

Understanding and Managing Image **Credibility** in your websites



Eric Kessels “**24 Hours of Flickr**”

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Agenda

Introduction

Image credibility

Image interference and its implications

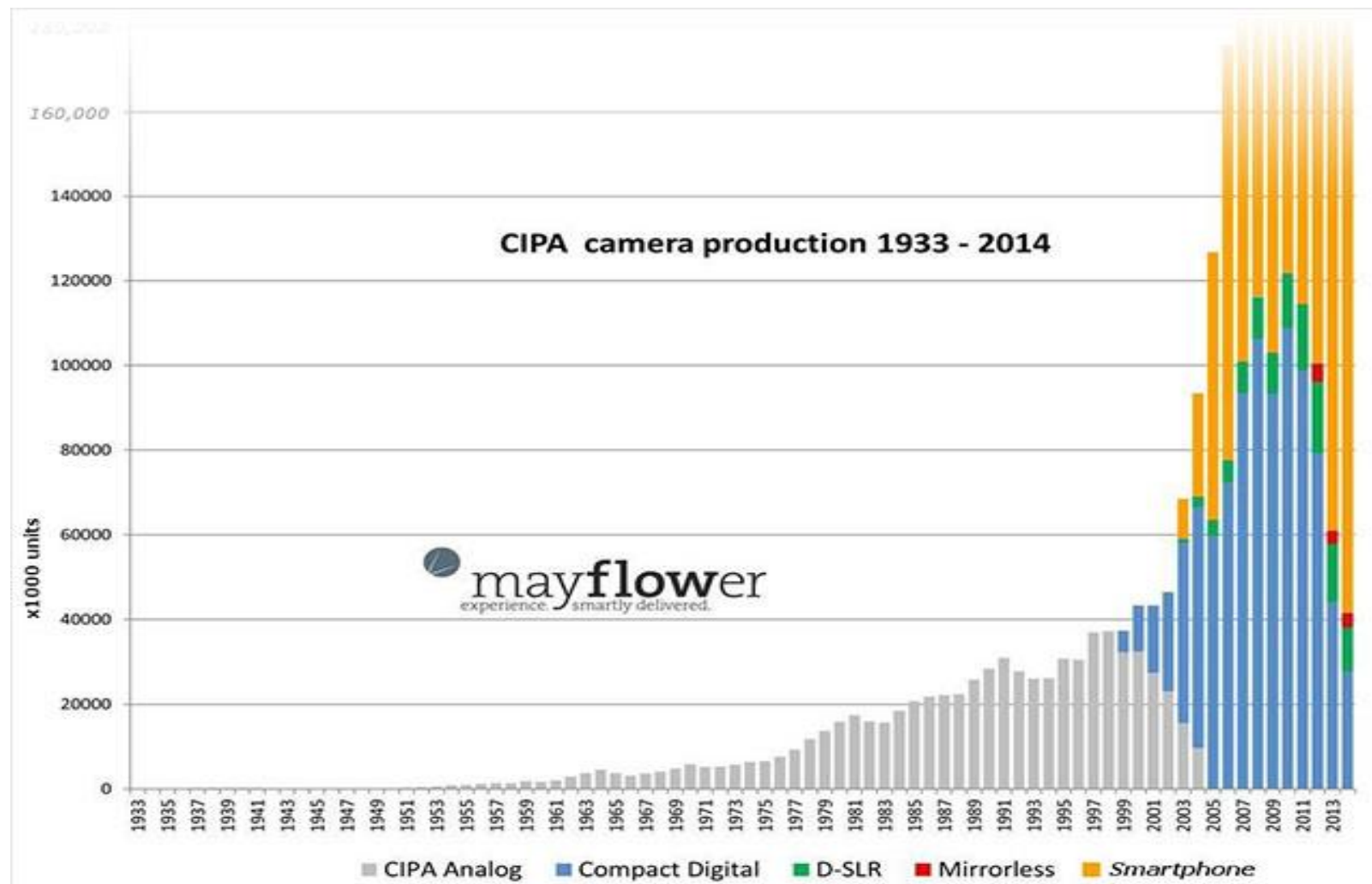
Creative Commons



Log into Socrative! <http://www.socrative.com> **CALDWELL8573**

Q1-4

Over 160 million cameras produced every year
(includes smartphones)
[2]





24 Hours of Flickr, 2013, Erik Kessels, Foam, Amsterdam

A few other sites

Daily:

Snapchat - 210 million 'snaps' [3]

Facebook – 350 million [4]

Instagram – 95 million [5]

Flickr now – 4 million [6]

Real or Fake?







Image manipulation available to anyone with image editing software...



Photoshop
Elements

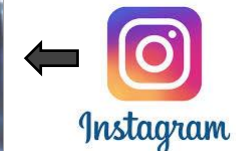
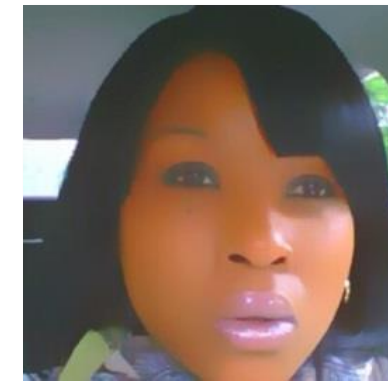


Adobe
Photoshop



MS Windows
Paint

Or even just a modern digital camera or smartphone ...





Fading Away by Henry Peach Robinson (1869) – one of the earliest composite images made with 5 photographs

"Photos have always been manipulated. Look at Henry Peach Robinson's photo "Fading Away" or the posed American Civil War photos of Mathew Brady."

"Any photograph is subjective from the moment the photographer frames it up in her viewfinder."

"Come on Sabrina, what is reality, anyway?"

Manipulating images is fun, but photographs have an important role to play in society too...

History



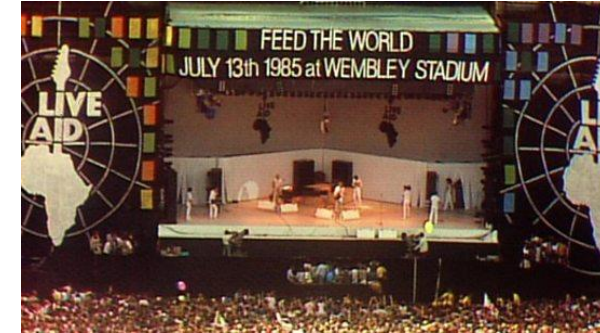
Young man on motorbike, 1951, Shanghai



Moonwalk 1967



9/11 terrorist attack on US world trade center



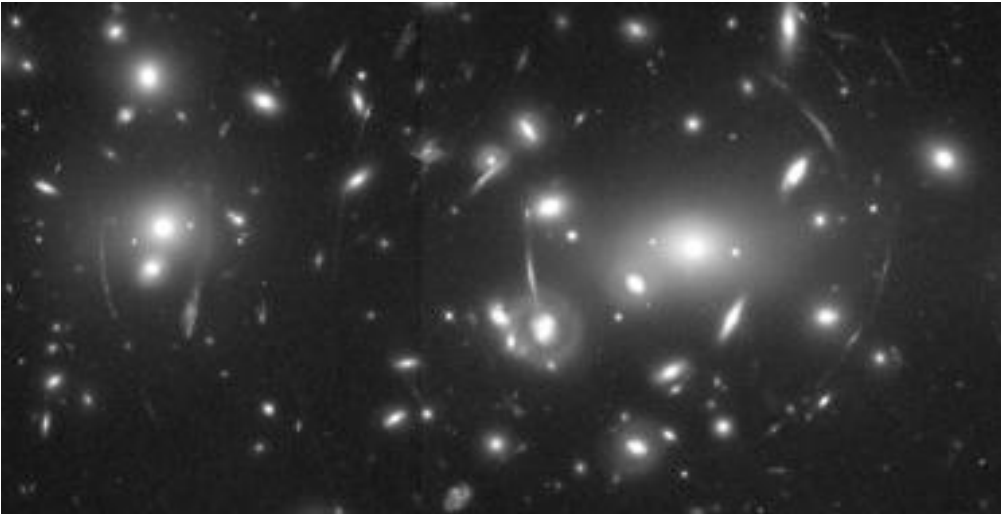
1985 'Feed the World' concert



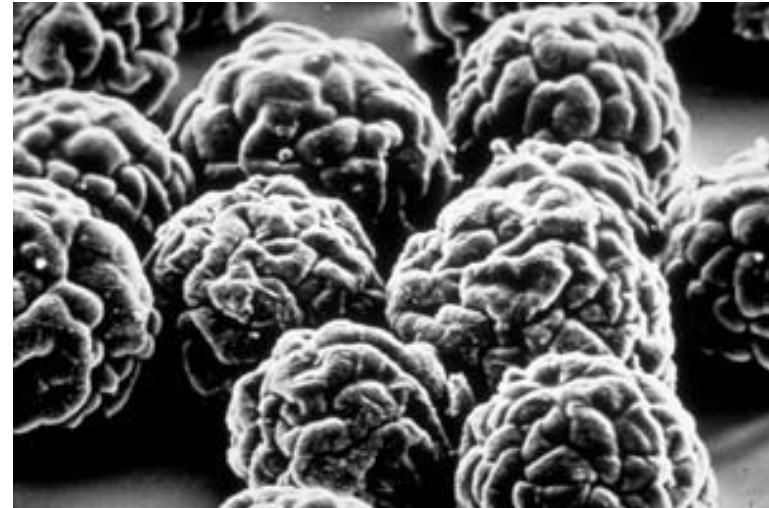
Ancient Xi'an terracotta soldiers

Manipulating images is fun, but photographs have an important role to play in society too...

Science and medicine



Abell 2218, Hubble telescope ([Couch, 1995](#))



Wild poliovirus photographed through microscope ([Global Polio Eradication Initiative, 2010](#))



April 2012 – Russian Patriarch from the Moscow Patriarchate - case of the disappearing watch. Watch may have been an expensive, \$30,000 Breuget watch



Arrest mug shot of O.J. Simpson 6/94 used 'as is' on Newsweek cover, altered on Time cover.

Sometimes people manipulate photos to influence our opinions, feelings and thoughts. That is acceptable when we know we are viewing art, but...



"Smoke billows from burning buildings destroyed during an overnight Israeli air raid on Beirut's suburbs August 5, 2006. Many buildings were flattened during the attack. REUTERS/Adnan Hajj"



"Qinghai-Tibet Railway opening green passageway for wild animals" Liu Weiqing
Photograph manipulated to imply antelopes living in harmony with the new rail system.

Logic

Participants often used their pre-existing experience and beliefs about the subject matter of the image – sometimes the logic was good, sometimes not...



- ✗ There aren't any lizards that small
- ✗ The lizard couldn't have been on the match when it burnt or would have been killed
- ✗ Matches aren't black



- ✓ The girl in the front isn't smiling like the others
- ✓ The lighting on the girl in the front is wrong



- ✗ The cow must have been cold
- ✓ I'm from a farm; I know how much a cow weighs
- ✗ In Russia we can train them to do that

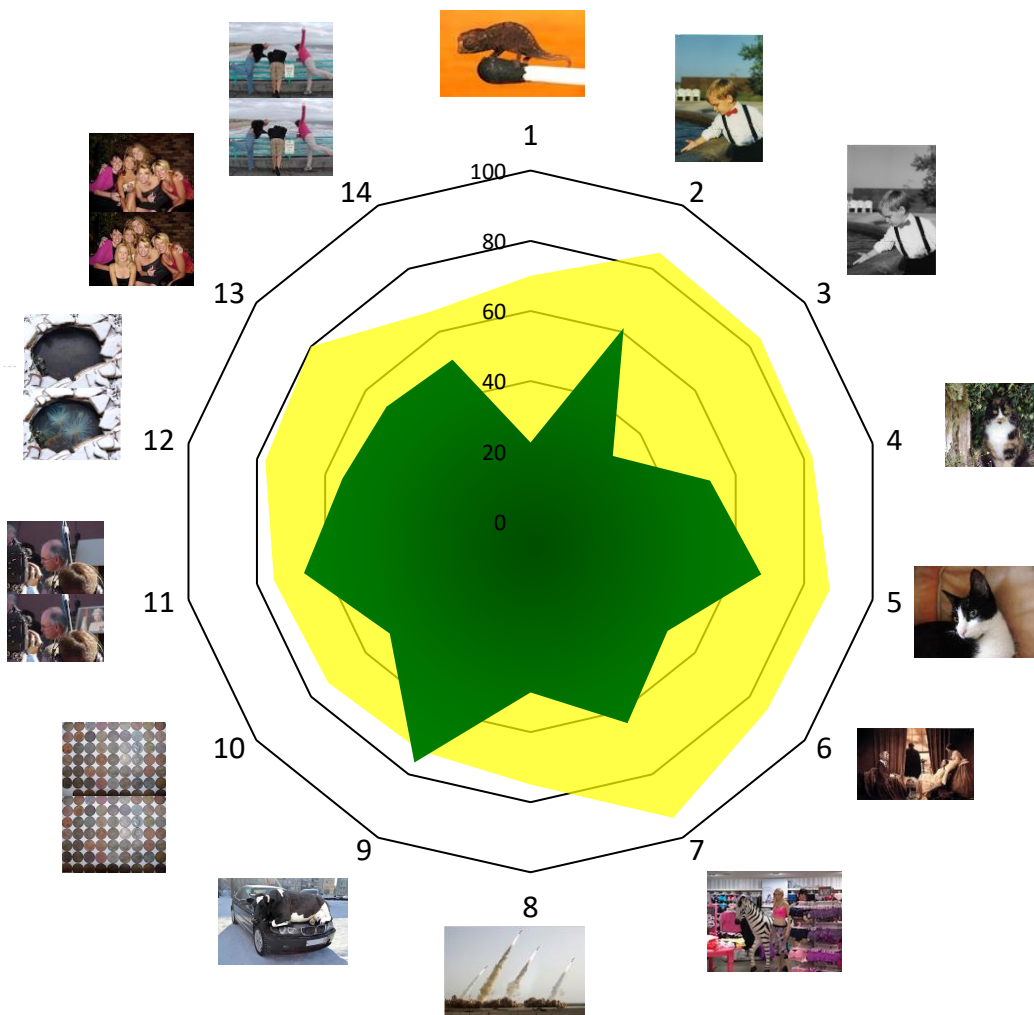
Lack of confidence often expressed as **overt guessing**, or the use of words like '**perhaps**,' '**maybe**' '**I think**,' '**I believe**,' '**not sure**,' '**doesn't look right**.' etc.

Can we tell if an image is real?

Are we confident in our decision?

Are we right?

Yellow area = confidence
Green area = accuracy



La edad oscura digital



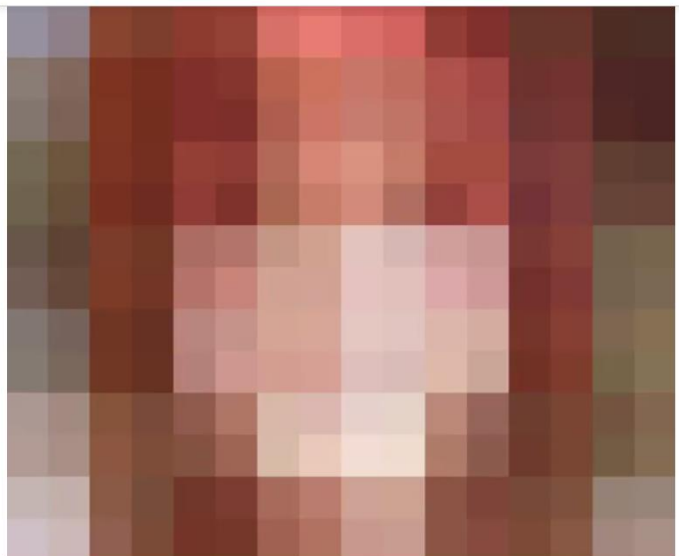
We don't have enough information to tell if the photos we are seeing are representative or created or somewhere in between.

["dark ages..."](https://search.creativecommons.org/photos/9a7234d1-ffc3-43df-bd3e-c162b8611405) by [hans s](#) is licensed under CC BY-ND 2.0
<https://search.creativecommons.org/photos/9a7234d1-ffc3-43df-bd3e-c162b8611405>

At what point do we
have to start
proactively asserting
the veracity of our
images?



Artificial Intelligence and Fabricated Photos

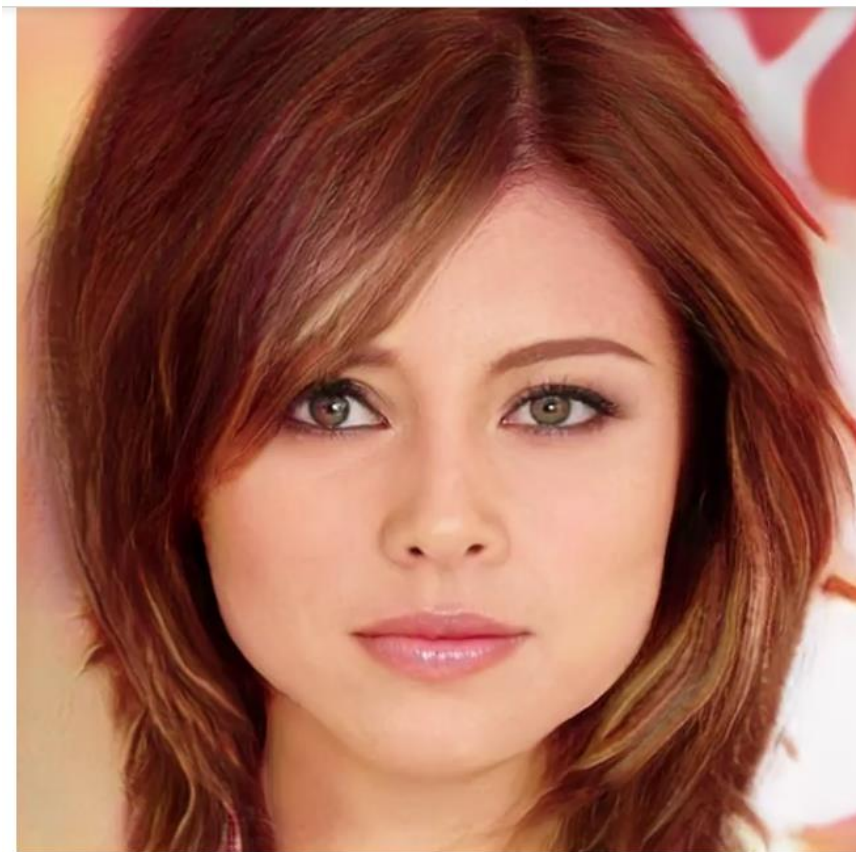


To create the final image in this set, the system generated 10 million revisions over 18 days.

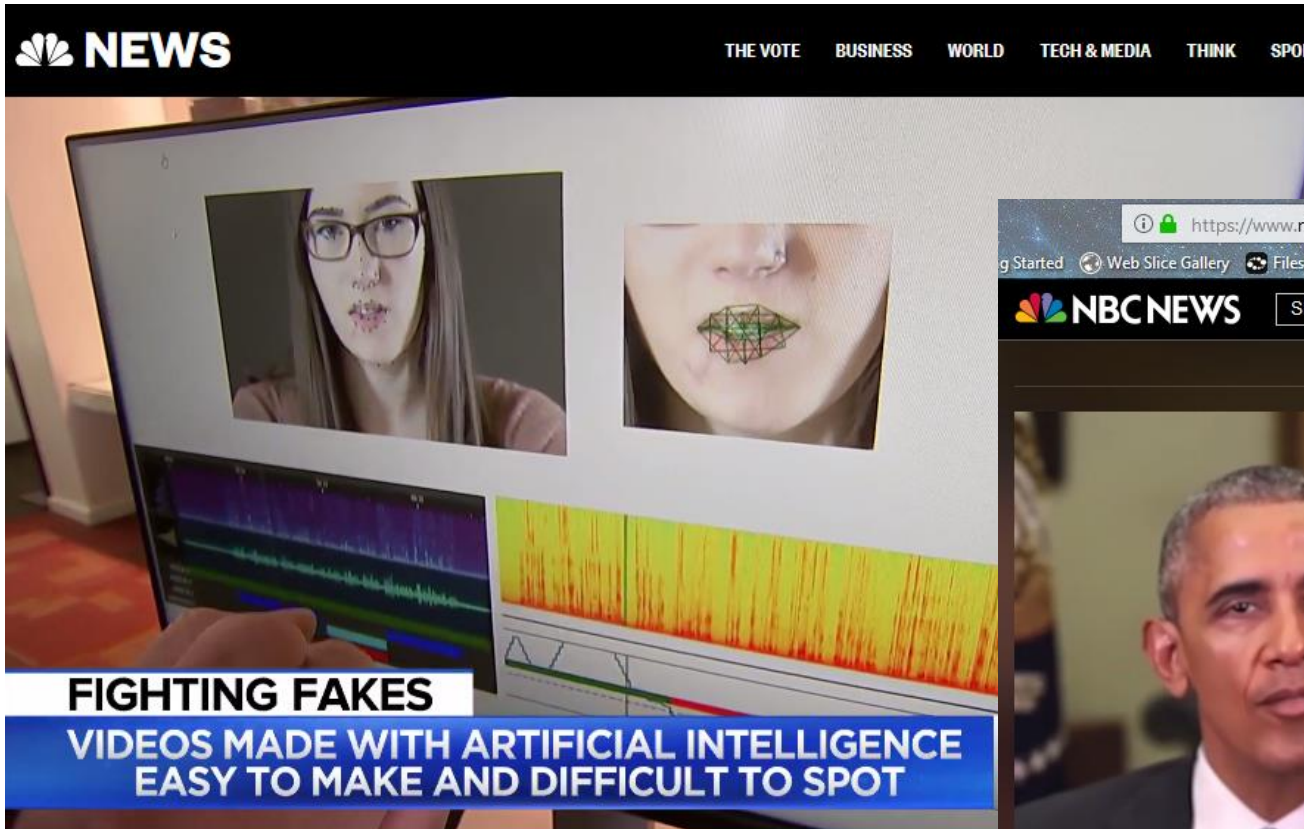
Nvidia



GANs
10 million revisions
18 days



To create the final image in this set, the system generated 10 million revisions over 18 days.



Hollywood Director Jordan Peele
puppets Former US President

Barack Obama



Artificial Intelligence and 'Deep Fake' videos

What does it take to assert the veracity of our images?

At present there are no prominent tools / social media sites for this.

However, we can assert this in writing near our images.

But watch this space! This issue will be heating up in the near future.

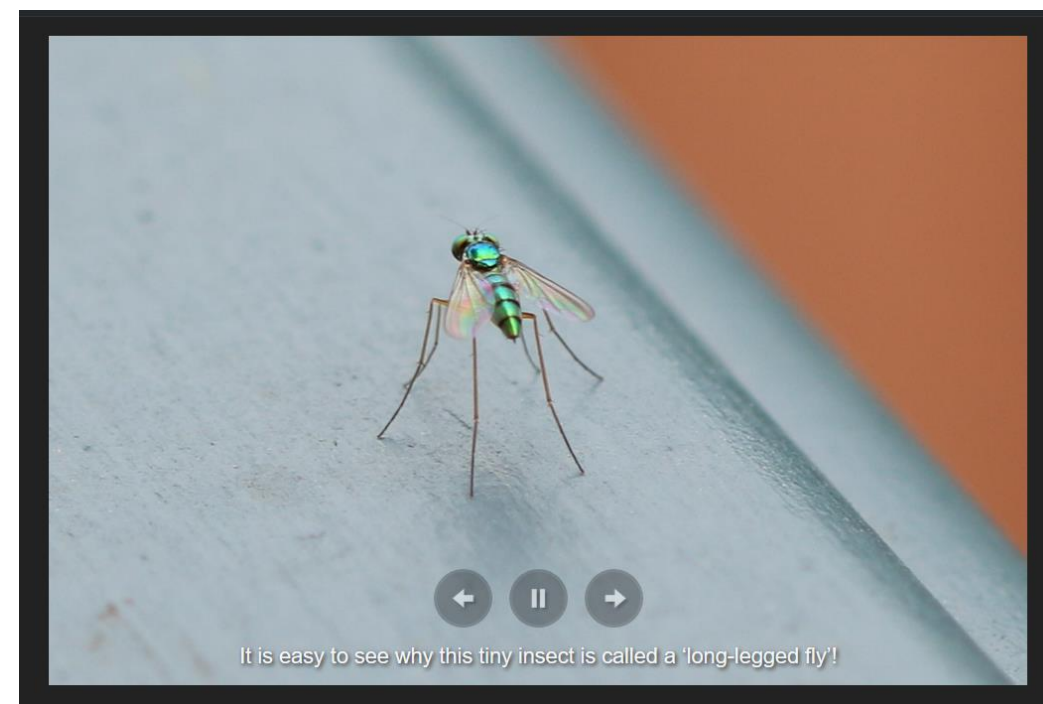
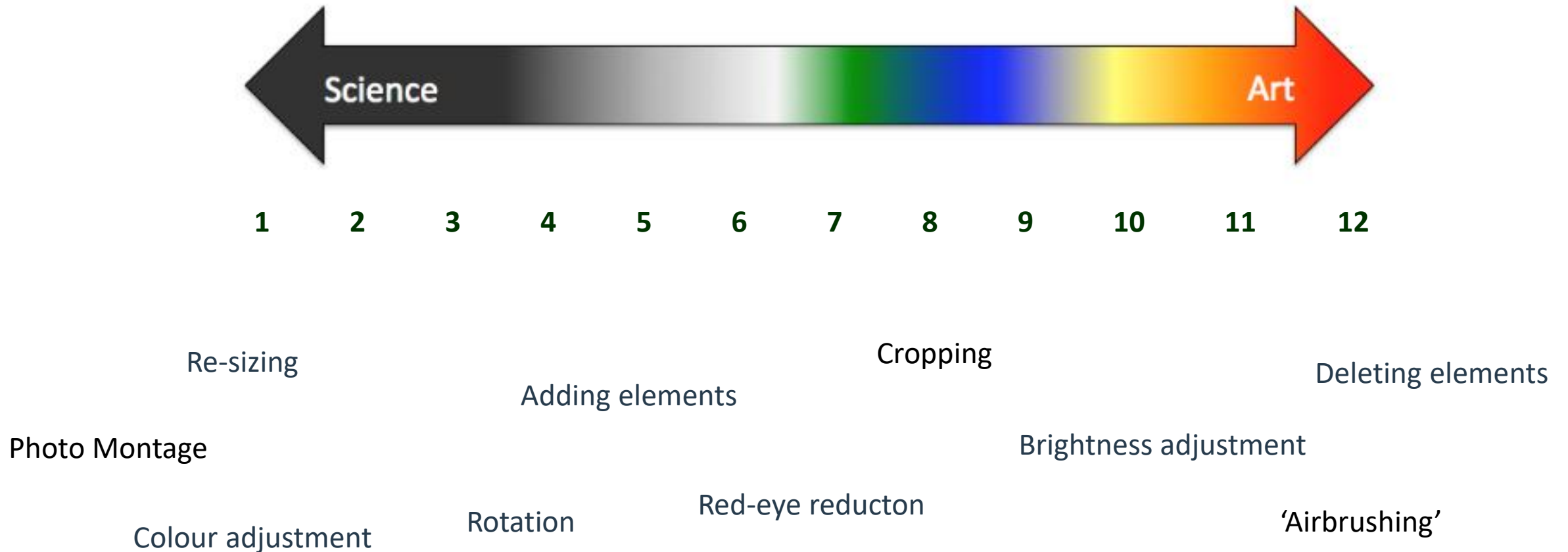


Photo by Sabrina Caldwell. Resized for web use; no other changes made.

An experiment with perspectives on the impact of editing techniques on image credibility



Wow, this is a really big problem! Who is trying to solve it?

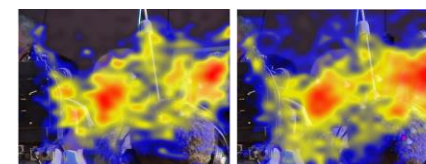


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JPEG Stake in 'Fake Media'

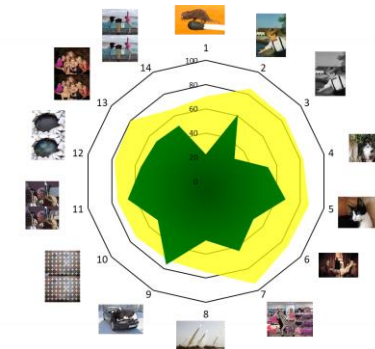
The New York Times



Eye gaze of experiment participants who said the photo is not altered

Eye gaze of experiment participants who said the photo is altered

Researchers



Wow, this is a really big problem! Who is trying to solve it?

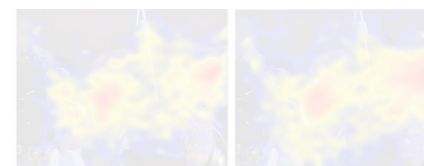


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JPEG Stake in 'Fake Media'

The New York Times



Eye gaze of experiment participants who said the photo is not altered

Eye gaze of experiment participants who said the photo is altered

Researchers



During their 88th meeting (July 2020), the JPEG committee formed an Ad Hoc working group to begin creating a new JPEG format to deal with fake media.

The mission of the group is to:

Compile use cases and requirements in respect of fake media

Consult with industry and government

Engage with interested parties

Define a plan of action.

You can join the [JPEG Fake Media mailing list](#) and download the media release:

[“Fake Media: the JPEG Stake”](#).

Image Credibility, Sabrina Caldwell, ANU

Como historiador familiar

Quiero publicar mis fotos en la naturaleza con etiquetado y seguridad para que

Sé que las generaciones actuales y futuras pueden confiar y aprender de mi trabajo.

Como ornitólogo aficionado

Quiero que mis fotos se consideren auténticas, etiquetadas y conectadas conmigo para que

Puedo ser un colaborador de investigación de campo confiable.

Como institución de la memoria

Quiero que todos los detalles de nuestra organización, incluidas las licencias, viajen de manera visible con las imágenes que producimos para el público para que

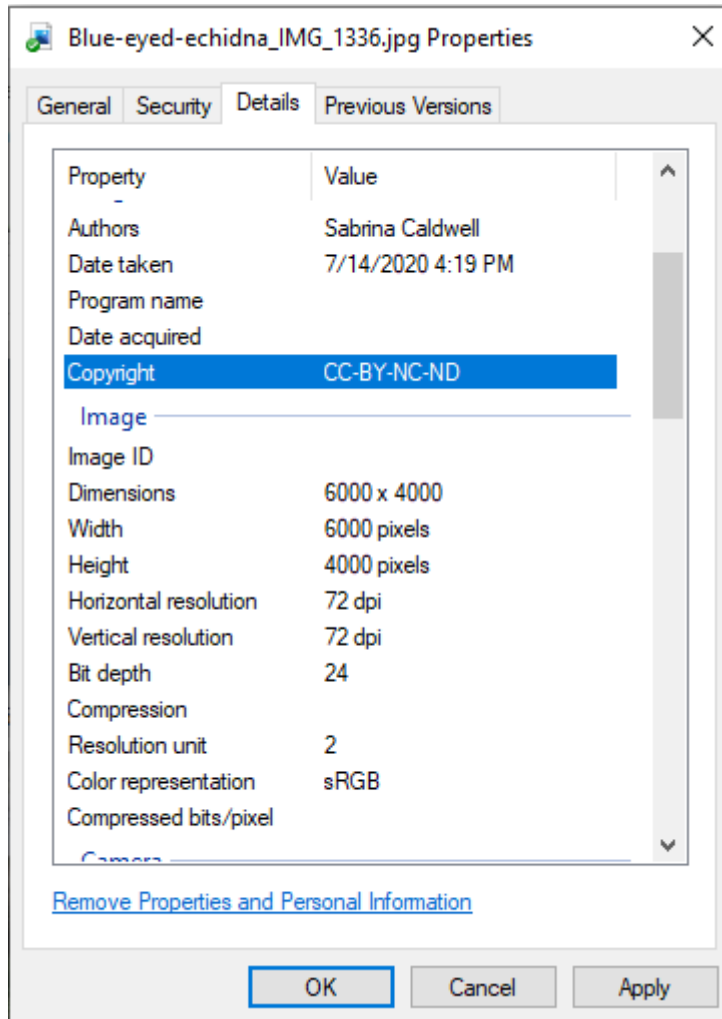
no se usen indebidamente ni se apropien.

Como artista fotográfico

Quiero que las declaraciones de mi artista y mi nombre se adjunten de manera segura y visible a mis imágenes para que

mi público entiende mi arte en contexto.

Is metadata the answer? Partially



Echidna, photo by Sabrina Caldwell
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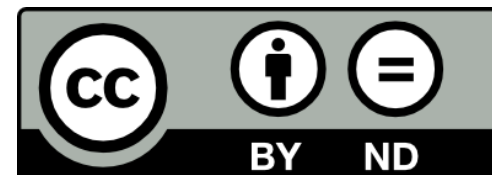
We also need

- Visible metadata
- New file formats
- Networks of trust
- Ways of doing things

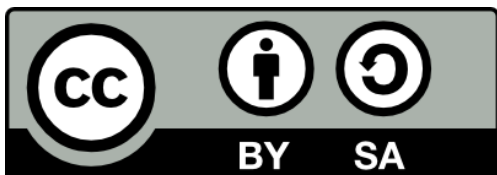


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Dominio público



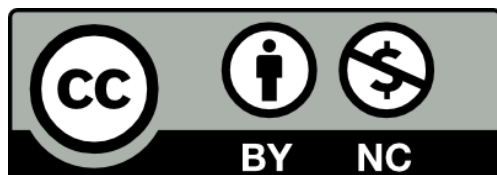
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CC0 - Dominio público

Not-for-profit organisation

Established by Lawrence Lessig and Aaron Swartz (who later founded Reddit)

The word 'Commons' is key

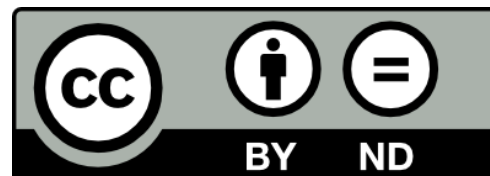
Creative Commons offers licenses that clarify what we can do with other people's work

Internationally recognized

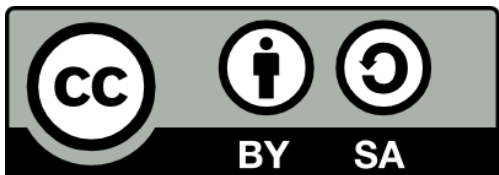
Licenses rest on 3 legs – 'legalise' , human-understandable descriptions, metadata



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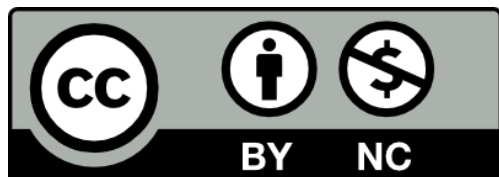
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Must attribute

Can create derivatives

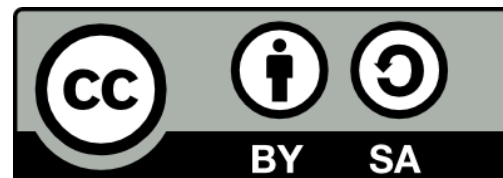
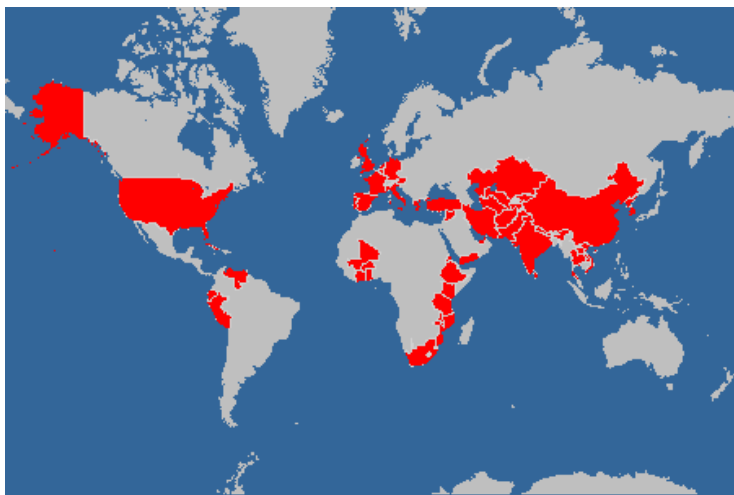
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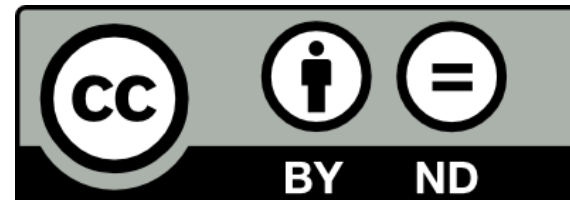
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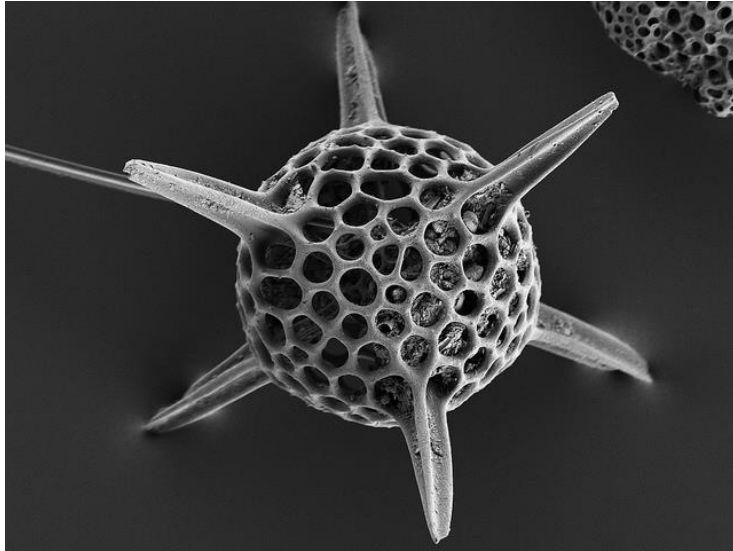
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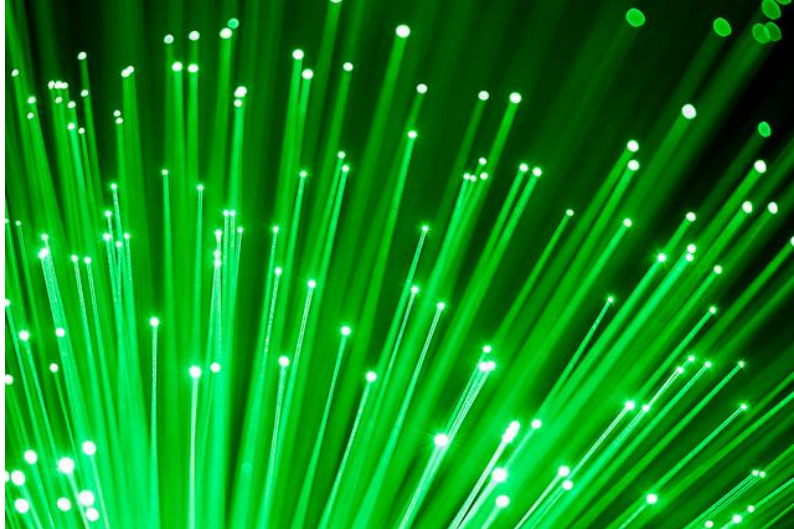
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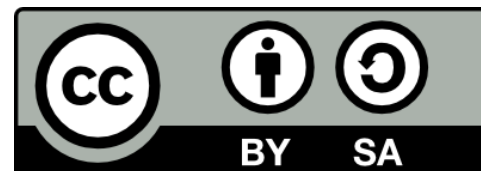
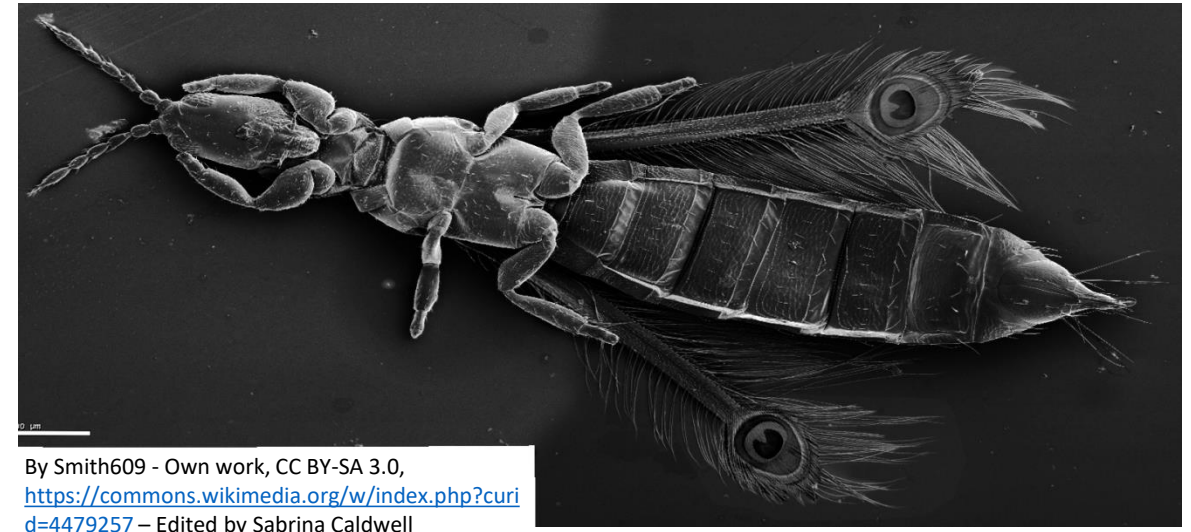
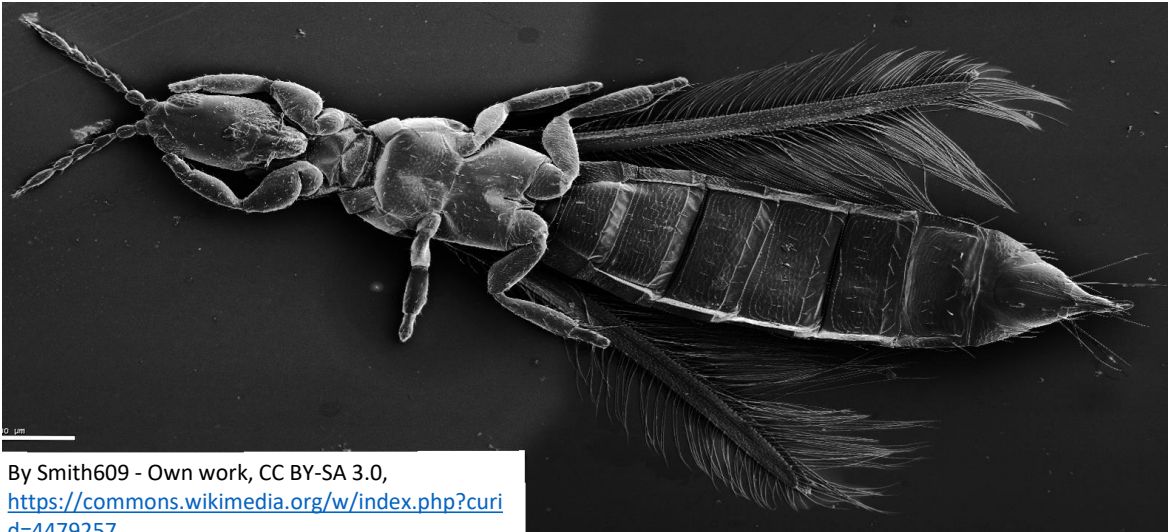
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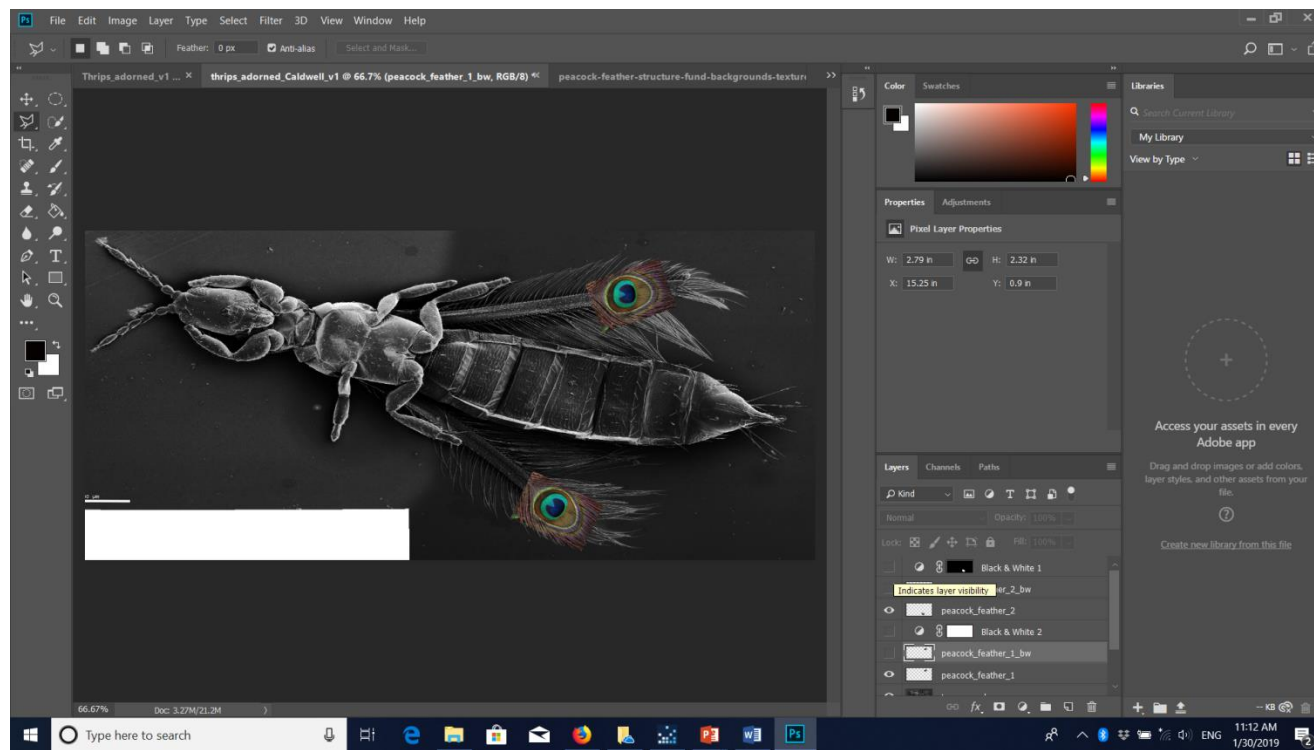
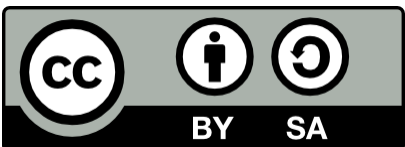
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Perfectly legal, but perfectly right?



Perfectly legal, but perfectly right?



References

- [1] Washington Post Fact Checker (20 Jan 2019) https://www.washingtonpost.com/graphics/politics/trump-claims-database/?noredirect=on&utm_term=.f6860f0e5e8d
- [2] Michael Zhang, 2015 <http://petapixel.com/2015/04/09/this-is-what-the-history-of-camera-sales-looks-like-with-smartphones-included//>
- [3] <https://expandedramblings.com/index.php/snapchat-statistics/>
- [4] <https://zephoria.com/top-15-valuable-facebook-statistics/>
- [5] <https://www.wordstream.com/blog/ws/2017/04/20/instagram-statistics>
- [6] <https://expandedramblings.com/index.php/flickr-stats/>

Additional resource

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