



Law, Art, and Copyright

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Today's slides

<https://go.illinois.edu/>

[AI4CARLI](#)

The link is case sensitive.





AI is shaping conversations about labor, scholarship, and art.

Goals for today

- Understand how generative AI tools work
- Consider examples of AI in creative practice
- Identify resources for AI and storytelling



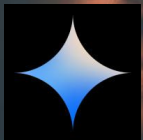
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How does image-based AI work?



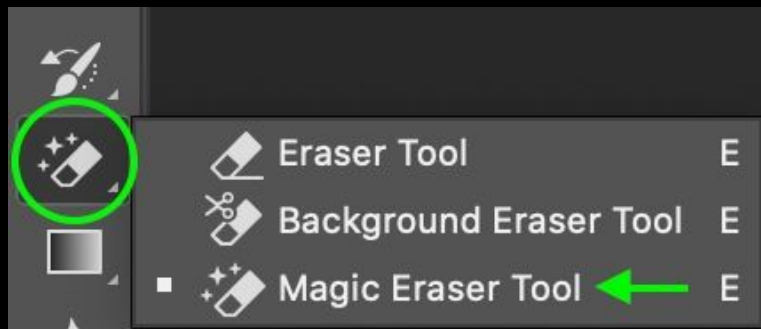
Everything's a pixel!



Pixels are the basic building blocks of digital images.

AI tools use computer vision to understand patterns in large collections of images, then use its understanding of patterns to generate new images.

Computer vision is everywhere!



Pattern recognition in images

1. Break an image into pixels
2. Compare each pixel to the surrounding ones and look for
 - a. Red Blue Green color values
 - b. Contrast for outlines
 - c. Contrast for texture
3. Use patterns to identify segments
4. Classify features within those segments



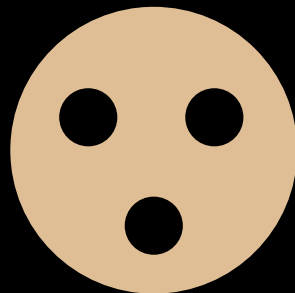
The “Chihuahua or Blueberry Muffin?” Problem



Similar RGB values



Similar outlines



Similar textures

A little help from some humans (supervised learning)

 @uwais_ 

I always be overthinking these

Select all squares with **traffic lights**
If there are none, click skip






9:11 AM · Sep 15, 2020 

 829.8K boredpanda.com

arch dsjcbka


Type the text

[Privacy & Terms](#)

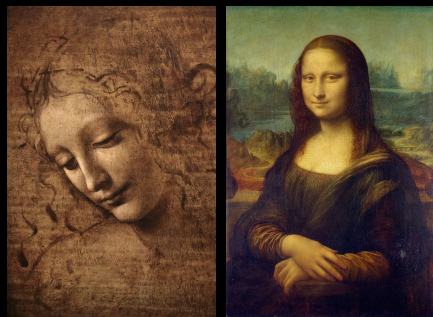
ReCAPTCHA

I'm not a robot

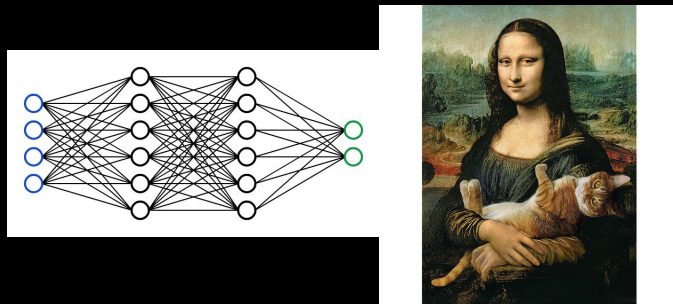
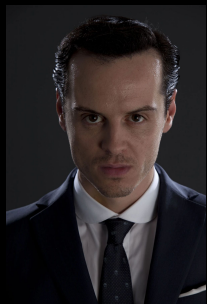

reCAPTCHA

Fun fact: CAPTCHA stands for “Completely Automated Public Turing test to tell Computers and Humans Apart”

Generative Adversarial Networks (unsupervised learning)



Real Images ("The Original Artist")



Discriminator
("The Detective")

Generator ("The Counterfeiter")

From pixels to patterns back to pixels (diffusion)

"At what point can I see the cat?"



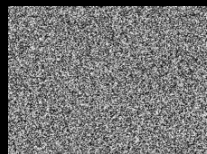
Fixed forward diffusion process

Data



Noise

Generative reverse denoising process



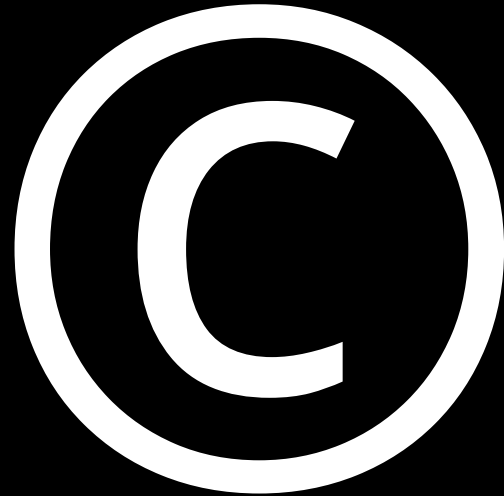


Copyright Considerations



What is Copyright?

- ★ The right of creator(s) to control the reproduction and distribution of their intellectual work. Often this allows them to benefit financially from their creative work whether it is writing, film, performance, art, music, or otherwise. It also gives the creator the right to authorize others to use, reproduce, or create derivatives of their work with permission.
- ★ **Copyright only extends to human creators.**
- ★ For work made after 1/1/1978, copyright lasts the life of the author plus 70 years.
- ★ Copyright is automatic but you can get additional protections by registering your copyright with the US Copyright Office.



Fair Use Doctrine



What is Fair Use?

- ★ Unlicensed use of copyrighted material
- ★ Exceptions exist for education, research, parody, news and other reasons that benefit the greater public.
- ★ Protected by First Amendment, under the right to freedom of expression
- ★ Each instance is different and fair use should be thought of on a case to case basis.

Four Main Considerations

- ★ Purpose and character of use
- ★ Nature of Copyrighted Work
- ★ Amount of Use of Copyrighted Work
 - De minimis vs appreciative
- ★ Effect on on commercial market

From the US Copyright Office

- ★ March 2023 issued “Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence”
- ★ If the work were created by a human, would that human have copyright?
- ★ The rules haven’t changed because copyright has, and continues to apply, only to human authors/creators.
- ★ Cases around AI are going through the court system and will better help outline what this means for fair use/copyright

WHEN IS A DISCLOSURE NEEDED?



Appreciable content

vs.

de minimis content

AI-Artist Kris Kashtanova

- ★ Kris Kashtanova created the first AI-assisted graphic novel “Zarya of the Dawn.” Kashtanova wrote the original story and used Photoshop to format the novel. All images were created using Midjourney.
- ★ Kashtanova copyrighted the book without citing Midjourney (the policy did not exist yet) and announced on social media that this was the first known example of copyright protections being extended to AI-generated artwork.
- ★ US Copyright office investigated, found that the technology was not predictive enough to give Kashtanova authorship, voided the original copyright, and issued a new copyright for prompts, story, and layout of images.
- ★ Sample prompt: “Zendaya leaving gates of Central Park”
- ★ Kashtanova later created “Rose Enigma” by using their hand-drawn sketch as a prompt.



“Zarya of the Dawn” (2022) by Kashtanova



“Rose Enigma” (2023) by Kashtanova

Pending Lawsuits



- ★ Most of these lawsuits hinge around:
 - Mis/Uncredited work
 - The use of copyrighted work in datasets (like LAION-5B) to train AI models.
 - Difficulty in making money from artwork

- ★ 2022 - Court decision on the case between LinkedIn and HiqLabs confirmed that it's legal to scrape data from publicly available websites.
- ★ 2023 - Getty Images vs. Stable Diffusion
- ★ 2023 - Thaler vs. Perlmutter
- ★ 2023 - Kyland Young vs. NeoCortext
- ★ 2024 - Sarah Anderson vs. Stability AI
- ★ 2024 - Jason Allen vs. US Copyright Office

Protecting your non-AI work

- ★ Understanding and reading the Terms of Conditions
 - Many AI tools have restrictions on copyright for materials created with their tools
 - Online websites, especially social media platforms say they will use your data to teach their AI models.
- ★ UChicago's [Glaze](#) introduces noise to your image that disrupts the diffusion process without compromising its appearance to a human viewer.
- ★ UChicago's [Nightshade](#) poisons the model, tricking it into thinking the image is completely different.
- ★ Use [Have I Been Trained?](#) to see if your work has already been used to teach AI models (developed by the artist collective Spawning)
- ★ Opt Out! Some sites allow users to opt-out of their work being used to teach models. However, this does impact whether or not your work will be searchable online.

Original art pieces by Karla Ortiz



Original artwork

Without cloak protection, AI generated art pieces mimicking the style of Karla Ortiz



Without protection

With cloak protection, AI generated art pieces mimicking the style of Karla Ortiz



With protection

Ms. Ortiz's work as mimicked by A.I., with and without Glaze's protection. Ben Zhao

Artists Working in AI



Courtesy of [Linda Dounia Rebeiz](#)



Courtesy of [Curry Hackett](#)

Playing with AI



Popular AI Tools

[Craiyon](#) (formerly Dall-E mini)

[Hugging Face's Stable Diffusion](#)

[Microsoft's Bing Image Creator](#) (requires Microsoft log in)

[DreamStudio](#) (free Trial)

[Adobe Firefly](#) (requires subscription)

[Midjourney](#) (requires subscription, web-based editor and Discord options)

Prompt Engineering Tips

- ★ ****Think of it as reverse alt-text****
- ★ Contents
- ★ Type: line illustration, 64 bit
- ★ Style adjectives: retro, cinematic, neon, photorealistic
- ★ Genre: noir, solarpunk

“a cat as sherlock holmes”



Bing

(Uh, what happened to the pipe?)



Dream Studio

(Poirot?)



Crayon



Hugging Face

“a cat as sherlock holmes”



Gemini

(Deerstalker cap *and* British shorthair!)



Adobe Firefly

(Steampunk!)



Midjourney

(more steampunk!)

“a cat as sherlock holmes” with Craiyon



Original



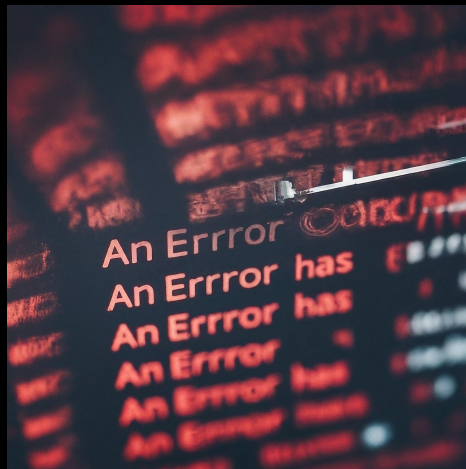
Style: photo
upscaled



Style: drawing
Upscaled

Abstract prompts can be fun too!

Gemini's response:
"an error"



AI's environmental impact

- Training a model is more resource intensive than using a model.
- Researchers at Hugging Face and Carnegie Mellon estimate that generating 4 images is roughly equivalent to one full charge of your cell phone (5.4 watts).
- Recent UN report outlines that the rise in generative AI has and will lead to additional:
 - mining of raw earth minerals - often mined unethically and unsustainably to create the servers
 - Chemical waste - from the the production and disposal of electronic equipment
 - electricity use, creating more heat in the atmosphere
 - Water use to cool down the equipment
- As models improve, the energy they use goes down, but the number of users increases.





Reduce your carbon footprint

- Use photos from [Unsplash](#) as decorative images
- Edit and modify rather than generate
- Generate images only when it's essential
- Reuse the images you've generated

Citing Generative AI images



Image Credit: MLA Style Center

- Chicago Style
 - Image generated by DALL-E 2, March 8, 2023, from the prompt “Pointillist painting of a sheep in a sunny field of blue flowers.”
- APA format
 - **Caption suggestion** (APA has not issued an specific guidance on citing AI generate images):
 - Fig. 1. Image generated using the prompt "Pointillist painting of a sheep in a sunny field of blue flowers," by OpenAI, *Bing Image Creator*, 2023 (labs.openai.com/).
 - **Works Cited:**
 - OpenAI. (2023). *Bing Image Creator* (DALL-E 2) [AI image generator]. labs.openai.com/.
- MLA format
 - “Pointillist painting of a sheep in a sunny field of blue flowers” prompt, *DALL-E*, version 2, OpenAI, 8 Mar. 2023, labs.openai.com/.



Conclusions



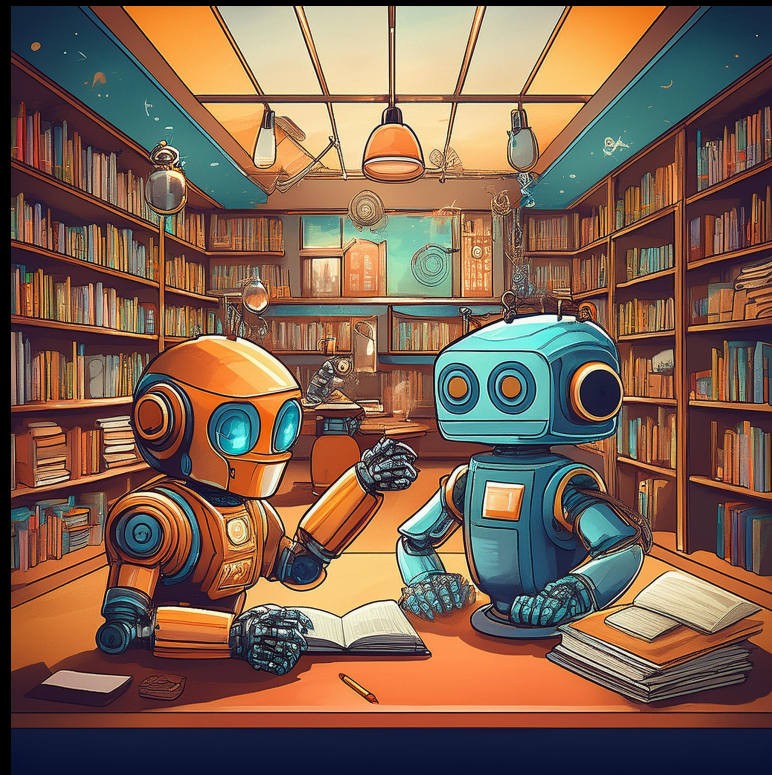
Take-aways

- Creative play to enhance familiarity with AI tools.
- If at first you don't succeed, iterate!
- Sometimes AI is good at generating bad ideas for us to critique.
- Be mindful of the environmental impact of AI



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Thank you!

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“A person in full armor in a magical library” by Adobe Firefly

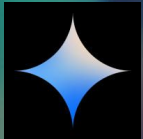
Choose your own adventure!

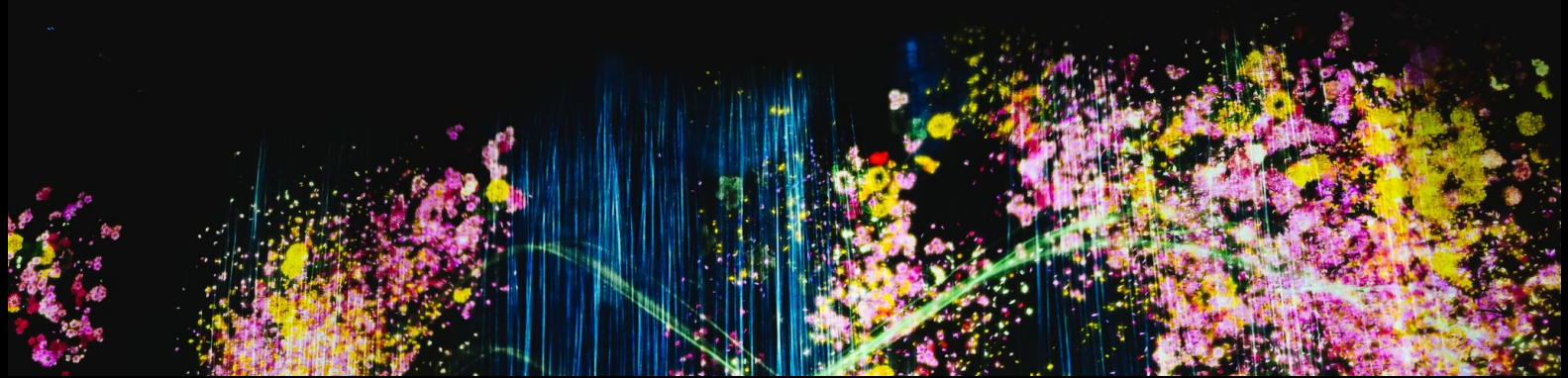
- Demo of Midjourney
- Making cross-stitch patterns with AI
- Making AI generated mythical creatures



“A portrait of an orange cat in the style of Picasso”
by Midjourney

Bonus slides





Experiments in Multimodal AI



Project Overview

- Began as paper collages considering the relationship between Black disabled bodies, nature, and built structures. Locate textural similarities between the body and environment, highlighting their corresponding attempts to heal from human-made stressors
- Key Question: How does the look of repair move across mediums and create non-linear narratives of healing? How can AI assist with the development of compositions?
- Mediums of Abstraction:
 - Paper collage
 - Midjourney Digital collage
 - Cross-stitch and Crochet patterns
 - Felt and applique collage



Temporal Myopia 1
By Siobhan McKissic

Compositional Experiments with Midjourney

My original
photograph



Medical
Photograph



My original
collage



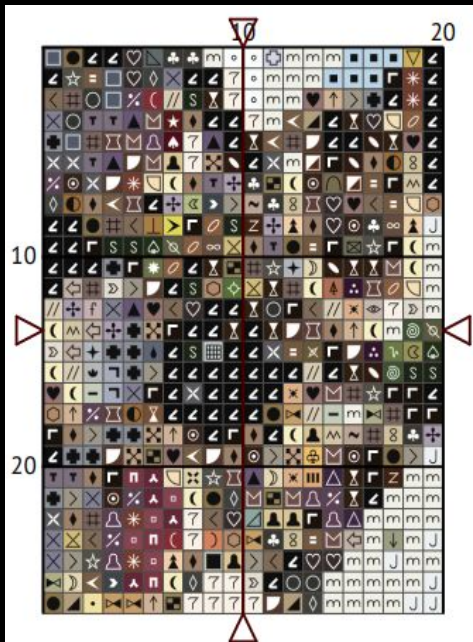
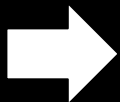
Midjourney output

How might we obscure and
abstract the landscapes created
through AI?

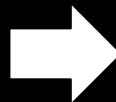
Textile Abstractions



Midjourney Collage



Cross Stitch Pattern
(made using FlossCross.com)

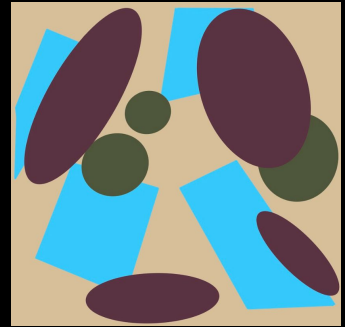
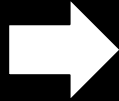


Miniature Cross Stitch
By S. McKissic

Digital Abstractions



Midjourney collage



Digital Drawings

Next Steps?

- Large-scale wall installations
- Tapestries
- 3-Dimensional iterations of drawings/photographs
- Whatever might be imagined...



Reimagining the
Victorian Magic Lantern
Show
By Mary Borgo Ton

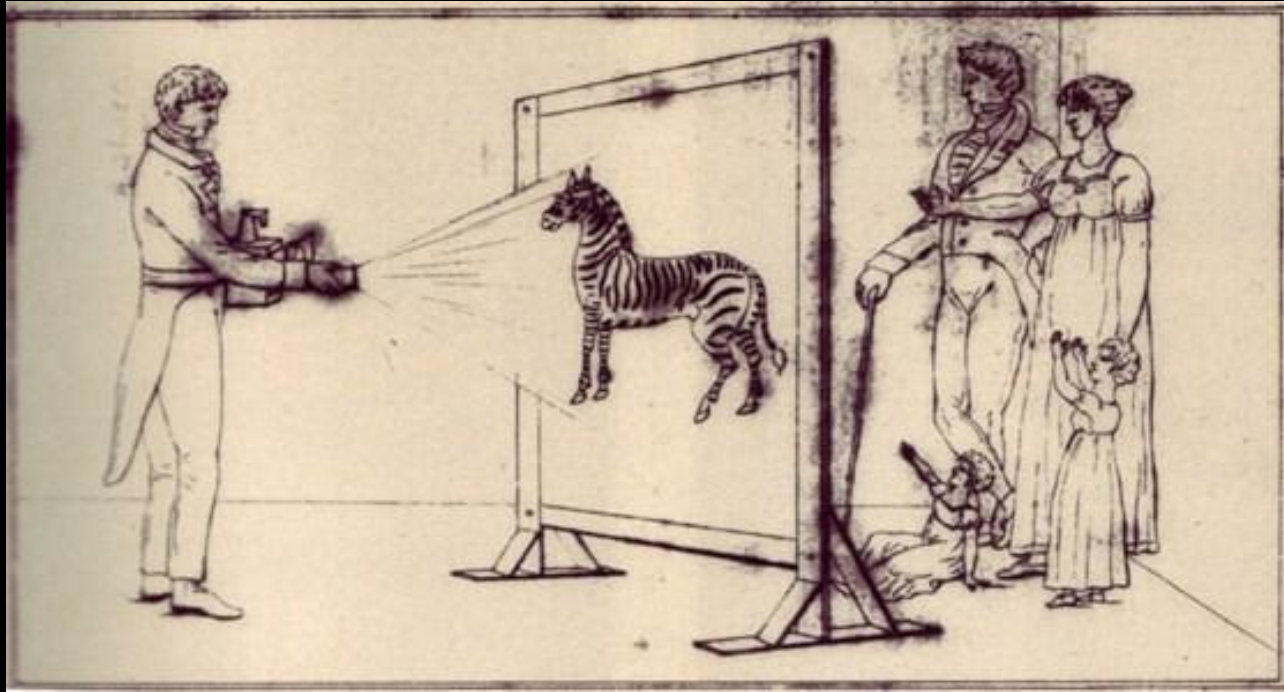


Illustration of the Improved Phantasmagoria Lantern in use, from *A Companion to the Improved Phantasmagoria Lantern* by Carpenter & Westley, 1850. Image courtesy of the National Science and Media Museum.



A Victorian lantern slide of the aurora borealis by Levi & Co, circa 1890

Project Goals

As an ongoing experiment in critical making, this project helps me:

- Deliver beginner-friendly instruction on AI
- Approach image generation through the lens of media archaeology
- Develop creative practices as an aspiring performer





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Fair Use?

HATHI
TRUST



Generating ideas with ChatGPT 3.5



Pretend that you are a Victorian scientist. Give me 5 names for mythical creatures that have been recently observed.



Certainly! In the spirit of Victorian curiosity and scientific exploration, here are five names for mythical creatures that have purportedly been recently observed:

1. Luminiferous Ether Serpent

- **Description:** A sinuous, ethereal creature that glides through the air, emitting a soft, otherworldly glow. Witnesses report sightings during moonlit nights, describing its undulating form as it weaves through the night sky.

Feminist Prompts



Could you suggest five alternative names for the "Luminiferous Ether Serpent" that are only one or two words long?



1. Aether Glide
2. Lumisnake
3. Etherial Coil
4. Glowwyrn
5. Aerophantasm

Please give me 5 more, but pretend a woman scientist named them.

1. Aeroglow
2. Serpheon
3. Etherealiss
4. Luminastra
5. Glophidian

Adobe Firefly

"A sinuous, ethereal creature that glides through the air, emitting a soft, otherworldly glow with the aurora borealis in the background"

Adding "art nouveau" as a style



More Adobe Firefly

Adding “magic lantern” to the prompt didn’t help...



Midjourney

"[Seed image] as a colorful magic lantern slide of a luminous serpent flying through the air with the aurora borealis in the background "

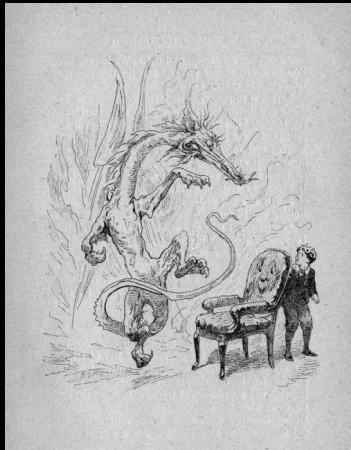


Illustration of a Snap Dragon by Gordon Brown, 1888.



Multimodality and narration



No expedition to the Arctic would be complete without an ornate chair from which to observe the northern lights. As you nestle into your warm woolen coat to keep the surrounding snow at bay, you might catch a glimpse of the Gloriphidian gliding effortlessly through the starlit skies, skirting through the undulating tapestry of greens and reds of the aurora borealis. The Gloriphidian is a serpentine creature of considerable length, its scales glistening like a tapestry woven from the very fabric of the cosmos. It absorbs vital energies from the northern lights, much like a plant seeks the sun. But do not venture too close to it, for it tends to snap at those who dare to enter its domain. If you remain very very still, you should be fine.



[Project Website](#)
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