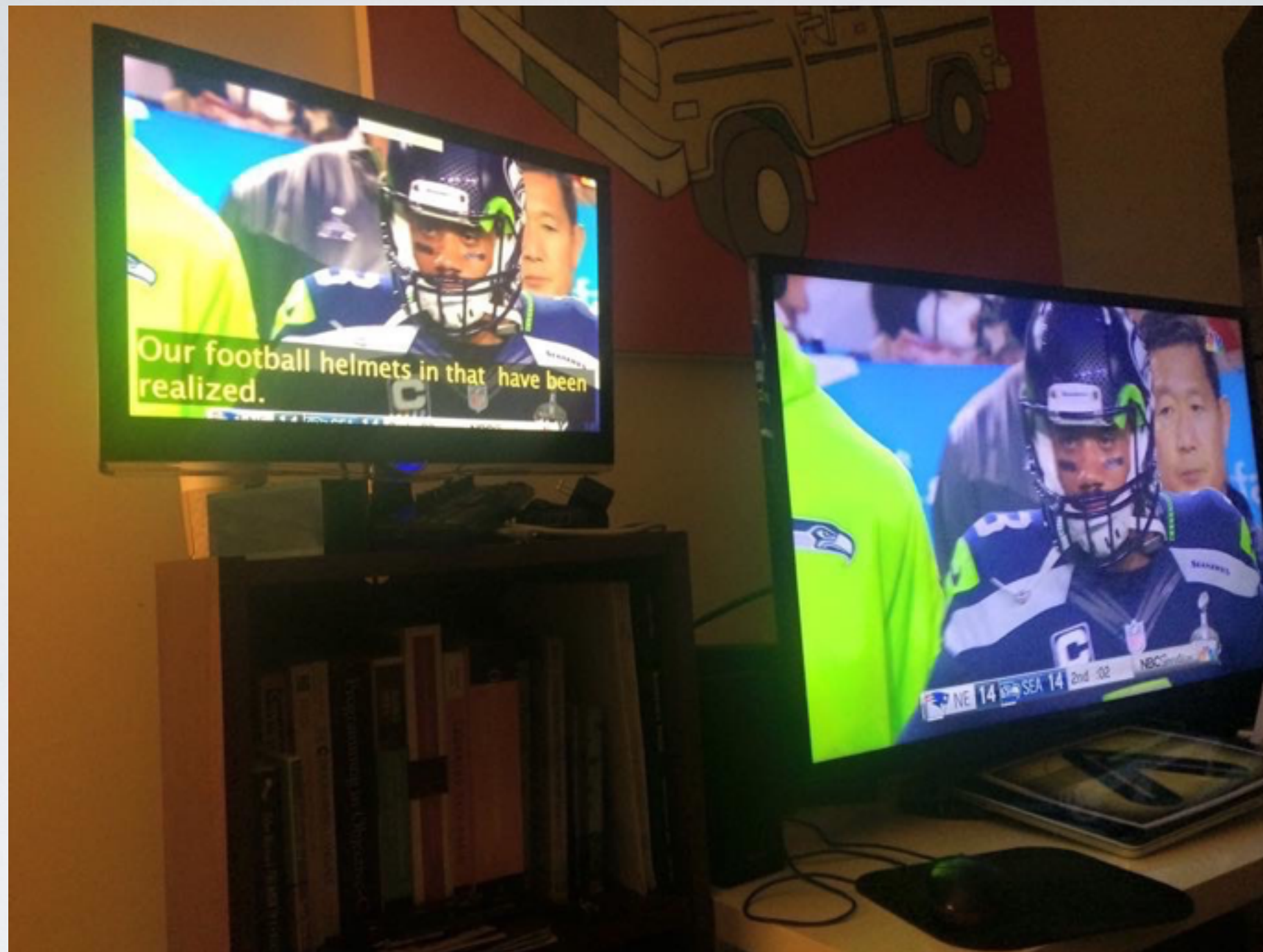
“dog sitting on brick grown”  
- @VisualGenome

The goal of @TVCommentBot is not to accurately describe the image, though lots of other smart people are working on that interesting problem.



# TV HELPER

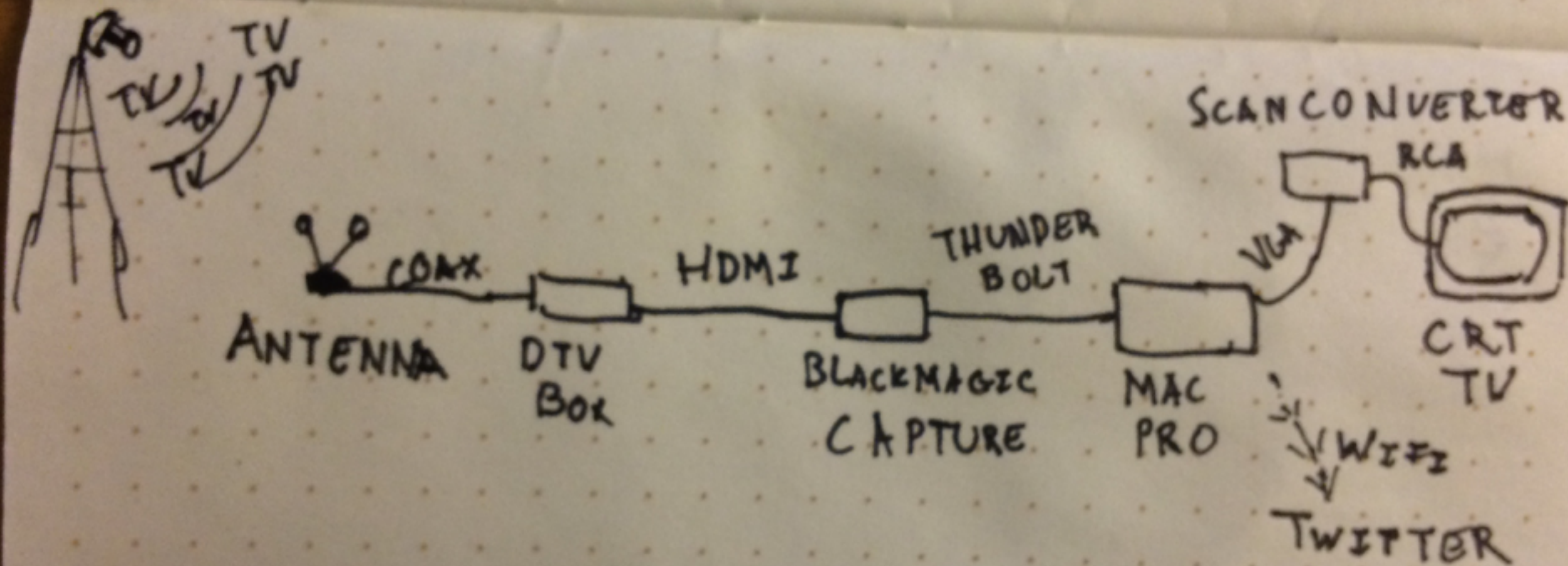
Started as an installation for Art Hack Day 2015 in Brooklyn  
in collaboration with David Newbury and Blair Neal.  
Viewer decides which styles new subtitles are written in.



# TV HELPER

Still lives as a second TV in my apartment.  
Fun for parties and special TV events.

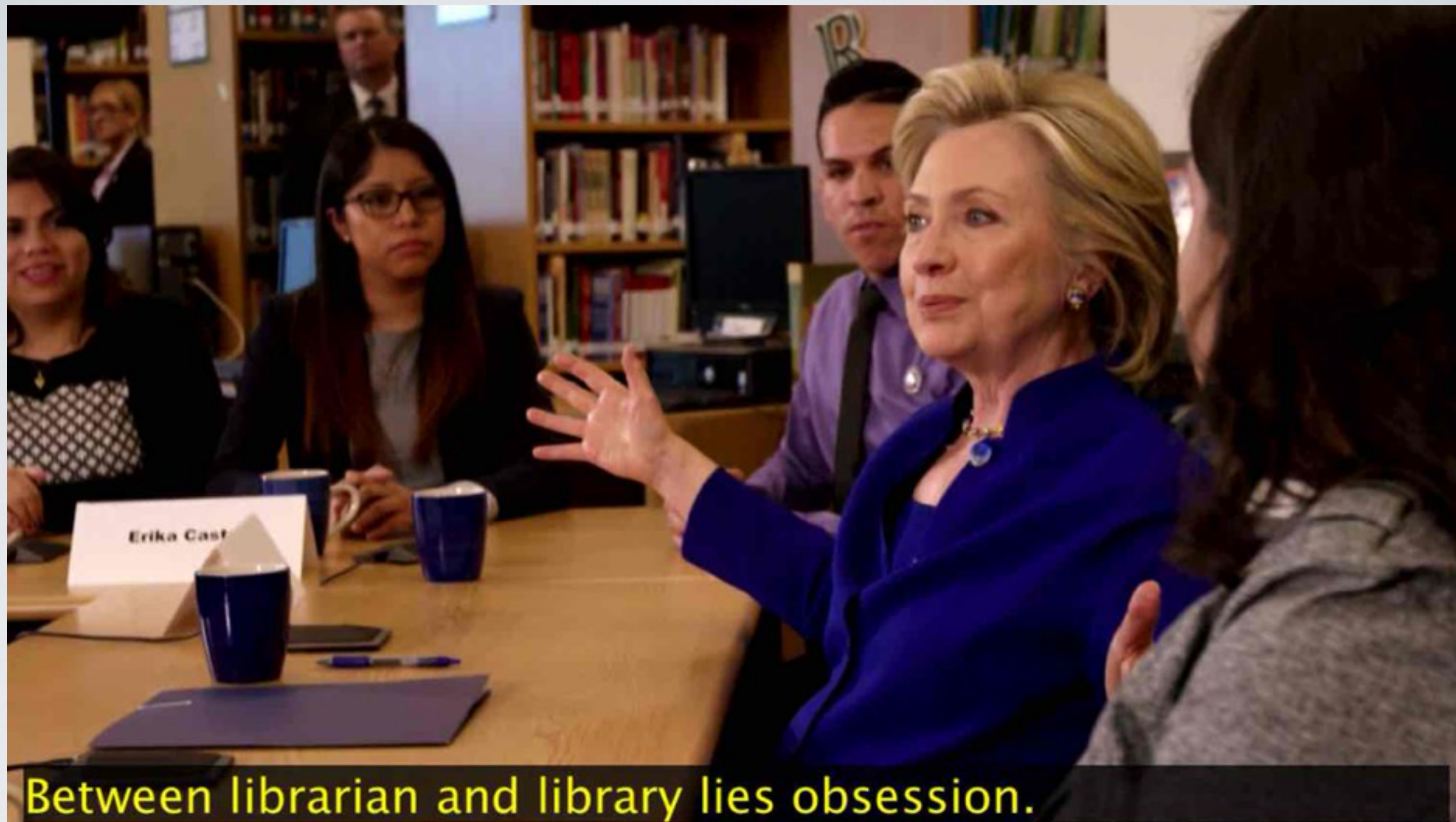
# HOW IT WORKS



*Post to Twitter was an after thought  
as a means to save images.*

# HOW IT WORKS

- Deep Belief object recognition is used to gather “nouns” from the image.
- Thesaurus lookup for synonyms and related words.
- Nouns are injected into custom pre-made “madlib” files generated in different styles to make new sentences to overlay on image.
- Final text can be optionally moderated before Tweeting.



Detected "**Library**" - Related words "**Librarian**"

Style: **Advertising**

"Between —NOUN— AND —NOUN— lies obsession"

# OTHER TECHNIQUES ATTEMPTED

*(but ultimately not used)*

- Text recognition / OCR
- Speech to text
- Face detection / Emotion analysis

# SOME HISTORY, RELATED / PRIOR ART AND INSPIRATION

My background is in real-time video performance  
(what you see at concerts, installations, digital signage, etc)

Professionally currently a co-owner at VIDVOX making Mac software  
and open source tools for other video artists.

# SOME HISTORY, RELATED / PRIOR ART AND INSPIRATION

In early 2000's did a lot of live TV remixing set to music...



# VIDEOINSTRUMENTALISM

(FROM TEXT BY MARKO KOSNIK)

*videoinstrument, videoinstrumentalism:*

*video production as known in commercial video studios could be described as a multi-layered time compression process, very alike the compilers of divisions of one purpose jobs found in the principles military organisation. recalling the two part structure of social machines, one may observe the tasks reorganised for short cycle execution for humans, composing the social part of the machine on one side, interfaced with machine automata on the other side of modern ideological propaganda production.*

*it may take two years of man (female?) time work to compile one hour documentary acceptable for general european tv standards.*

*it may take fifty years of man (female?) time work for a documentary when reusing archived video materials.*

*it may take five thousand people running full time daily jobs to compile half an hour of cnn news, when produced on a daily basis.*

*videoinstrumentalism is a discipline which tends to reverse the engineering of video production, replace the low level narratives with abstract brain food and return the process of video production into the hands of individual, performing on the level of musician, controlling an video instrument in 1:1 time ratio (you may call it live if you want).*

*it just takes 24 videoinstrumentalists to produce non stop freshly generated tv program on the fly when each of them performs an hour per day - can be displaced and synced around the world.*

*Some other projects I think are cool and inspiring...*



Place by Trevor Bell, 1989

A dog is taking their picture at their own camera, or possibly a dog is ready for a camera next to it. I'm reminded of two dogs look up at a person out of view of the camera.

#Trevor Bell #Place #1989 #Art

<http://noviceartblogger.tumblr.com/>



@555uhz from @ra

Some other projects I think are cool and inspiring...



*"Oh, don't worry. That's Benedict Cumberbatch. He's in everything."*



Word.Camera by Ross Goodwin

New Yorker cartoons are great examples of images juxtaposed with text.



MODERATION  
AND LOTS OF IT



POPE BLESSES OHIO GIRL  
WHO IS GOING BLIND



I am confident that that t-shirt will continue.

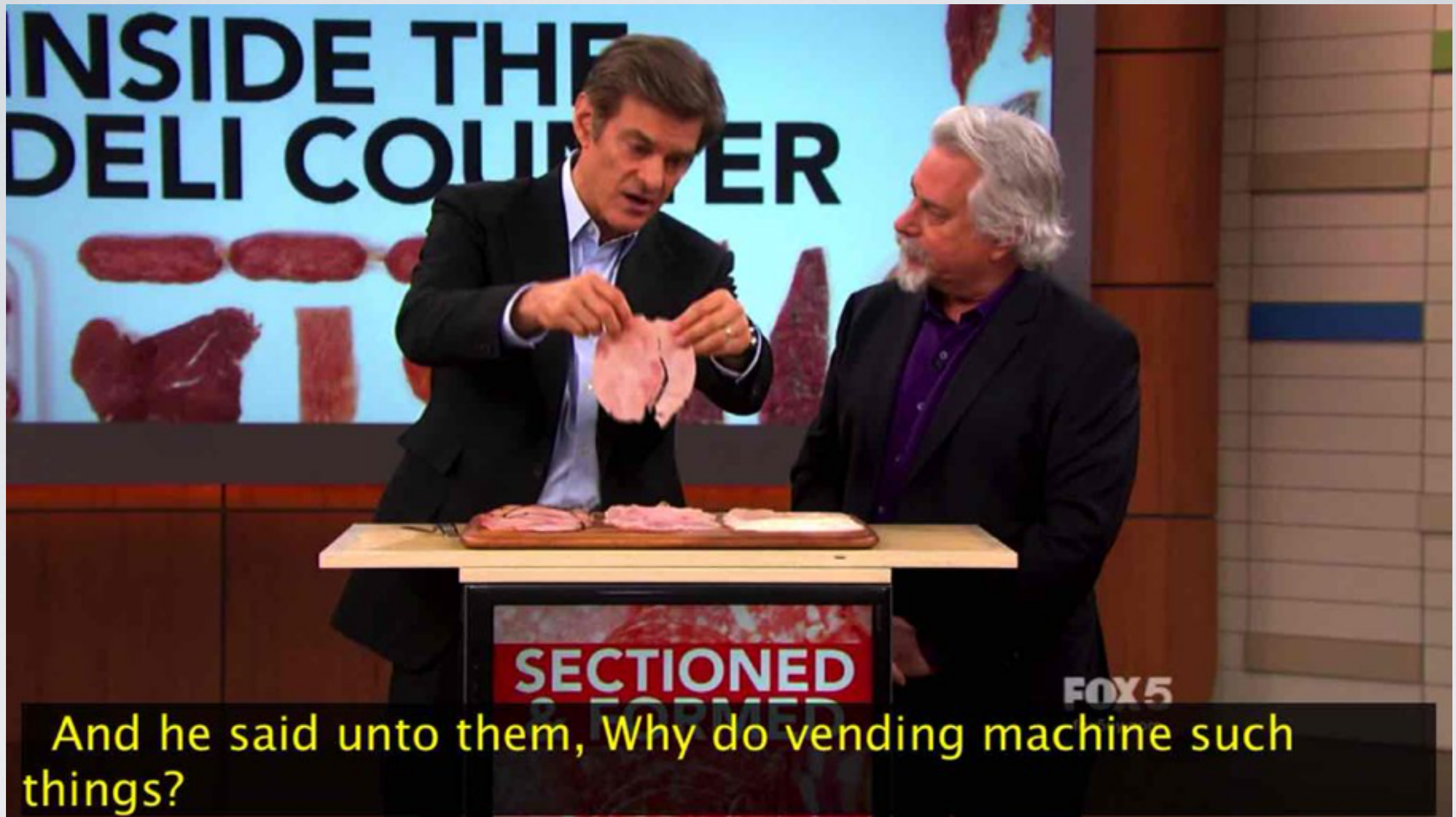
***Not cool @TVCommentBot!***

Bots should “**Punch Up**”  
(Useful guideline from previous Bot Summit)



***Not cool @TVCommentBot!***

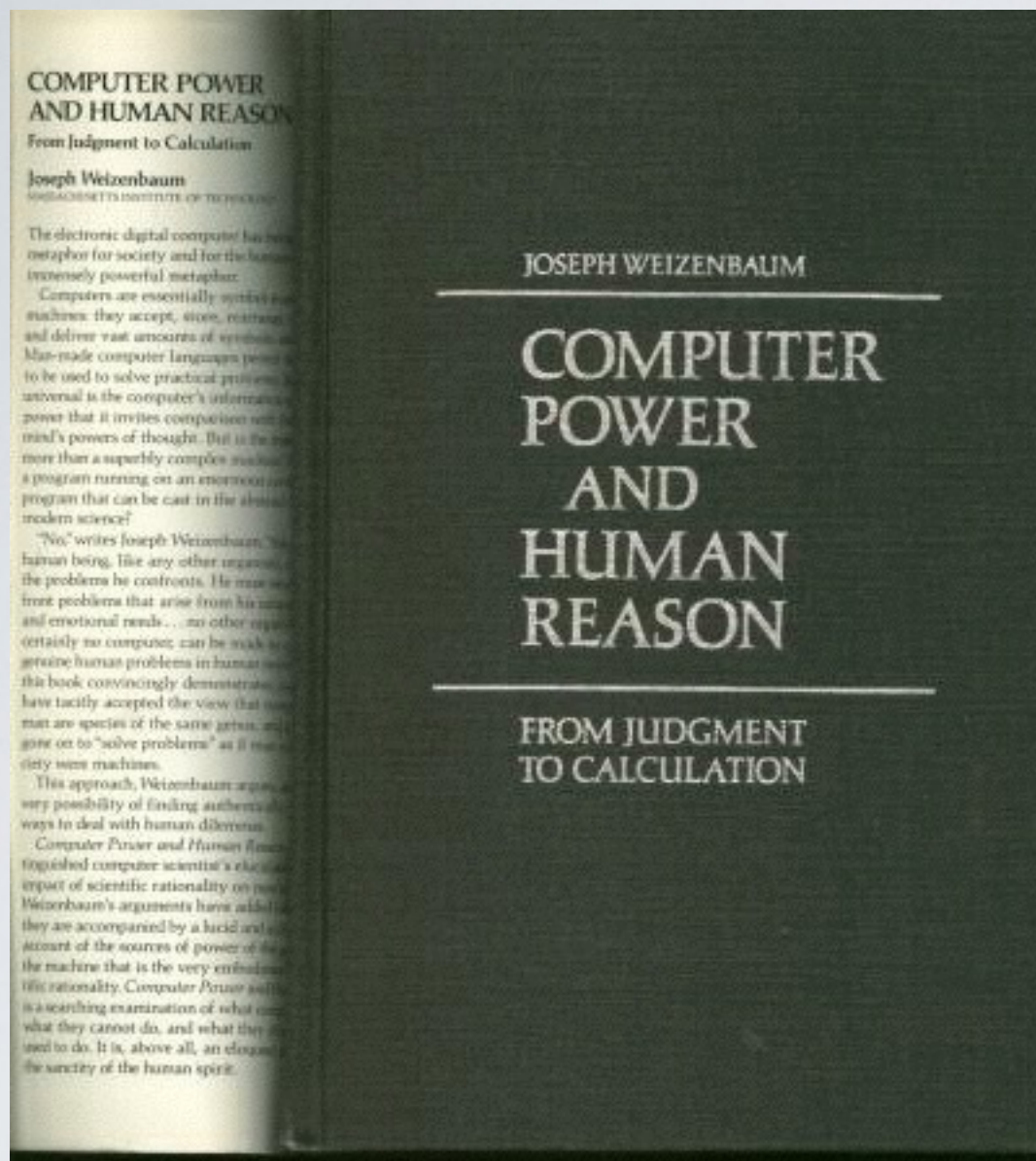
But what about this image? There's no specific indication that the little girl is going blind.



And he said unto them, Why do vending machine such things?

It's [usually] okay to poke a little fun at public figures and brands but not necessarily their subjects / guests.

eg Dr Oz / Phil but not a guest that something terrible happened to.



3. Another widespread, and to me surprising, reaction to the ELIZA program was the spread of a belief that it demonstrated a general solution to the problem of computer understanding of natural language. In my paper, I had tried to say that no general solution to that problem was possible, i.e., that language is understood only in contextual frameworks, that even these can be shared by people to only a limited extent, and that consequently even people are not embodiments of any such general solution. But these conclusions were often ignored. In any case, ELIZA was such a small and simple step. Its contribution was, if any at all, only to vividly underline what many others had long ago discovered, namely, the importance of context to language understanding. The subsequent, much more elegant, and surely more important work of Winograd<sup>5</sup> in computer comprehension of English is currently being misinterpreted just as ELIZA was. This reaction to ELIZA showed me more vividly than anything I had seen hitherto the enormously exaggerated attributions an even well-educated audience is capable of making, even strives to make, to a technology it does not understand. Surely, I thought, decisions made by the general public about emergent technologies depend much more on what that public attributes to such technologies than on what they actually are or can and cannot do. If, as appeared to be the case, the public's attributions are wildly misconceived, then public decisions are bound to be misguided and

While it is possible to pre-screen the source texts for offensive material, it is impossible for a computer to understand the nuanced context of imagery and how the juxtaposed text *may* be interpreted by a human.

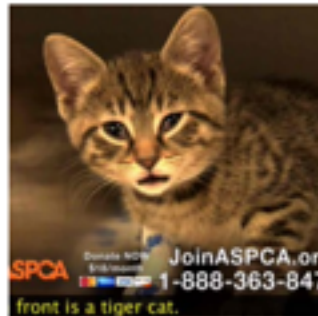


**stefapie**  
@stefapie



 **Follow**

**@DavidLublin** can i have no escape from sad ASPCA commercials??



**TV Helper** @TVCommentBot

The tabby in front is a tiger cat.

RETWEET

**1**

LIKE

**1**



11:56 AM - 28 Mar 2016

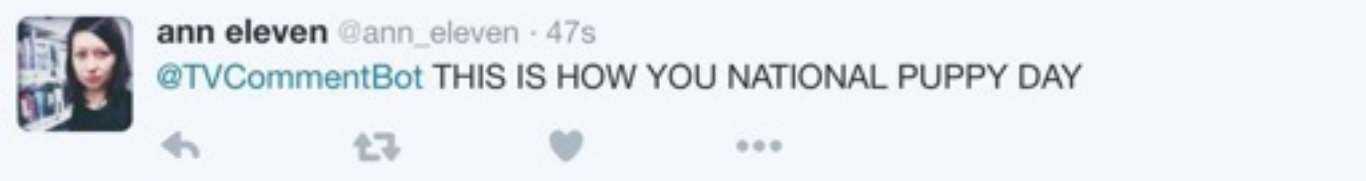


There are gray areas of moderation:  
eg. It is inappropriate to make fun of animals in cages, but ads for the ASPCA can raise awareness.  
*How to handle this tastefully?*



There are gray areas of moderation:  
eg. When making up rap lyrics is it okay to drop N-bombs?  
In other contexts this would be clearly offensive.  
*How to handle this tastefully?*

+ Lots of gray area when just trying to be funny...



@TVCommentBot ????



ok @TVCommentBot now that's just sexist. Your algorithm is appalling.

# EROTIC FICTION MODE

Added for Valentines Day.

Only enabled when actively being moderated.

Inside joke is that it is only used for weather forecasting.



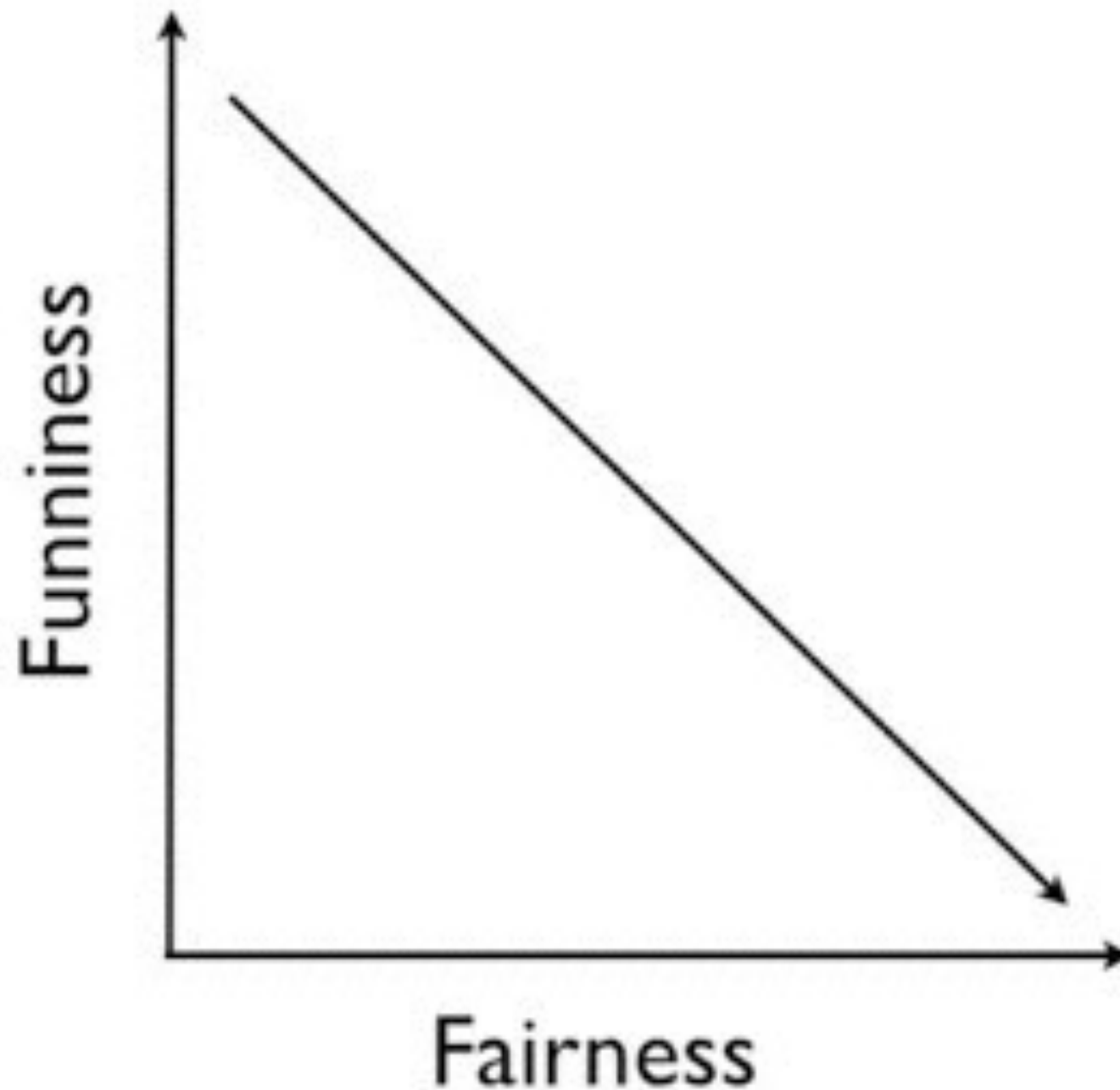
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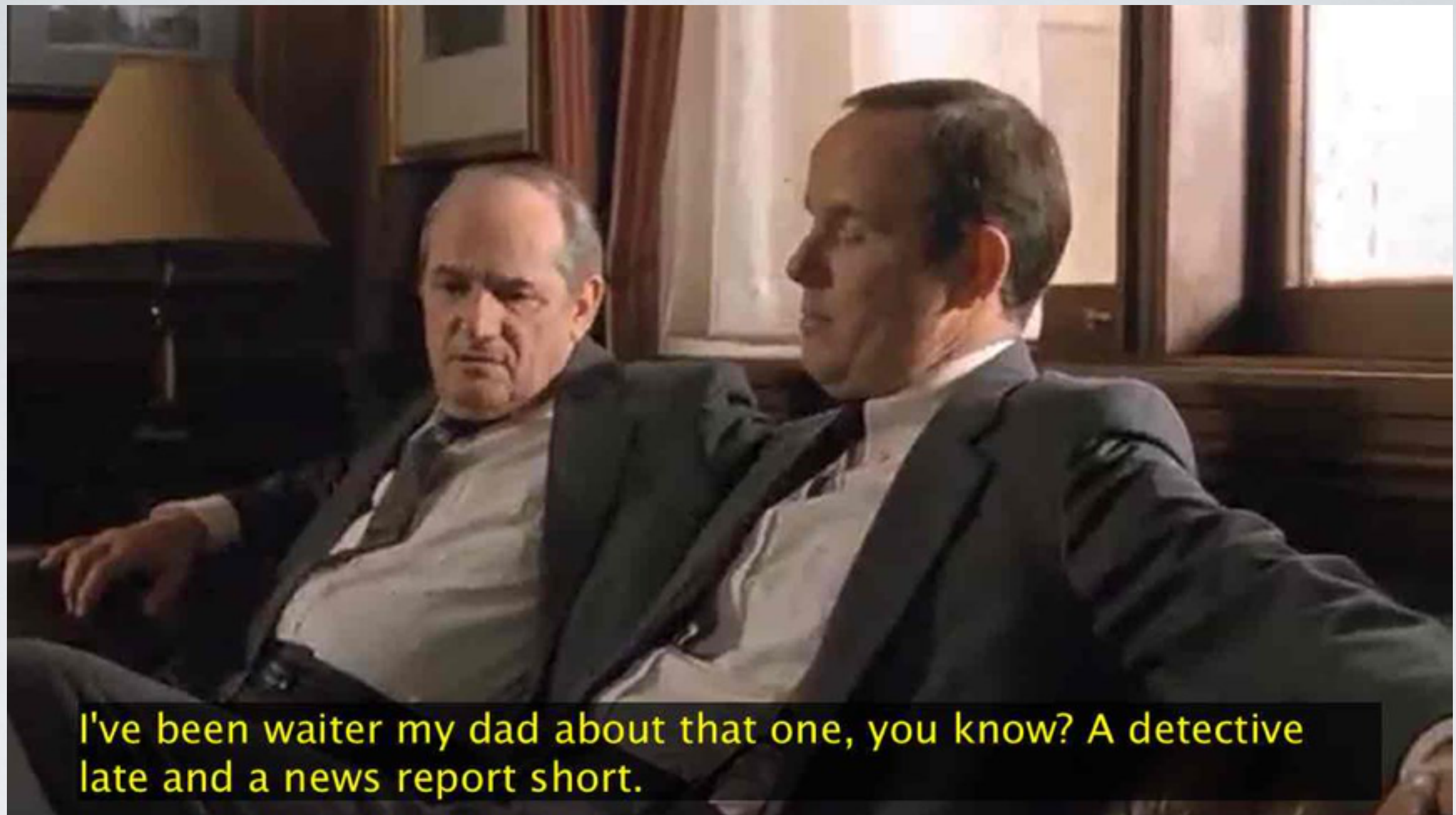




*Bob Mankoff, The New Yorker*

# WHAT MAKES FUNNY?

Bot is constantly being “optimized” for humor.  
*Finding a sweet spot between absurd and relatable and fairness.*



# IMAGINATION

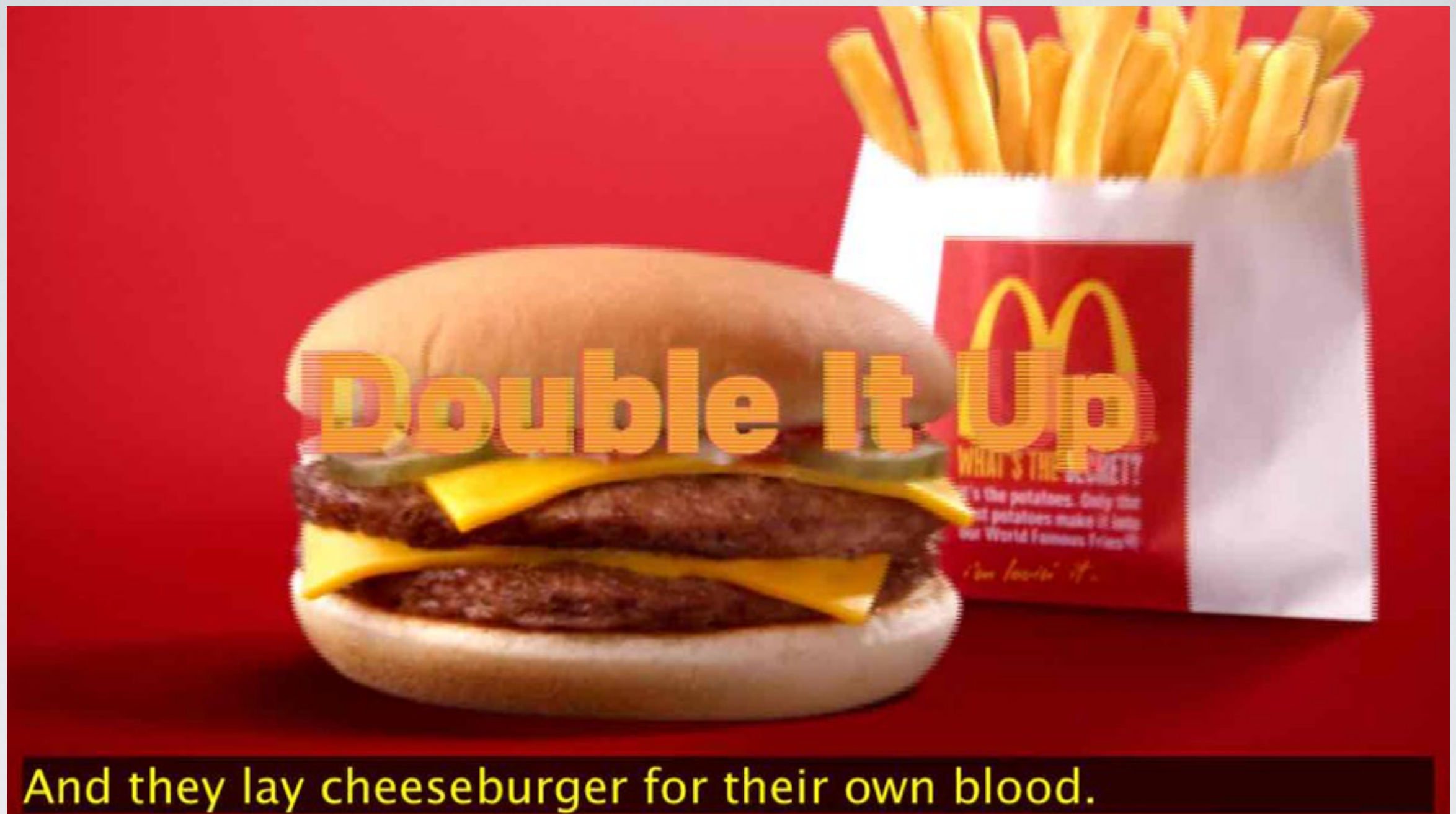
*When characters are familiar our brain tries to fill in the gaps of who is talking, what their voices sound like, etc.*



Our child labor has been put on notice: We are not immune from attack.

# ADVERTISING / BRANDS

*Many of the most popular Tweets from the bot are from ads.*



# ADVERTISING / BRANDS

*Many of the most popular Tweets from the bot are from ads.*



# ADVERTISING / BRANDS

*Many of the most popular Tweets from the bot are from ads.*

**Start a team | Join a team**



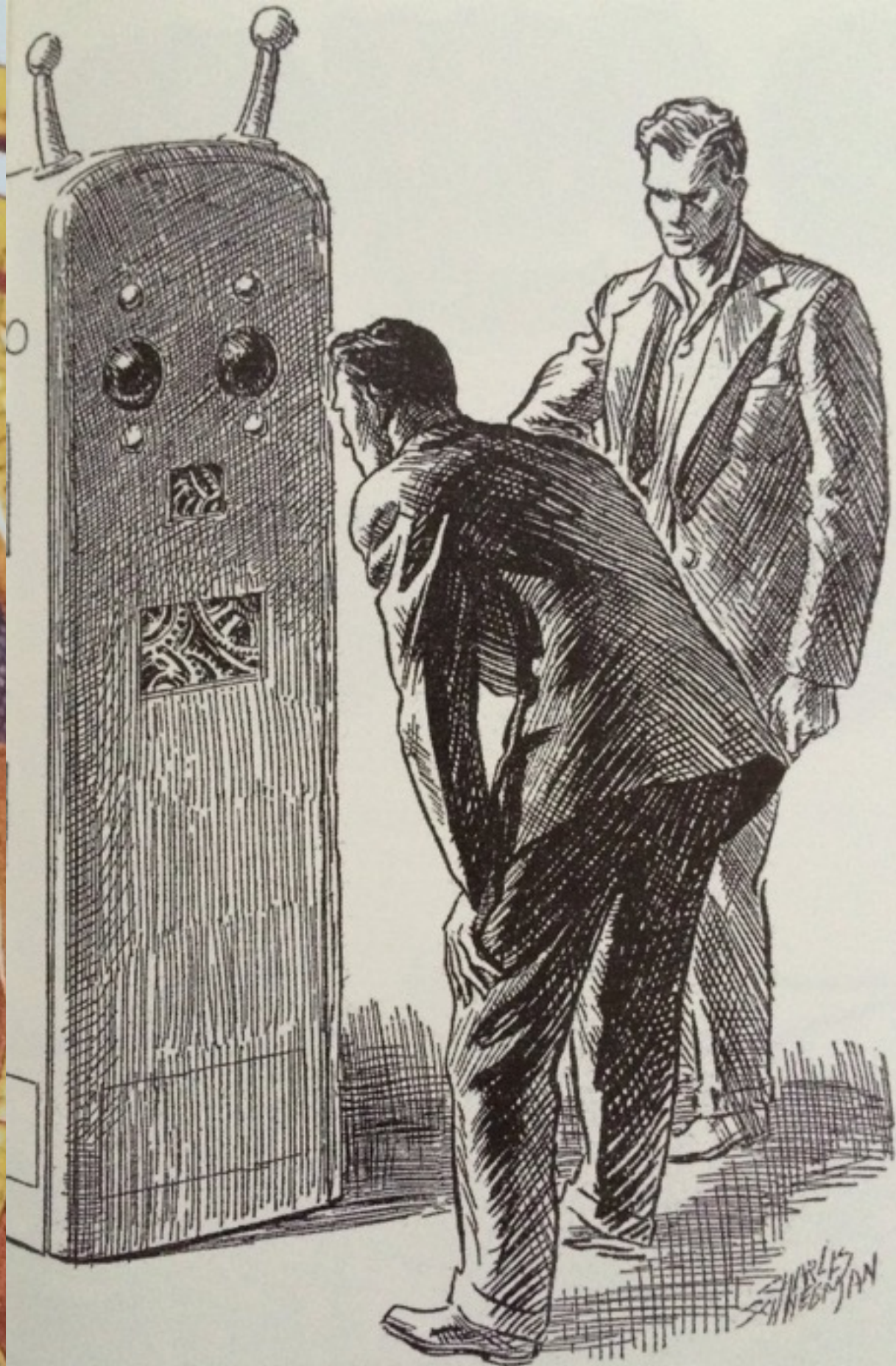
RelayForLife.org

There comes a bro when you just can't do some sparkles for yourself anymore.

# ADVERTISING / BRANDS

*Even ads need to be moderated  
—not all brands are to be made fun of.*

# THE FUTURE?



22. The inventor will no longer understand his own machine. 1941

# SPIN-OFFS

(Like all successful TV shows/networks)

Twitter fulfills the cable goal of infinite niche channels.

@StarTrekTVBot, @WestWingTVBot, @TVCrimeBot,  
@TVFaceBot, @MST3kBot, @MTVCommentBot, @CartoonTVBot

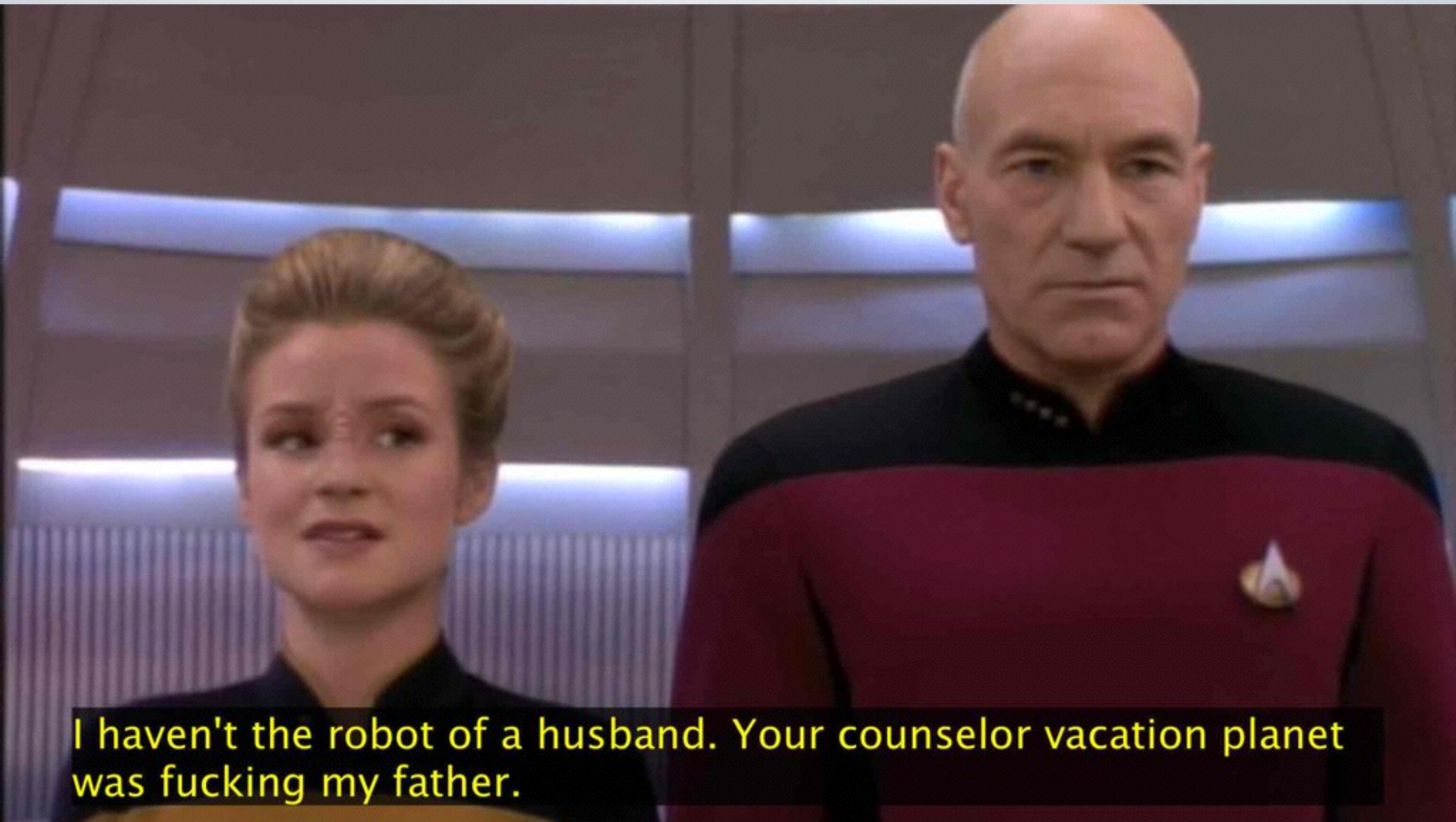
(Coming soon to a timeline near you, never ending game shows,  
cooking shows, education, political commentary and more...)



**Carlos Pacheco** @carlospache\_co · 59m

Social platforms are becoming television faster than television can become a social platform.





@STARTREKTVBOT



I think it unlikely that he waited at the murder weapon every evening.

@MST3KBOT



You will first make a note, Doctor, of the planetoid and the date.  
Pop-pop, the alien temptress court man!

@CARTOONTVBOT



@TVFACEBOT

Hi David Lublin,

Due to a copyright claim, your YouTube video has been blocked in some countries. This means that your video is still up on YouTube, but people in some countries may not be able to watch it.

**Video title:** TVCommentBot Live Stream

**Includes:** Visual content

**Claimed by:** Hit Entertainment Thomas and Friends

[View claim details](#)

#### Why this can happen

- Your video might contain copyrighted content.
- Copyright owners can choose to block YouTube videos that contain their content.

- The YouTube Team



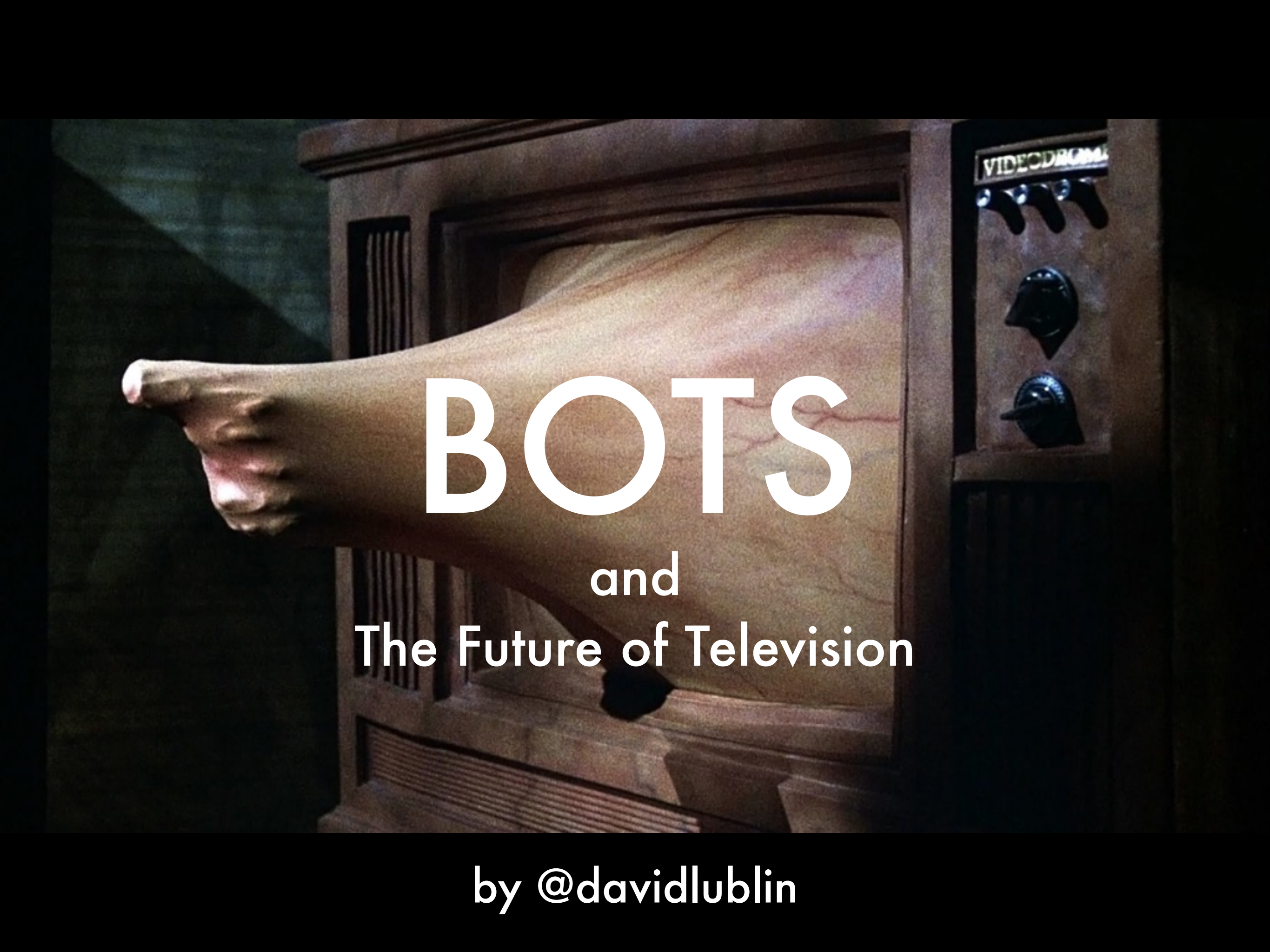
# LIVE STREAMING?

First attempt was easily picked up by YouTube copyright bots. Personally unsure if this falls under “fair use” or not. But perhaps there is a proper way to approach this.



# KARAOKE MODE

Creates new lyrics that are sung over karaoke tracks.  
Still a work in progress but more a priority now that  
Twitter support video uploads...

A vintage television set with a wooden cabinet. A robotic arm, resembling a prosthetic limb with visible veins and a pinkish tip, extends from the screen. The TV has a "VIDEODRUM" label and several control knobs on the right side. The background is dark and textured.

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