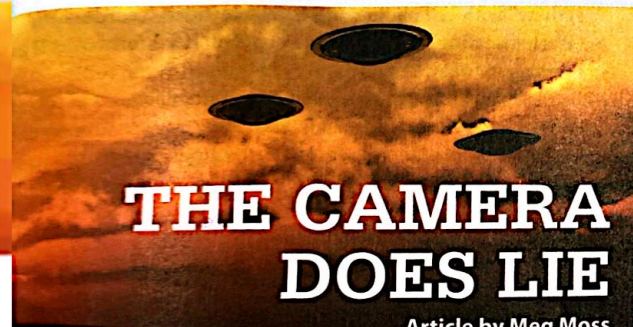


BACKGROUND

The camera doesn't lie" is an old saying from the time when photos were shot on film and were hard to alter. Digital technology has changed all that—and altered images can be posted online and go viral in a few hours! The author of this magazine article, Meg Moss, writes on a variety of topics, and she especially enjoys making complicated topics easy to understand. Here, she shares information to help readers understand why we can't always believe what we see.



SETTING A PURPOSE

As you read, think about what the author means by the term video conartistry (paragraph 2). Look for facts and examples that give you more information about that term.

Let's face it: the Internet is a wonderful place. Where else can you read all the works of Shakespeare without leaving home? Or catch up on the news around the world with only a few clicks? See eagles snatching children! Witness men flying with homemade bird wings! Cheer for rigs saving goats!

Whoa. If you think those last three sound sketchy, you should. There's a whole world of video conartistry out there, and the Internet loves it. Besides ordinary pranksters and video artists, there are even corporations getting into the act, faking videos to sell products.

What's a trusting person to do? Learn to call out the fakes.

NOTICE & NOTE



Notice & Note

Use the side margins to notice and note signposts in the text.

DETERMINE AUTHOR'S PURPOSE

Annotate: In paragraph 2, mark words and phrases that relate to the title of the article—that is, the idea of a "lying camera."

Predict: You already know that the author's main purpose is to inform or explain. What, specifically, do you think the author will provide information or explanations about?

TEACH

BACKGROUND

After students read the Background note, explain that because of the Internet and social media, people see more altered images than ever before, so it is more important than ever to distinguish real from fake—and the same is true of information.

SETTING A PURPOSE

Direct students to use the Setting a Purpose prompt to focus their reading.

DETERMINE AUTHOR'S PURPOSE

Remind students that the author's purpose is the reason the author wrote a particular work, whether it is to inform, explain, entertain, or persuade. (**Answer:** The author will probably provide information about the world of video conartistry, including the kinds of videos being made and how to determine that they're fake.)

CONTRASTS AND CONTRADICTIONS

Explain to students that this signpost is often used to set up a **compare-and-contrast** pattern of organization. In paragraph 4–6, several famous fake images from three different centuries are identified to make the point that fake images have been around for a long time. *(Answer: Students may suggest that fake images can be fun or funny but that they also may scare people or cause them to believe in things that are not true. People who are fooled in that way also may be fooled about more serious matters.)*



ENGLISH LEARNER SUPPORT

Understand Contrast Help students understand the descriptions of the different images in paragraphs 4–6. Remind them that the images are from different centuries.

ASK STUDENTS to work in partners and discuss how these fake images from previous centuries are similar and different to images from modern times.

(Answer: Students may suggest that the fake images are similar because they have similar subjects, like ghosts and monsters, and they fooled people. They are different because they were made using completely different kinds of technology.) **MODERATE**

CRITICAL VOCABULARY

1 **is:** The Bigfoot film looks bogus compared to today's **s** because technology has improved since 1967.

STUDENTS what would look bogus in a homemade



CONTRASTS AND CONTRADICTIONS

Notice & Note: In paragraphs 4–6, mark the examples of fake images the author provides.

Evaluate: What difference does it make if these images are fake? Does it really do any harm? Explain.

bogus
(bō'gəs) *adj.* Something that is bogus is fake or not genuine.

elaborate
(i-lāb'or-īt) *adj.* Something that is elaborate has been carefully planned and constructed with great attention to detail.

obsess
(əb-'sēs') *v.* If you obsess over something, your mind is filled with thinking about a single topic, idea, or feeling.

come
contrast

Ye Olde Fakeroo *Photo*

- 4 There's nothing new about faking images. Falsified pictures of ghosts, unidentified flying objects (UFOs), and monsters have been around for years.
- 5 In the 19th century, "spirit photography" captured the public's imagination. Clever photographers created portraits of living people alongside ghostly versions of their deceased relatives or friends. (Fakers still love to record "paranormal activity" with cell phones and handheld video recorders.) "Photographing" UFOs became popular after World War II and remains so today.
- 6 Perhaps the most famous fake photograph ever was taken in 1934 at Loch Ness in Scotland. Gray and grainy, it supposedly shows the head and neck of Nessie, the dinosaur-like monster of the lake. And you can still view the first moving images of "Bigfoot," shot in 1967, on YouTube.

Fooled You Once

- 7 While some people still debate whether the Bigfoot film is real, it looks plenty bogus compared to today's slick videos. It best modern fakers spare no expense or sleight of hand.¹
- 8 A few years back, you may have watched a video of a pig saving a drowning goat (all together now: awwww!). That 30-second scene took days to make. Legions of animal trainees participated (and were sworn to secrecy). An elaborate track was built for the pig to follow in the water. With millions of hits, the really good videos—like this one—go viral, spreading like wildfire and keeping the whole world guessing.
- 9 One person who'd rather not guess is Rhett Allain, an associate professor of physics at Southeastern Louisiana University and author of the Wired Science blog *Dot Physics*. Allain enjoys analyzing online videos. He smacks down those that don't live up to the rigors of physics and obsesses about those he suspects but can't pin down.
- 10 Allain explains that when he looks at fishy videos, he asks, "Is this video physically possible?" Then he uses "known physics models to see if I could come up with a way to get the video to be real."

¹ **sleight of hand** (slīt ūv hānd): a trick, such as a magic trick or card trick, performed so quickly and skillfully that no one notices it.

Fooled You Twice

11 A viral video in 2012 showed an eagle snatching a small child in its claws, then dropping the kid safely on the ground. Very convincing—until you do the math.

12 The best way to start your analysis is to ask questions like, “Could an eagle lift and carry a child that size?” The larger the bird is, the larger its wingspan must be to get it off the ground and keep it airborne. Doing a little research, Allain discovered that the golden eagle needs a 7.5-foot (2.3-meter) wingspan just to lift its own body weight of about 14 pounds (6.4 kilograms)—and perhaps some small prey. Estimating the size of the child in the video at about 28 pounds (13 kilograms) means the eagle is lifting almost twice its own weight. This would take a wingspan of about 33 feet (10 meters)!

13 In a video like this one, Allain also measures the way things move, **accelerate**, and fall to see if they obey natural laws. He asks more questions: At what angle does the child fall? How does the child move through the air as the eagle lifts him or her up? Does the child accelerate constantly through the fall like a falling object should? In the eagle video, none of these adds up.

Fake Shake

4 One of Allain’s favorite techniques is to analyze camera shake—you know, that quaking picture people get from holding a camera in their hand instead of using a tripod.

5 Allain explains, “To make editing easier and the video more realistic, some people use a tripod for their camera to record the video. They then add fake shake to make it look like the camera was handheld.” Voilà—the jerking and unsteady motion of a camera in the hands of someone walking. There’s software that lets you graph camera shake by analyzing the movement of the background. If there’s a pattern to the jumpiness, it’s a fake. Real shake is random.

6 Of course, there are also some simple, common-sense ways to spot an imposter just by looking.

NOTICE & NOTE

CITE EVIDENCE

Annotate: In paragraph 12, mark the facts about golden eagles that Rhett Allain uncovered during his research.

Draw Conclusions: Could the video be real? Why or why not?

accelerate

(äk-sel’ə-rāt’) v. When something *accelerates*, its speed increases.

DETERMINE AUTHOR’S PURPOSE

Annotate: Mark the sentence in Allain’s quotation that tells one way in which camera shake is analyzed.

Critique: How does this information help the author achieve her purpose for writing this article?

TEACH

CITE EVIDENCE

Remind students that any conclusions they make about what a text is saying must be based on details, facts, and their own judgment and experience. (**Answer:** *The video cannot be real because the eagle did not have a wingspan large enough to lift a child of that weight.*)

DETERMINE AUTHOR’S PURPOSE

Remind students that examining the facts and examples in an informational text will help them determine the author’s purpose in writing that text. (**Answer:** *The information helps authors explain one method [software] by which an image can be checked to determine whether it is real or fake.*)

TEXT IN FOCUS

Interpreting Numbers/Drawing Conclusions Have students view the **Text in Focus** video in their eBook to learn how evaluating numbers can help them determine the credibility of a piece of information. Then have students use **Text in Focus Practice PDF** to apply what they have learned.

For **listening and reading support** for students at varying proficiency levels, see the **Text X-Ray** on pages 112C–112D.

CRITICAL VOCABULARY

TEACH

CITE EVIDENCE

Remind students that any conclusions they draw from the text must be based on evidence from the text. (**Answer:** *The evidence suggests that as technology improves, it may become harder and harder to detect forged photos and videos scientifically. We may need to use other investigative tools, such as background checks, to determine if an image is faked.*)



ENGLISH LEARNER SUPPORT

Use **Strategic Learning Techniques** to demonstrate the vocabulary in paragraph 14: *camera, shake* and *tripod*.

ASK STUDENTS to identify the words as you pantomime a camera shaking, to demonstrate “camera shake.” Pantomime, or use props, to show a camera resting on a tripod. **SUBSTANTIAL**



NOTICE & NOTE



continuity

(kŏn'tā-nŏŏ'ī-tē) *n.* In the movies, *continuity* refers to making sure that things that were filmed at different times or out of sequence look as if they were filmed at the same time or in the intended sequence.

hoax

(hŏks) *n.* A *hoax* is something that is meant to trick or fool someone.

CITE EVIDENCE

Annotate: In paragraph 19, circle what happened when Allain used scientific analysis on the “birdman” film. Then underline how journalists proved the video to be a fake.

Draw Conclusions: What does this example suggest about the future of digital image analysis?

17 One factor to check is “**continuity**.” Is everybody wearing the same thing throughout a video that is supposedly a single take? In a 2009 slip-and-slide video called “Megawoosh,” a daredevil barrels down a giant water slide, off a launch pad, and into a tiny kiddie pool over 100 feet away. Amazing! . . . Until someone noticed that as he flies through the air, the jumper’s helmet seems to be missing. The video was actually made in three segments and edited together; the middle section is an animation. The elaborate **hoax** turned out to be an ad for Microsoft Germany.

Faux Flight

18 As technology improves and fakers become more determined (with bigger budgets), it gets harder to weed out the hoaxes. Sometimes, a little old-fashioned research goes a long way.

19 When he watched the video of the Dutch “birdman” flying like a bird with gigantic artificial wings, Rhett Allain was on the fence. The take was so good, even his scientific analysis couldn’t



debunk it But when journalists began looking into the résumé of the supposed birdman, nothing checked out. He didn't exist.

20 Finally, the person behind the hoax confessed. Dutch filmmaker Floris Kaayk admitted that it took eight months to achieve his near-perfect ruse.

21 People love to be entertained—and fooled. We are drawn to amazing feats and want to believe that they're real. With a willing audience, and social media making it easier all the time to reach us, there's no reason to think the fakers will quit anytime soon.

ruse

(rooz) *n.* A ruse is a plan meant to deceive someone.

CHECK YOUR UNDERSTANDING

Answer these questions before moving on to the **Analyze the Text** section on the following page.

- 1 The author included the section Ye Olde Fakeroo in order to —
 - A entertain readers with stories of the Loch Ness monster
 - B explain that faking images is not a recent development
 - C persuade readers that images of Bigfoot and UFOs are fake
 - D share her opinion of people who create fake images

- 2 In paragraph 17, the writer describes the "Megawoosh" video in order to —
 - F provide a specific example of a continuity problem
 - G explain how different film segments can be edited together
 - H entertain readers with a funny story about a daredevil
 - J show how video continuity problems can be avoided

- 3 Which evidence most strongly supports the conclusion that the video of the eagle snatching the child was forged?
 - A A golden eagle weighs only about 14 pounds.
 - B A falling child would accelerate at a constant rate.
 - C The child probably weighs roughly 28 pounds.
 - D Lifting 28 pounds would require a 33-foot wingspan.

APPLY

ANALYZE THE TEXT

Possible answers

- DOK 2:** The headings "Ye Olde Fakeroo" and "Fooled You Twice" are informal and rather funny. They suggest that the author wants the article to be entertaining as well as informative.
- DOK 3:** When people film without a tripod, the camera shakes a little bit. Scientists can look at film and use software to graph the shaking of the camera. If there is a regular pattern to the shake, scientists know the shake is fake, because actual camera shake is random.
- DOK 4:** Videos are made to entertain people. People love to watch amazing feats, and they love to be fooled into thinking that what they see is real. The more amazing the feat is and the more realistic it looks, the more likely it is to become viral. Corporations also make videos to sell people products.
- DOK 2:** The author probably figures that fake videos aren't going away; in fact, they are getting better and better. Therefore, the more that people know about how to identify fake videos, the better—they will be less likely to be fooled or taken advantage of.
- DOK 4:** The author writes, "Whoa. If you think those last three sound sketchy, you should." She uses the word *whoa*, which means "stop," to draw readers' attention to the last three examples and point out that they are suspicious.

RESEARCH

Remind students that standard research guidelines do not apply to this assignment; they are free to use the most gaudy, unreliable images they can find. However, the images must relate to the ideas and concepts presented in the article.

Connect Two excellent choices for the purposes of this assignment are the 2005 magazine photo of a shark swimming in a flooded street in Houston and a "live" video of a tornadic supercell. A software program was used to create the shark photo, which was sent around again after Hurricane Harvey struck in 2017. The tornadic cell video was first shown as a weather GIF; it was manipulated into a video and a sound loop of a thunderstorm was added. The video was shown for four hours.



RESPOND

ANALYZE THE TEXT

Support your responses with evidence from the text. **NOTEBOOK**

- Infer** Reread each of the section headings. What do they suggest about one of the author's purposes for writing?
- Cite Evidence** How does graphing camera shake reveal fake videos? Cite evidence from the text in your answer.
- Synthesize** Review paragraphs 2 and 21. What reasons does the author provide for why fake videos are made and why some become viral?
- Interpret** Reread the last sentence of "The Camera Does Lie." Why might the author have spent time talking about ways to tell whether a video is real? Cite evidence to support your response.
- Notice & Note** In paragraph 2, how does the author highlight the contrast or contradiction between two examples of reliable information found on the Internet and three sketchy examples?

RESEARCH

Uncover another example or two of a photographic or video hoax. Also find an explanation of any techniques used to create such a deceptive image. In the following chart, record what you learn in your research.

HOAX	DECEPTIVE TECHNIQUES
Photo of a shark swimming in a flooded street in Houston, Texas	The shark image appeared in a magazine in 2005. Someone used a software program to copy and paste the image into a photo of a street.
Live video of a tornadic supercell	The creators began with a weather GIF. They manipulated it and turned it into a video and added a sound loop of a thunderstorm.

Connect In paragraphs 11–20, the author describes several ways that people analyze videos to determine whether they are authentic—that is, if the videos depict things that actually could happen. With a small group, take turns describing the video hoaxes you researched. Discuss ways that you could analyze those videos to expose them as hoaxes.