



Photoshop Fantasies

Walter J. Scheirer

Dept. of Computer Science and Engineering
University of Notre Dame



Notre Dame Institute for
ADVANCED STUDY



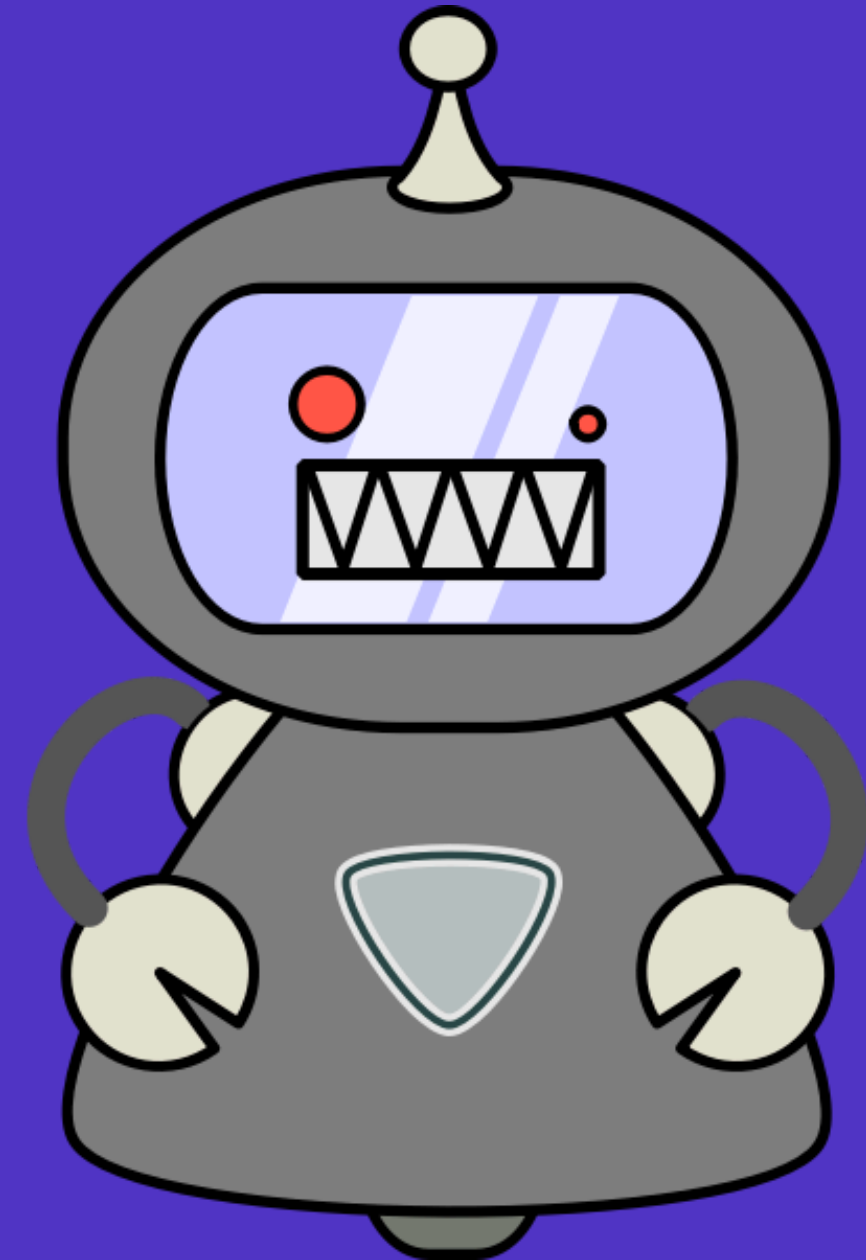
Why is there so much fake stuff on the Internet?



How much fake stuff is out there?

- Less than 60% of all web traffic is human
- The bulk of users on social media platforms are bots
- The veracity of most of the content people are consuming is in question

Source: "How Much of the Internet Is Fake? Turns Out, a Lot of It, Actually." *New York Magazine*. Dec. 2018.



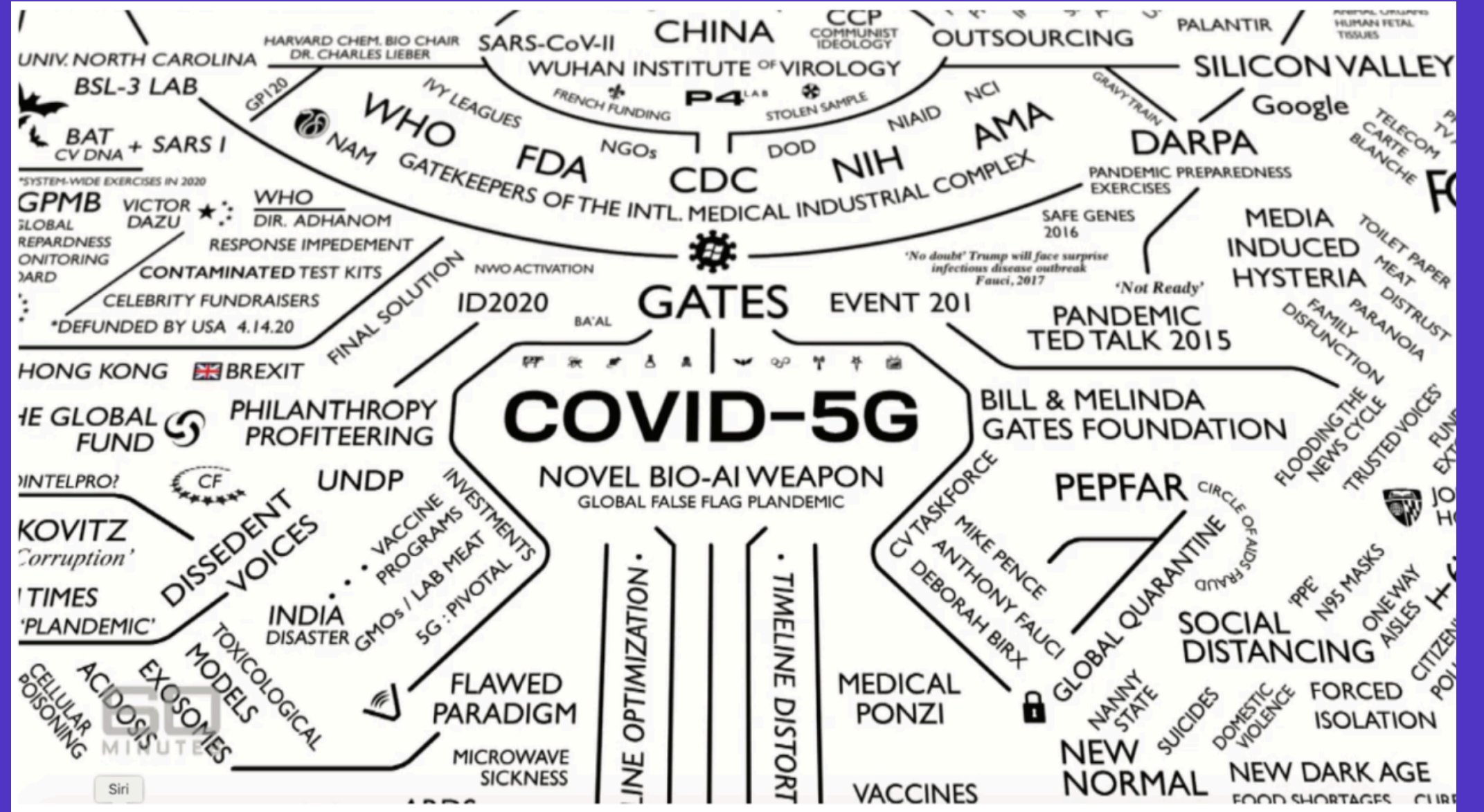
Deep Fakes



Meme Universes



From the Paranoid Fringe



Restyling Reality



Surely we should just ban all of this stuff, right?



Maybe a reflection on photography itself is warranted

A very brief history of photographic propaganda

“If you want knowledge, you must take part in the practice of changing reality.”

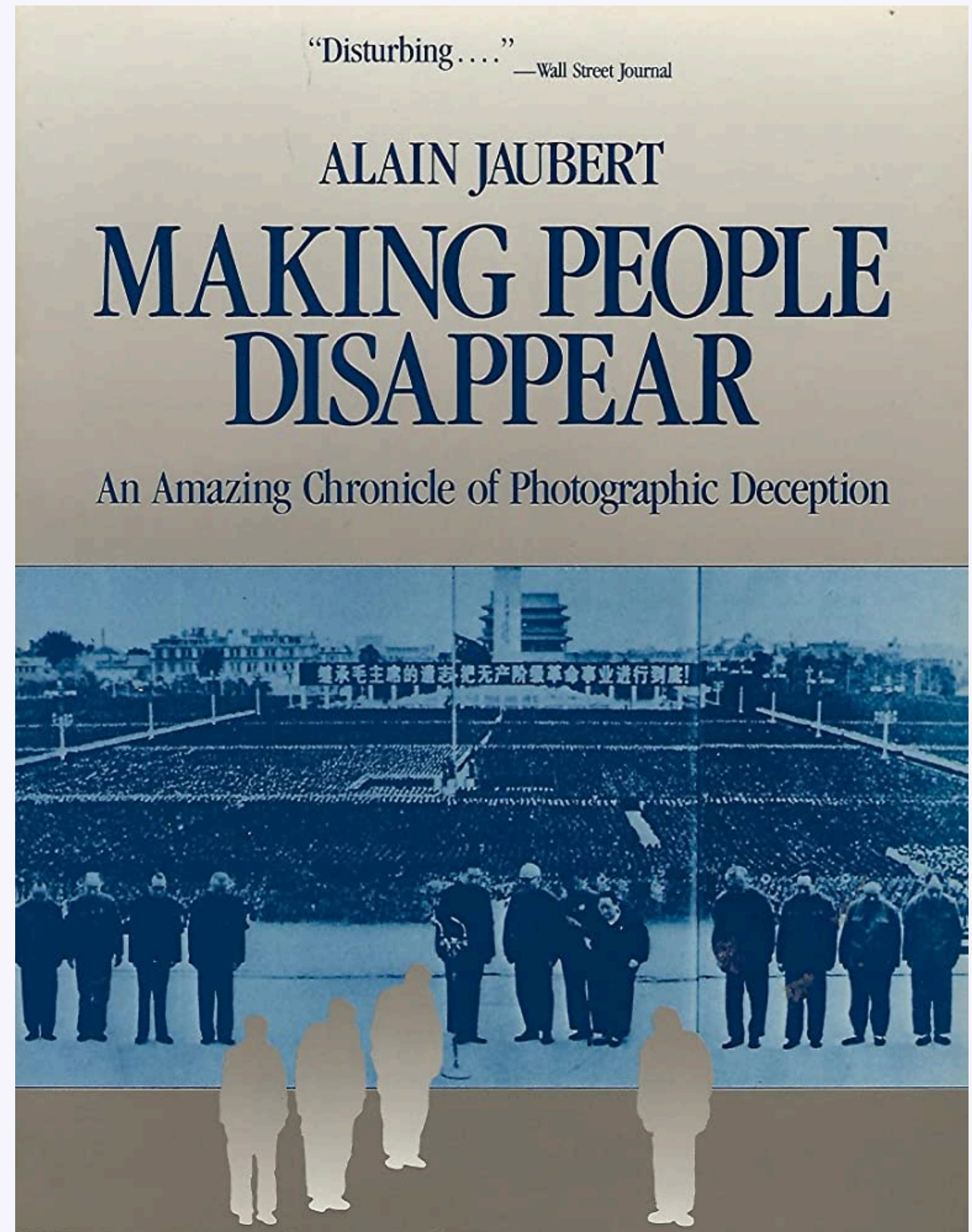
Mao Zedong, “On Practice”

Mao's Funeral

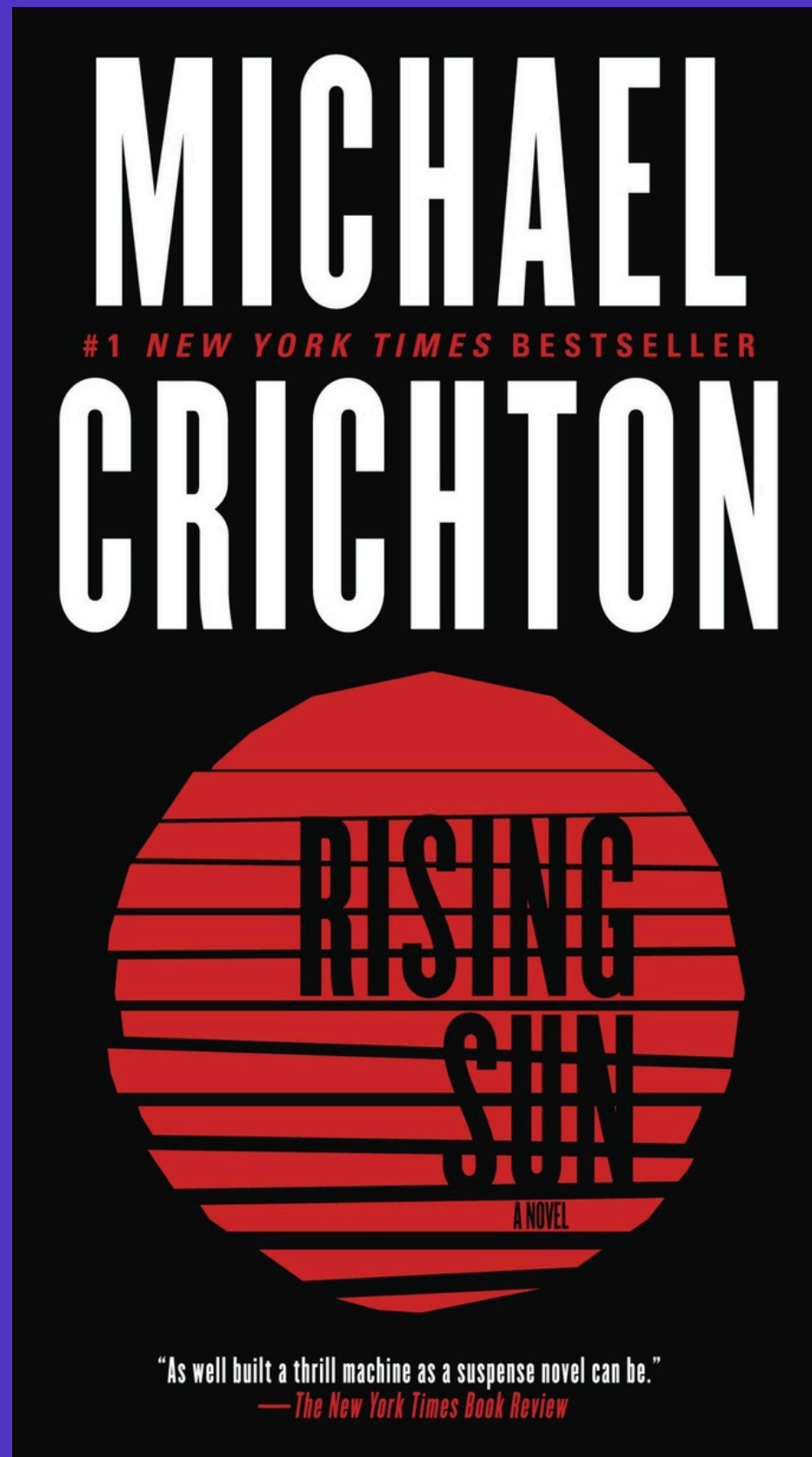


“Jaubert points out that the systematic faking or falsification of history are encountered ‘anywhere a serious effort is made to copy the methods of totalitarian propaganda characterized by its three major styles: Fascist, Nazi, and Communist...’ The falsification of photographs comes easily to those governments and elites that seek to be the sole interpreters of history and have a monopoly on the information media...”

Roy Godson



Rising Sun (1992)



“The case law isn't entirely clear. But it's coming. All photographs are suspect these days. Because now, with digital systems, they can be changed perfectly. Perfectly.”

What is the truth?

“The idea that photographs hand us an objective piece of reality, that they by themselves provide us with the truth, is an idea that has been with us since the beginnings of photography. But photographs are neither true nor false in and of themselves. They are only true or false with respect to statements that we make about them or the questions that we might ask of them.”

Errol Morris

<https://opinionator.blogs.nytimes.com/2007/07/10/pictures-are-supposed-to-be-worth-a-thousand-words>

What is the truth?

“Conceptually, we may call the truth what we cannot change; metaphorically, it is the ground on which we stand and the sky that stretches above us.”

Hannah Arendt

Manipulation in the era of film photography

Self Portrait as a Drowned Man (1840)



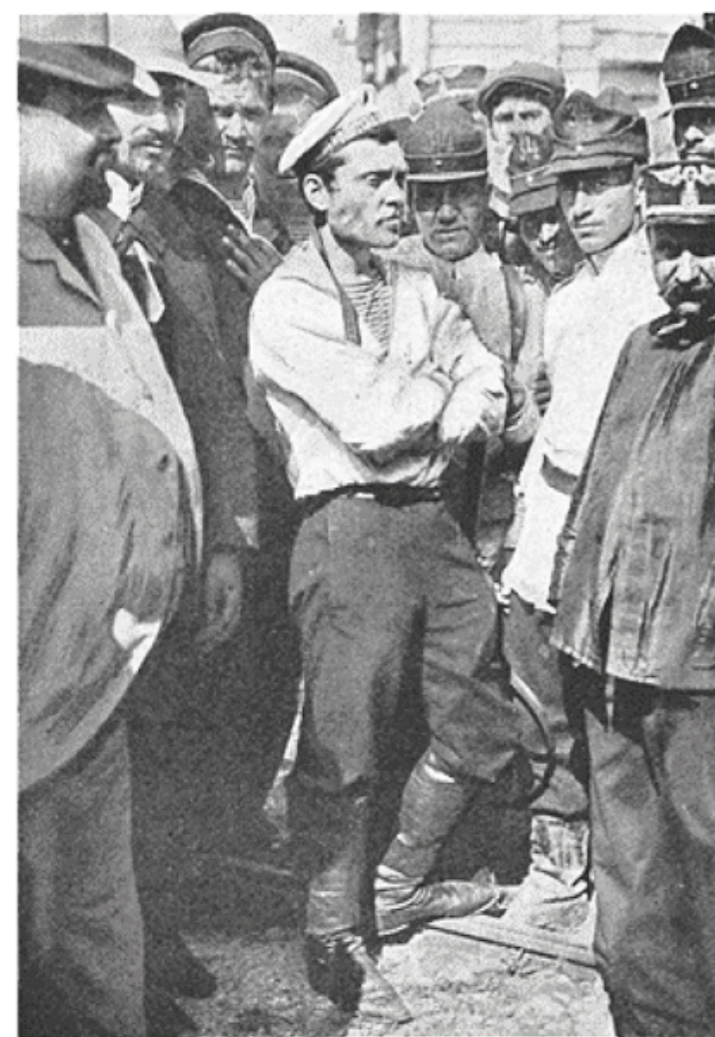
Self Portrait as a Drowned Man (Reverse)

“The corpse which you see here is that of M. Bayard, inventor of the process that you have just seen, or the marvellous results of which you are soon going to see. To my knowledge, this ingenious and indefatigable researcher has been working for about three years to perfect his invention. The Academy, the King, and all those who have seen his pictures, that he himself found imperfect, have admired them as you do at this moment. This has brought him much honour but has not yielded him a single farthing. The government, having given too much to M. Daguerre, said it could do nothing for M. Bayard and the unhappy man drowned himself. Oh! The fickleness of human affairs! Artists, scholars, journalists were occupied with him for a long time, but here he has been at the morgue for several days, and no-one has recognized or claimed him. Ladies and Gentlemen, you’d better pass along for fear of offending your sense of smell, for as you can observe, the face and hands of the gentleman are beginning to decay. H.B. 18 October 1840.”

Photo Retouching



Facial Retouching

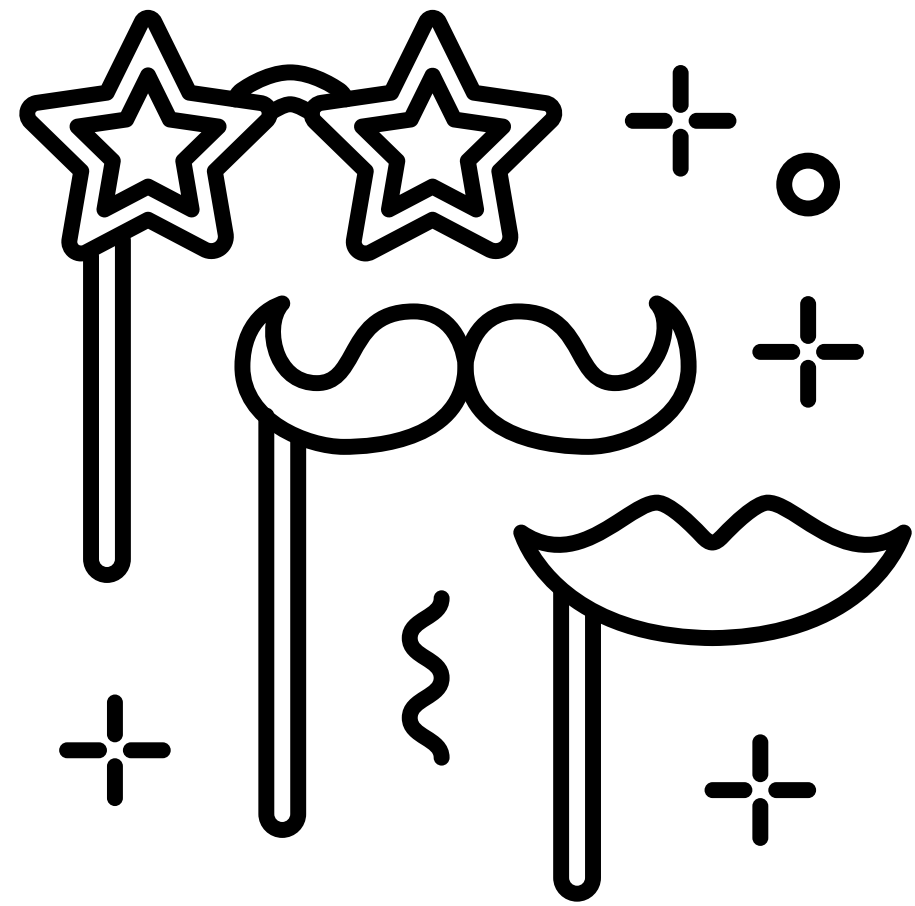


Cropping



Face Swapping With Cutouts





Props



Photomontages

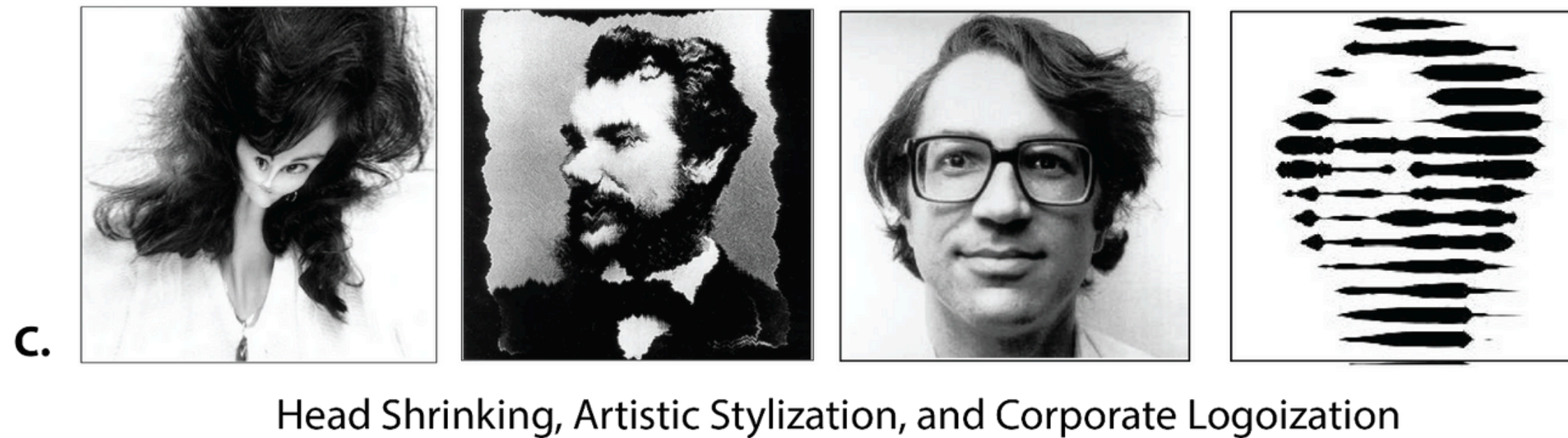
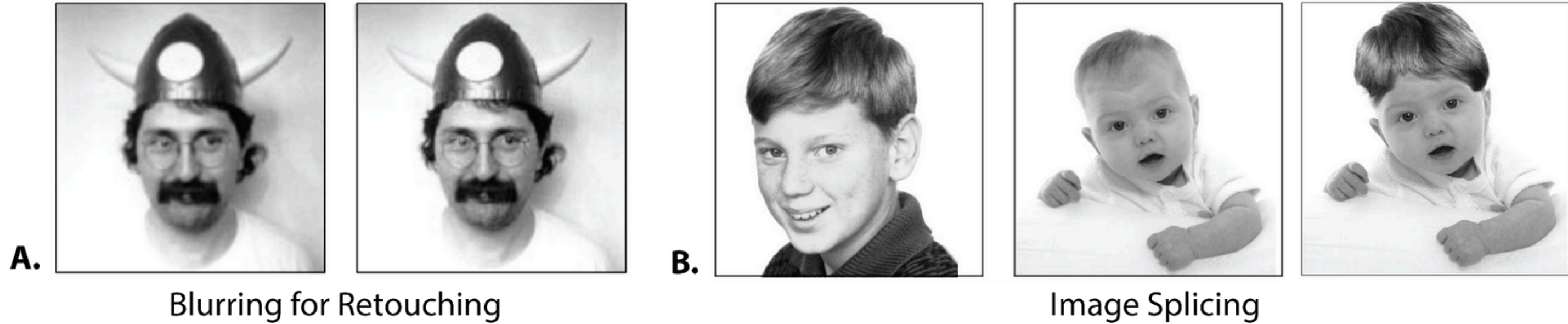


Double Exposure Photography

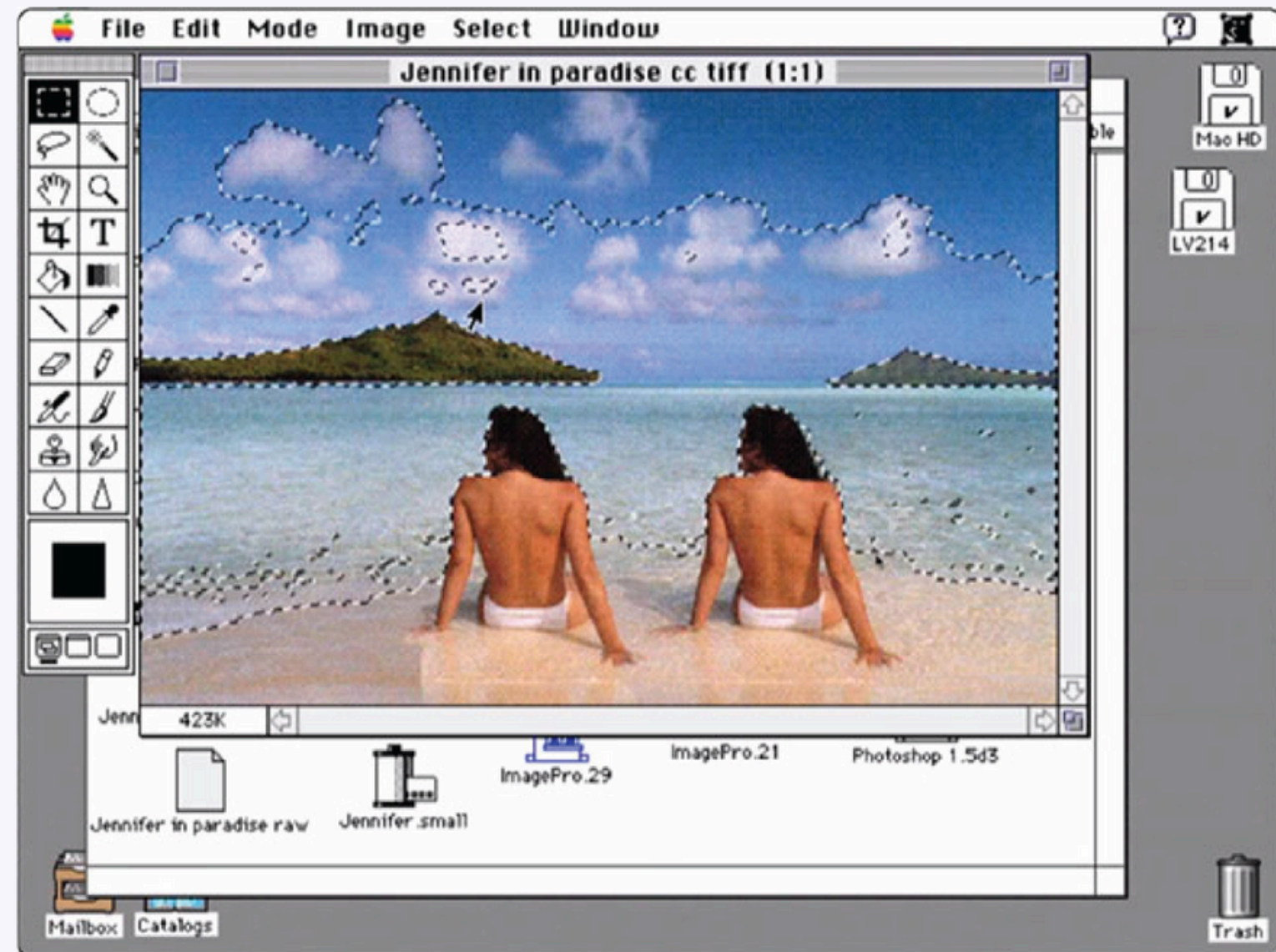


Manipulation in the early era of digital photography

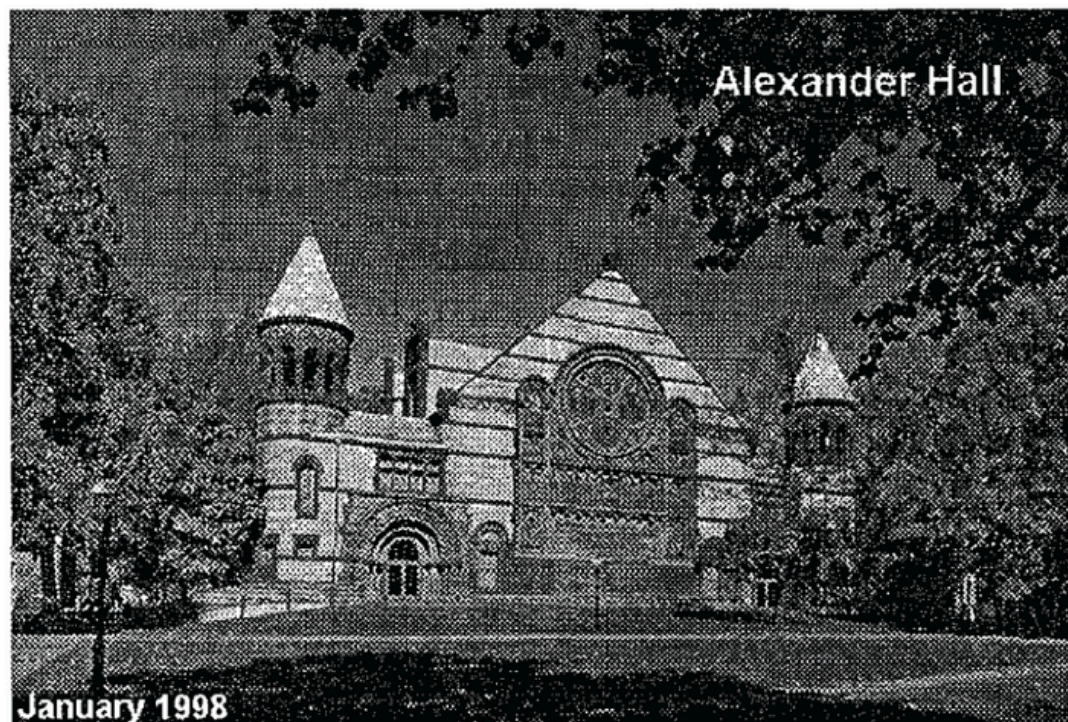
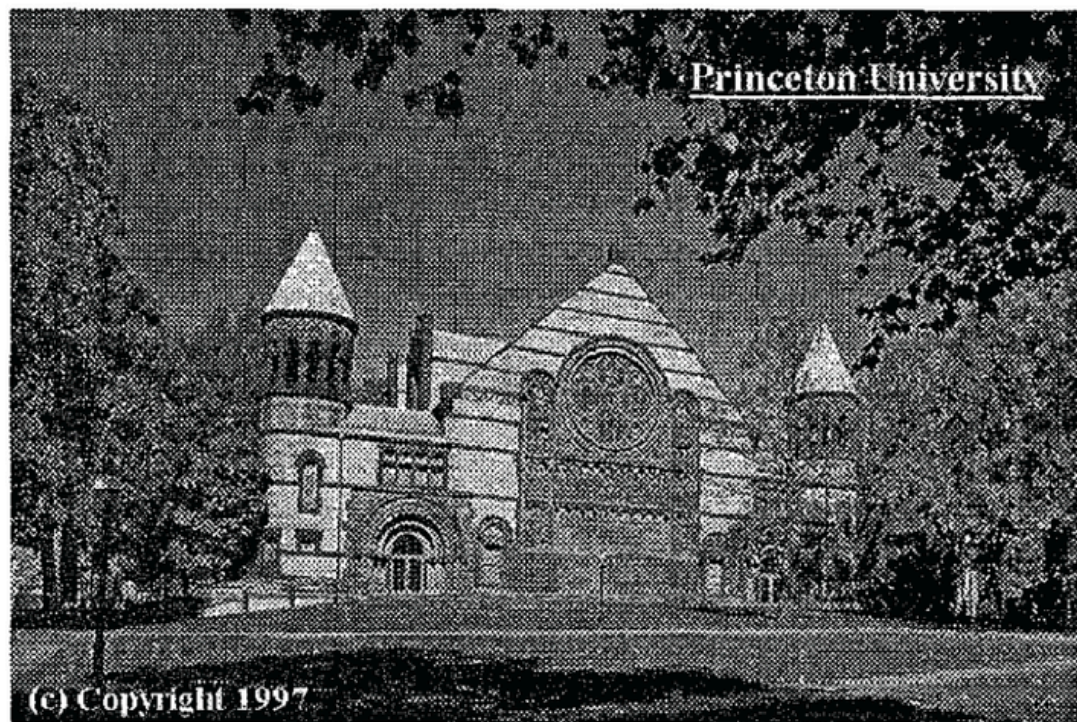
Digital Darkroom (1988)



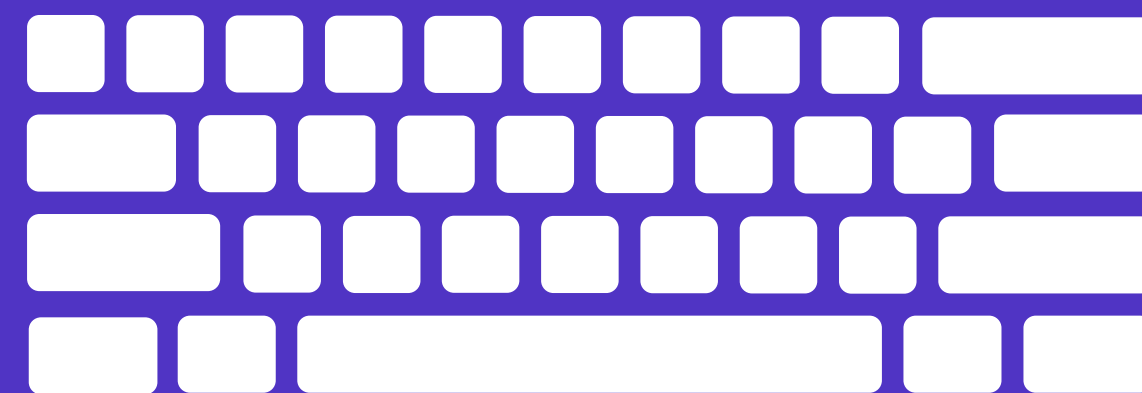
Photoshop (1988)



<https://www.youtube.com/watch?v=Tda7jCwvSzg>



Wu, Min and Bede Liu. 1998. "Watermarking for Image Authentication." IEEE International Conference on Image Processing 2: 437-441.



Text Overlay Editing

Deletion of Objects (2004)

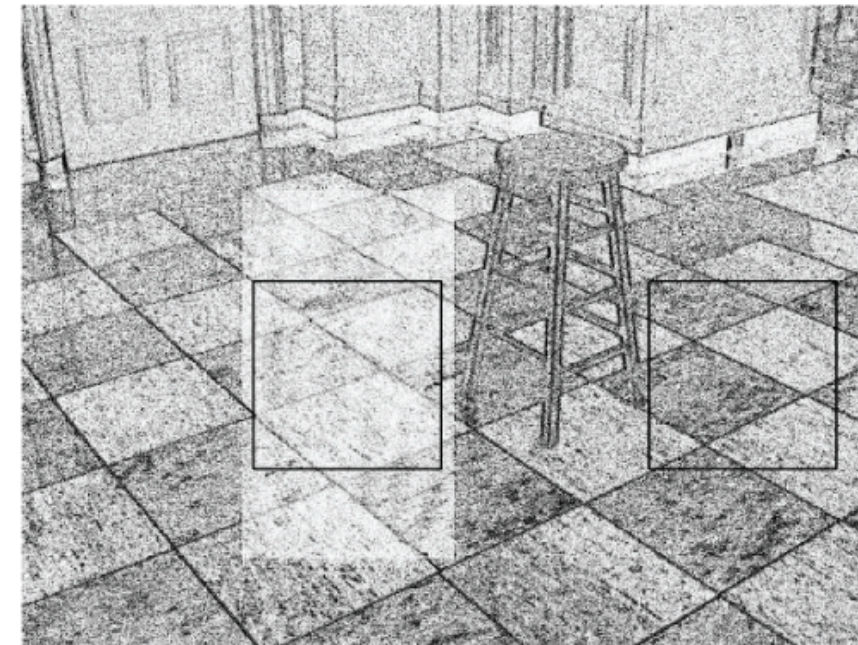
original



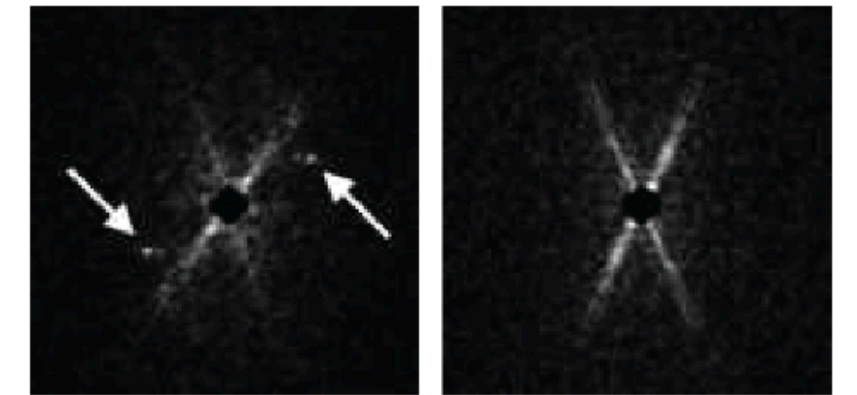
forgery



probability map (p)

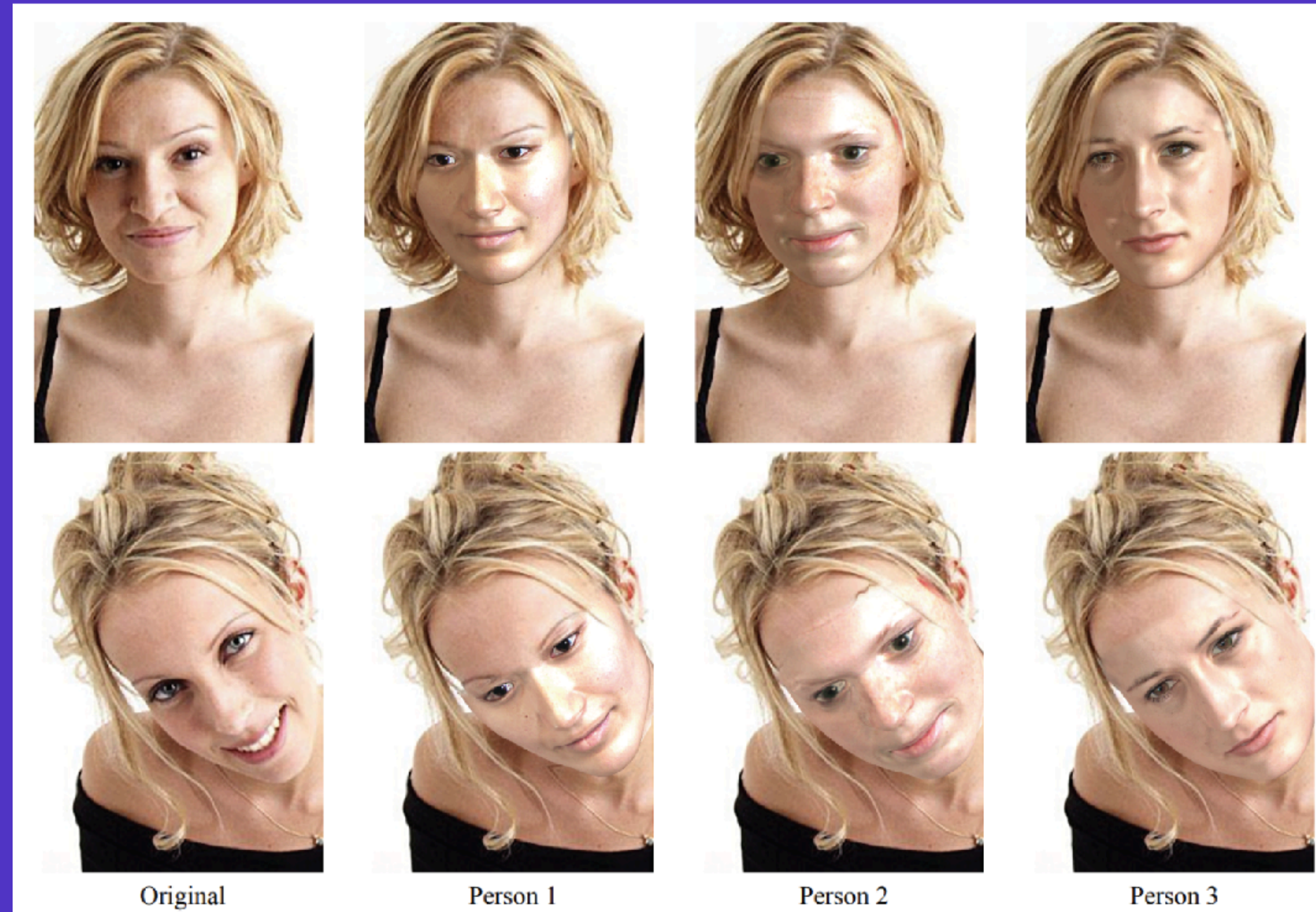


$|\mathcal{F}(p)|$



Popescu, Alin C. 2004. Statistical Tools for Digital Image Forensics. Dartmouth College Ph.D. Dissertation.

Face Swapping (2004)



Blanz, Volker, Kristina Scherbaum, Thomas Vetter, and Hans-Peter Seidel. 2004. "Exchanging Faces in Images." *Computer Graphics Forum* 23 (3): 669–676.

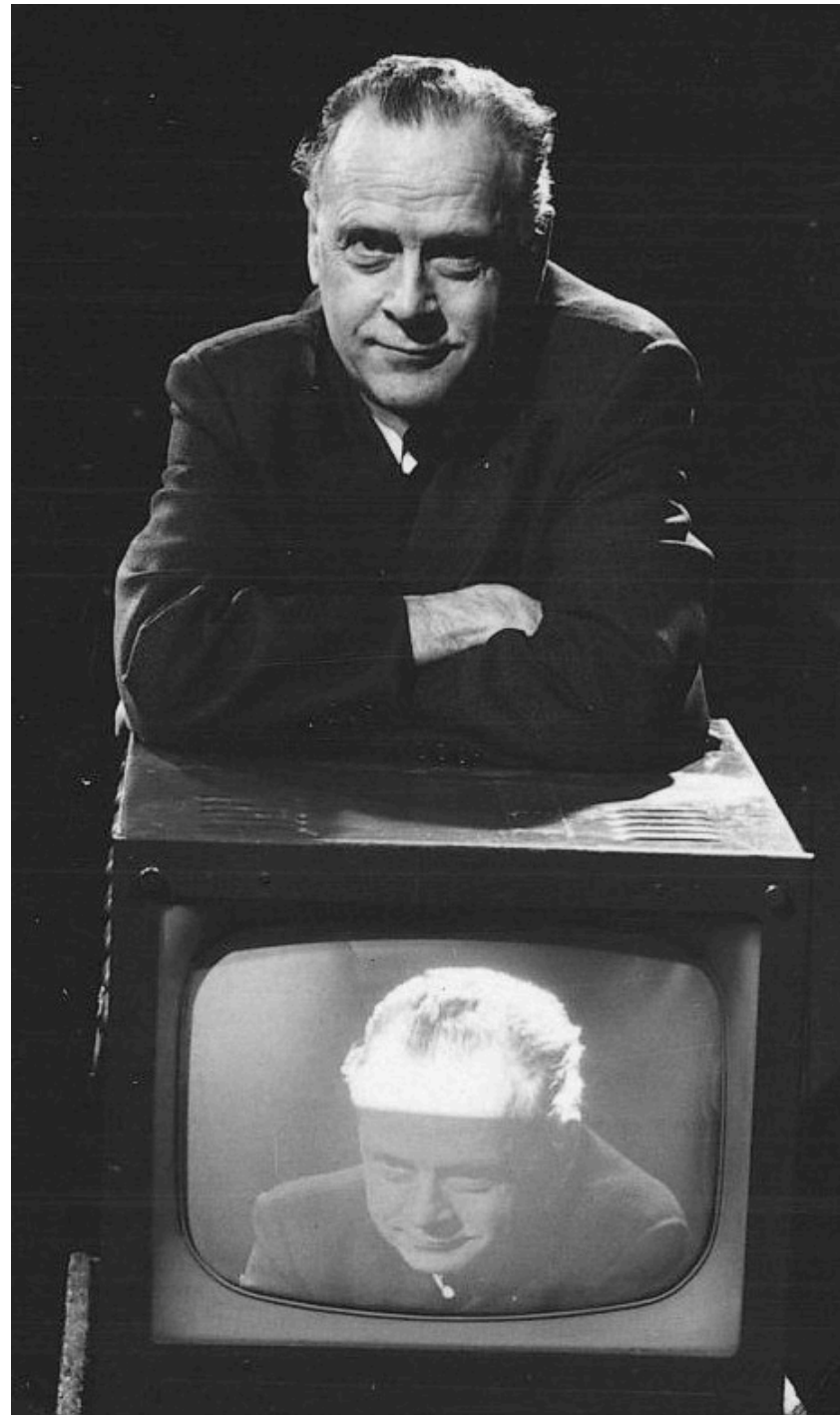
Mememes and Manipulation (2001)



<https://www.wired.com/2001/11/hes-the-real-tourist-guy/>

The Frontier of the Imagination

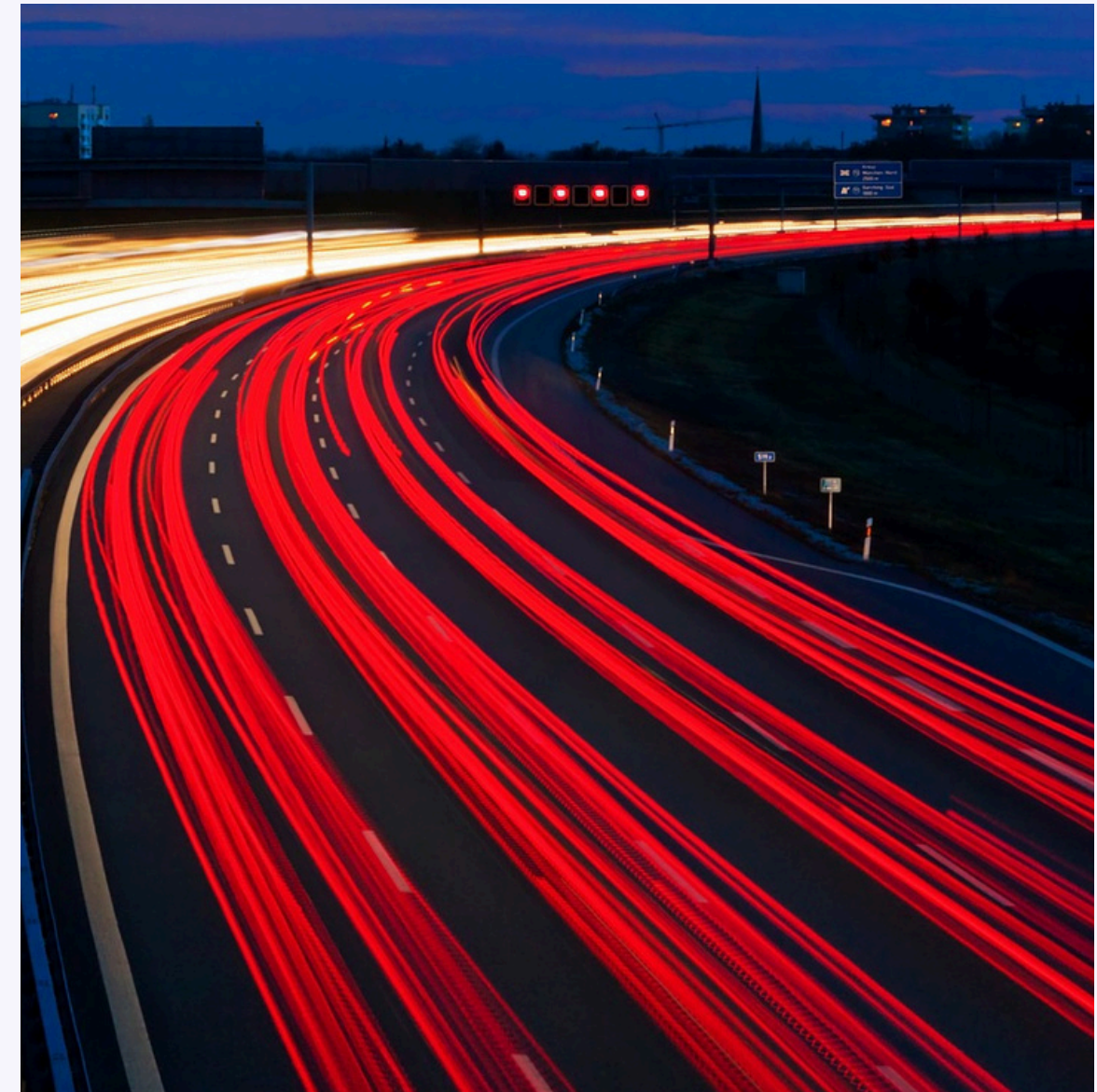
Marshall McLuhan



"electric circuitry, *an extension of the central nervous system*"

VS.

Information Superhighway



"Wander through a distant library. Turn your corner store into a multinational. Curious? *IBM can get you there.*"



Something Awful's Photoshop Fridays (Early 2000s)



Artist: Lowtax (2001)

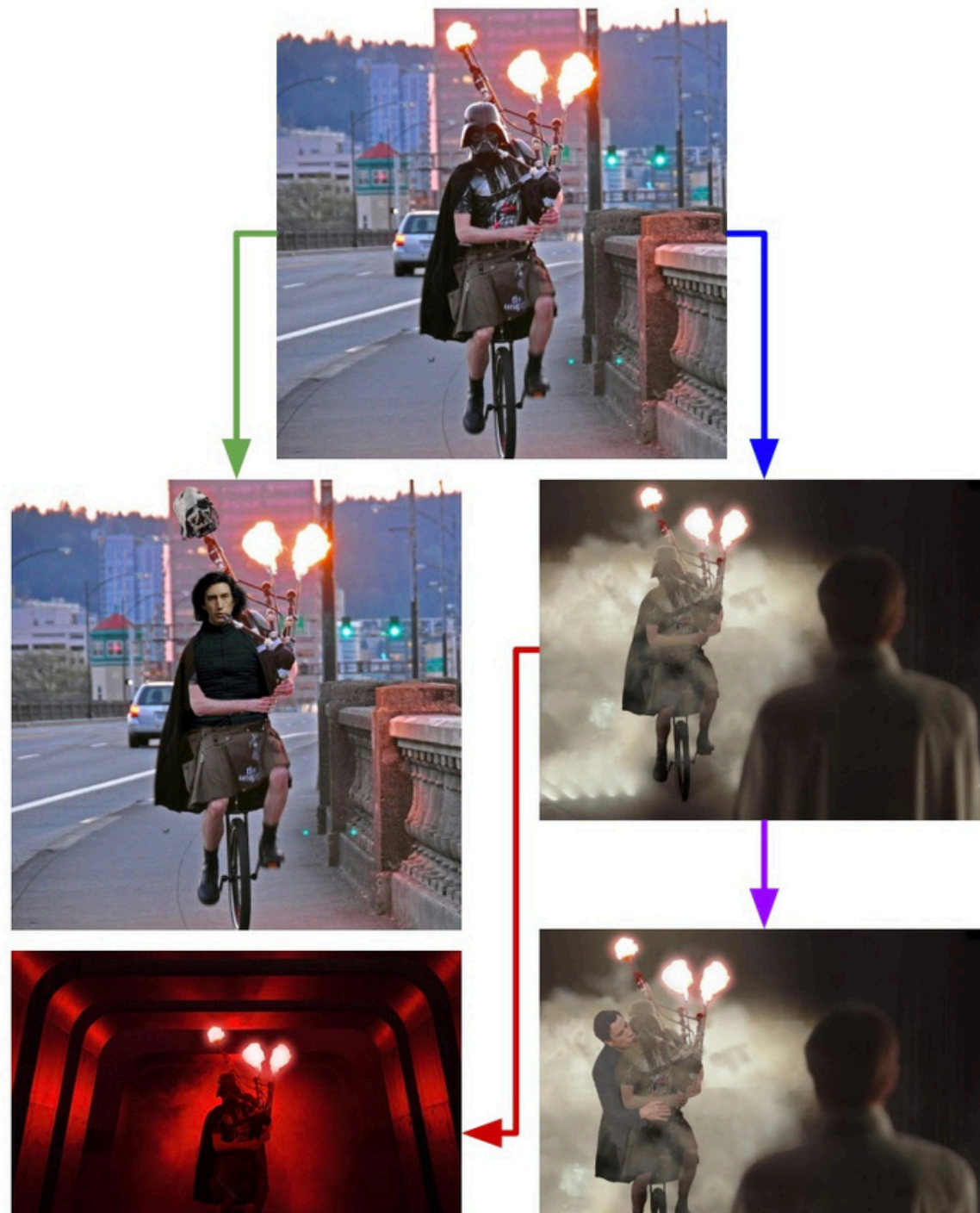


Artist: darthfunk (2002)

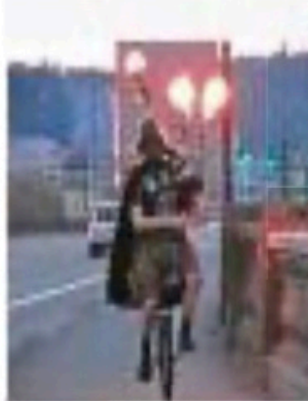


Artist: Groggie (2006)

Reddit's r/photoshopbattles (2012)



27.6k

 DARTH Vader Playing Bagpipe On Unicycle With Fire
Submitted 2 days ago by [blokmotion](#)
368 comments share save hide give gold report


Shashakeitup   | 588 points 1 day ago
Deleted scene from Rogue One

Pwnagelad 255 points 1 day ago
Should be the hallway scene

Shashakeitup   | 1588 points 1 day ago
This one?

LaerPoweredDeviltry 125 points 1 day ago
Thats terrifying

Owny_McOwnerton 55 points 1 day ago
Red=Scary

Artunitinc    | 330 points 1 day ago
<https://i.imgur.com/s8gbDxJ.jpg>

spatulababy 26 points 1 day ago
It's unfortunate how buried this one is

snugglypatch 889 points 1 day ago
I'm gonna finish what he started...
<https://i.imgur.com/OepNzqZ.png>

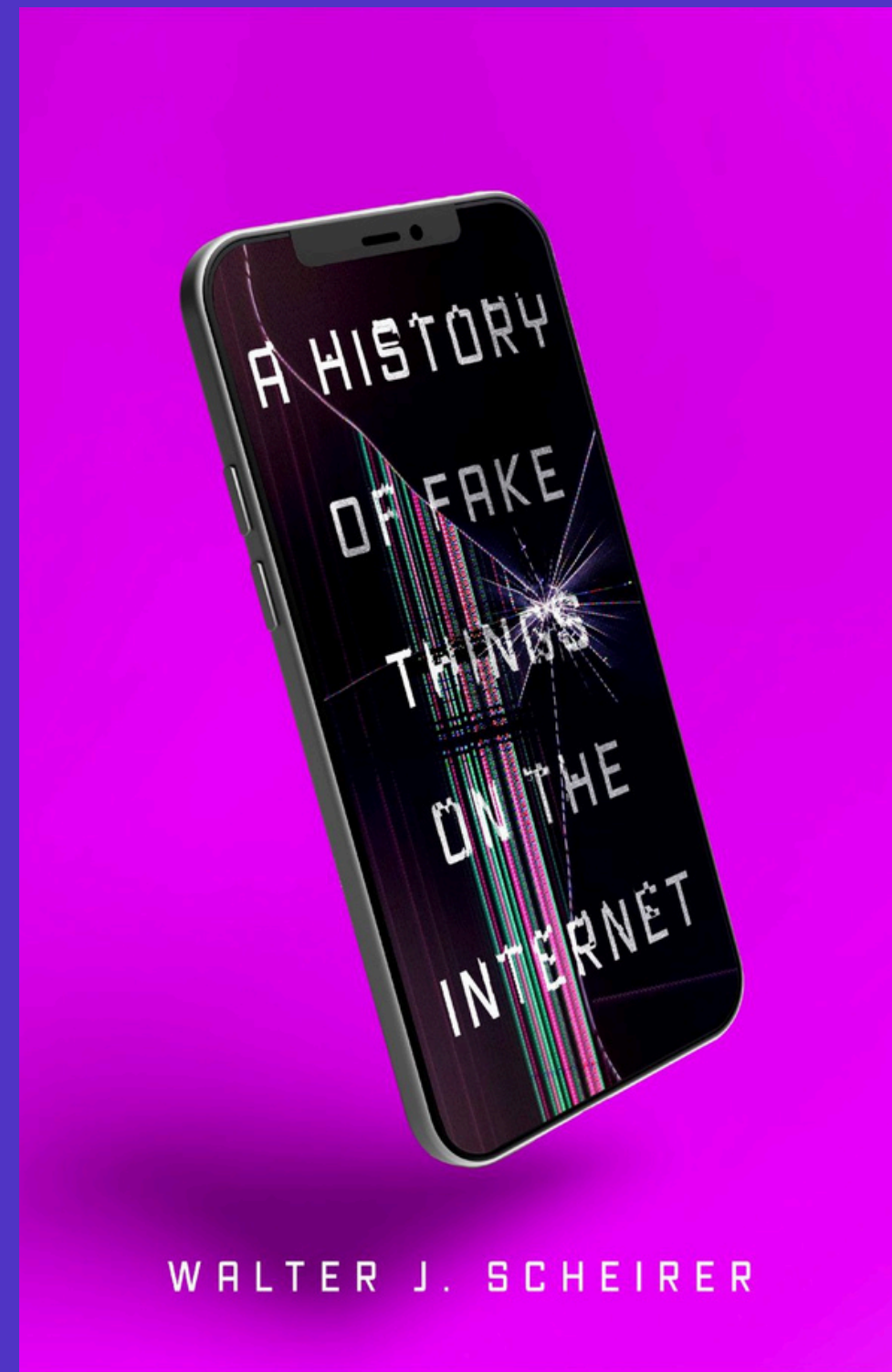
Generative Art Communities (Present)



<https://huggingface.co/spaces/akhaliq/ArcaneGAN>

Want to learn more?

Available wherever fine books are sold!



And add a review to Goodreads / Amazon if you like it!