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Photography changes what we are willing to believe

Early in his career, Southern politician John Calhoun was a strong supporter of slavery. So it is ironic that an iconic portrait of Abraham Lincoln (circa 1860) is a photographic composite of Calhoun's body and Lincoln's head, purportedly created because no sufficiently heroic-style portrait of Lincoln had yet been taken. Perhaps what is most remarkable about this composite is that it was created only a few decades after Joseph Nicéphore Niépce created the first permanent photograph in the summer of 1826.

Although we may have the impression that photographic tampering is something relatively new – a product of the digital age – the reality is that history is riddled with photographic fakes. Famed civil war photographer Mathew Brady routinely doctored photographs to create more dramatic images. Stalin, Mao, Hitler, Castro, and others, each had their political enemies air-brushed out of official photographs. Some of the most spectacular photographs of World War I aerial combat were only recently exposed as fakes. A doctored photograph of Senator Millard Tydings conversing with Communitst leader Earl Browder contributed to Tydings' electoral defeat in 1950. And the list goes on.

Although there are many historical examples of photographic fakes, time-consuming and cumbersome darkroom techniques were required to create them, and so it wasn't unreasonable

for most people to believe that they could put their trust in photographs. Today, however, our relationship with photographs is changing. Powerful and low-cost digital technology has made it possible to create sophisticated and compelling photographic fakes. And while we have come to expect and even accept that tabloids and fashion magazines doctor photographs, and to find photo hoaxes in our email in-boxes, doctored photographs are even far more prevalent than we might imagine. These manipulated images not only effect how we think about photography, but also impact on our personal experience and memories.

In recent years *Time, Newsweek, Harper's, Reuters, USA Today, The New York Times,* and *The Los Angeles Times*, to name a few news sources, have each been widely criticized when it was revealed that they published doctored photographs, often on their covers or front-pages. In 2004, the scientific community was rocked by a scandal when it was revealed that the ground-breaking stem cell research of a highly respected scientist was fabricated, based on doctored images he included in his published scientific papers.

Photographically based political dirty tricks, similar to the one that that paired Millard Tydings with Earl Browder, are still popular today. In 2004, a doctored photograph of then-Presidential hopeful Senator John Kerry sharing a stage with Jane Fonda at an anti-war rally in 1970 was widely circulated in an attempt to discredit him. Given the power of visual imagery, it is not surprising that some voters continued to recall the Kerry/Fonda image vividly as a fact, even after it was revealed to be a fake. Equally remarkable are recent studies that show that people's memories of their own childhood, or even of memorable events from their adult life, can be altered when they view doctored versions of their own photographs from the pasts.

To contend with the scope and impact of photographic tampering, the field of digital forensics has emerged, creating mathematical tools to expose photographic fakes. These software tools can detect differences in lighting that may occur when creating a composite of two people, or subtle differences in the imperceptible noise, present in all digital images, that may result from air-brushing.

The digital age has revolutionized photography, allowing us to manipulate, distort, and alter reality in ways that were simply unimaginable twenty years ago. And while advances in digital forensics can return some trust to photography, our relationship with photography is changing so that we need to view and think about photographs with a more critical and careful eye.