Polar Research

EDITORIAL

When does fakery in nature documentaries go too far and what about the scientists in them?

Helle V. Goldman
Norwegian Polar Institute, Fram Centre, Tromsø, Norway

Abstract

This editorial reflects on deception in nature documentaries, ranging from trifling and, arguably, justifiable tricks to the outright hoaxes that gravely mislead viewers and damage public trust in science. Examples are drawn from Disney, BBC, Discovery Channel, Animal Planet and other productions. Scientists who are asked to appear in nature documentaries are advised to proceed with caution and to safeguard their right to speak publicly about falsehoods and dupery in such productions. The availability of inexpensive video-fabricating applications raises the spectre of additional problems.

Keywords

Television; film; science hoaxes; non-disclosure agreements; AI; falsified images

Correspondence

Helle V. Goldman, Norwegian Polar Institute, Fram Centre, P.O. Box 6606, Stakkevollan, NO-9296 Tromsø, Norway. E-mail: goldman@npolar.no

Abbreviations

NDA: non-disclosure agreement
NOAA: US National Oceanic and Atmospheric Administration

Introduction

"Ahead lies the Arctic shore and beyond, the sea. And still the little animals surge forward." In 1958, cinema audiences attending Disney's nature documentary *White wilderness (part ii—the lemmings and Arctic bird life)* watched scores of brown lemmings scamper across the tundra, amass at the edge of a bluff and tumble down to the sea below, where they faced death by drowning. The narrator explained that the animals were driven by an irresistible urge to migrate across the ocean, which they had no hope of crossing. Part of Disney's *True life adventure* series, the film won the Academy Award for Best Documentary Feature that year.

The lemming sequence had been entirely fabricated, through tight camera angles and skillful editing (Corry 1986; Woodford 2003; Fessenden 2014). The rodents had been brought from Manitoba, Canada, to the shooting location in Alberta, where the filmmakers tossed them over the cliff edge. In land-locked Alberta, the Arctic Ocean was played by the Bow River, near Calgary. The film is credited for reviving the old myth of lemming mass suicide and cementing it in the minds of the modern mainstream (Woodford 2003; see also Crotch 1877; Fessenden 2014). The deceptions involved in the making of the film—including a polar bear cub falling down an icy slope, filmed in a studio—were exposed in 1982 with the airing of *Cruel camera*, a documentary about animal abuse in the screen entertainment business (Corry 1986).

As the chief editor of *Polar Research*, I am well aware that journal submissions commonly contain images that have been manipulated in some way and that a proportion of these have been doctored with the aim of deceiving. Software like Photoshop made basic manipulations of images feasible even for the technologically and artistically challenged, and today's AI-generative image tools have taken this to another level of sophistication. To illustrate this, I had Photoshop create a picture that I had in mind. The images that I was offered varied in their realism and in their adherence to my prompt (Fig. 1), as did the results my daughter obtained using a different programme on her mobile phone (Fig. 2), but overall they were good. Engaged in a costly arms race, journal editors are using pricy AI tools to detect image manipulation as AI is getting better and better at producing believable results and evading detection (Jones 2024).

Fabricated images passing as photographs of reality are not limited to science publications: the internet and social media are flooded with them. The latest video-generating programmes, like Sora (Chen 2025), offer users similar possibilities as Photoshop and Midjourney, and the resulting videos have the potential to fool a great many people who will then spread them further. As I explore below, some nature documentaries that have fiddled with reality have met with criticism by general viewers as well as scientists that appear in these programmes. Scientific institutions have also been dragged into the fray. How much deception and what kinds of deception are palatable in nature documentaries?

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Fig. 1 Pictures generated in Photoshop, using the Generate Image tool and this prompt: "A polar bear, viewed from a distance, walking across a very narrow dirt path, from the left of the image toward the right, in a lush, thick African forest at night, in the style of a black and white camera-trap photo." A few more minutes of effort—refining prompts, uploading reference images and tweaking the best results using more basic image enhancement tools—would have produced a fairly convincing image. (Image: Helle V. Goldman.)

Fig. 2 Images generated in the programme Midjourney with the prompt "Realistic, slightly grainy, black and white camera-trap photo of a polar bear walking from the left to the right across a path in the thick African forest." (Image: Zoe Winther-Hansen.)

Tricks of the trade

In the six-plus decades since *White wilderness*, the nature documentary industry has expanded exponentially. At the same time, viewers have become increasingly savvy about the artifices that these productions may employ and they have at their fingertips a multitude of platforms on which to share suspicions and complaints. In 2011, for example, a polar bear segment in an episode of the BBC's *Frozen planet* series almost immediately provoked a "fakery row" (Leigh 2011; see also BBC 2011a; Brown 2011; Okwonga & Randall 2011; Street-Porter 2018). Stuck into a section featuring polar bear footage taken in the wild was a brief clip of newborn cubs that had been filmed in a zoo. The filmmakers had come clean about this in a short making-of video released online before the episode was aired (BBC 2011b), but some viewers still felt duped.

The insertion of a half-minute of captive polar bear cub footage in *Frozen planet* is arguably justified on the grounds that it would have been otherwise impossible to include images of newborns in the den, and this gap would have detracted from the story's continuity and emotional impact. The same may be said of the close-up footage of a flying duck in the BBC's documentary series *The life of birds* (1998), which was shot from a car using a mallard trained to fly alongside the vehicle (Davies undated). Likewise, it can hardly be deemed misleading when filmmakers add crunching sound effects to a scene—of necessity, filmed at a distance—of wild polar bears padding across snow (Okwonga & Randall 2011). Intimate, emotive nature documentaries help engage people in the fate of the world's wildlife, whose habitats are being assailed by acidification, deforestation, pollution, climate change and so on. *Frozen planet* and *The life of birds*—and other nature

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documentaries that mix in footage of captive or habituated animals with film shot in the wild—do not distort facts about the geographical distribution, normal appearance or natural behaviour of the species shown. On the continuum of fakery, these kinds of deceptions are surely at the mild end.

Another kind of artifice is the common practice of splicing together disparate pieces of footage to produce a coherent narrative about a single event. Thus, a thrilling leopard hunt is patched together from several hunts, possibly shot months or even years apart. In the wake of the *Frozen planet* "polar bear fiasco" (Brown 2011), David Attenborough attempted to inoculate his upcoming film project, *The penguin king* (2012), against complaints about fakery by "pointing out that viewers should be 'aware' that the documentary uses numerous penguins to tell the story of the life of a single male" (Brown 2011).

If these sorts of pretense are broadly acceptable, computer-generated fabrication in nature documentaries seems to cross a line. The award-winning *Turtle: the incredible journey* (2009), which was screened at the Toronto Film Festival in the documentary category and is labelled "nature documentary" in the IMDb film database, purports to follow a single female loggerhead as she travels vast distances around the North Atlantic and back to her natal beach in Florida. In addition to scenes shot with rescued turtles in a studio, the film also showed completely digitized turtles and other marine animals. Only viewers who sat through the credits would have been alerted to the computer-generated imagery used in this film. In her review of *Turtle*, *The New York Times* movie reviewer, who noted that wildlife documentary filmmakers have "a long history of massaging and even brutalizing the truth," asked "Does it matter?" and concluded that "embellishing reality in nature films, digitally or otherwise … does their subjects and audiences a disservice" (Dargis 2011). She wondered, "without a disclaimer that explains what's real and not, how can viewers, including those who may already be skeptical about claims of environmental crises, trust that the whole thing hasn't been made up?" (Dargis 2011).

Conned researchers

Following the airing of *Monster hammerhead* (2014), on the Discovery Channel, marine biologist Kristine Stump claimed that the aired show did not match the description that producers had given her before she agreed to be filmed for it (Schiffman 2014; Johnson 2018). Stump nonetheless felt that participating in such shows can offer scientists the opportunity to show real science on television (Schiffman 2014; Johnson 2018). She said, "we can't control the editing, [but] we can control what we say on-camera" (Johnson 2018). While that is true, filmmakers can nevertheless chop up footage and braid the bits together to support narratives that the expert participants would oppose.

While he was researching bull sharks for his Master's degree at the University of New Orleans, Jonathan Davis was contacted by filmmakers who said they wanted to make a documentary about sharks for Discovery (NPR Staff 2014; Schiffman 2014). He agreed to participate and the ensuing on-camera interview chiefly concerned shark science and Davis' own research. A question near the end of the interview solicited his opinion about a mythical gigantic shark in Lake Pontchartrain. According to Davis, he unequivocally denied the possibility of its existence (NPR Staff 2014). The show—released with the title *Voodoo shark* (2013)—focused on the quasi-supernatural and preposterously large shark whose existence Davis had clearly rejected. Yet one of his taped remarks had been woven into the programme's narrative to imply that he believed that the Louisiana lake might be home to the "voodoo" shark. According to Davis, "they twisted one sentence of a three-hour interview around to make it seem like I believed in something [that I didn't believe in]" (NPR Staff 2014).

At the full-on hoax end of the fakery continuum are shows like Discovery's *Megalodon: the monster shark that lives* (2013), Animal Planet's *Mermaids: the body found* (2012) and the sequels that were quickly churned out after them. When it aired, *Mermaids: the new evidence* (2013) was the highest rated Animal Planet broadcast ever (Davidson 2013). Making ample use of heavily doctored moving and still images, completely faked television news reports and actors playing marine biologists (Davidson 2013; Silver 2013; Specter 2013; Than 2013; Winsor 2014), these television shows could be considered mockumentaries had the filmmakers' intention been to amuse through parody, which is doubtful.

A good example of a harmless spoof is *Miracles of evolution*, a short film released by the BBC on April Fool's Day in 2008. In it, Adélie penguins waddle with increasing urgency across the Antarctic ice and then take wing. Computer-generated imagery makes the physics-defying action look believable. The host, shown walking among the birds, had been filmed against a green screen in the studio before his seamless insertion into the stark Antarctic landscape. Hailing the film as a "classic" the following day (Telegraph 2008), the press did not decry the BBC for hoodwinking viewers.

Certainly, NOAA was not laughing when one of the supposed scientists in *Mermaids*, identified in the show as "former NOAA biologist Dr Paul Robertson," insinuated that the public agency had covered up compelling evidence of mermaids. This angle is likely to have appealed

to an ever-widening swathe of the audience disposed toward believing in stories of government cover-ups and other conspiracies, such as those to do with moon landings and extra-terrestrial visitations (Barnes 2021). Some NOAA researchers "reported being verbally accosted as a result of their perceived complicity in the 'mermaid conspiracy'" (Thaler & Schiffman 2015: 89). NOAA was forced to issue a statement that none of its employees had participated in making the fictional programme and the man it presented as a NOAA scientist was an actor (CNN 2013; Silver 2013; Thaler & Schiffman 2015). Stoking conspiracy-thinking and undermining the credibility of important environmental research and management agencies like NOAA, *Mermaids* and its ilk are by no means harmless.

Signing away the right to blow the whistle

For filmmakers, production companies and the media giants like Discovery (which owns Animal Planet) that commission content from them, using actors instead of actual scientists gets around the problem of disgruntled researchers creating negative publicity, as happened with *Voodoo shark*. Another way for producers of nature shows to protect themselves is to ensure that the experts who appear in such programmes, or who help out behind the scenes, sign all-encompassing NDAs.

People who appear in documentaries are commonly required to sign appearance releases, agreements that typically grant the producers complete editorial control over the finished product (Aufderheide et al. 2009; Beer 2018). NDAs go a step further, preventing those who sign them—scientists, other experts, the film crew, post-production professionals—from revealing details about the production (Barkham 2021). When interviewed by a journalist, the visual effects producer who did work for *The principle* (2014)—which purports to show that the sun orbits the Earth and which IMDb tags as a "science and technology documentary"—could only comment on it very generally. "Beyond that, his lips were sewed shut" since he was bound by an NDA (Lecher 2014). In contrast, physicist Lawrence Krauss, who appears in the *The principle*, publicly disavowed it (Krauss 2014). As Krauss claims not to know how clips of him wound up in the film, it is possible that was not asked to sign an NDA.

When the aim of NDAs is to prevent other media companies from stealing a fresh idea, the duration of the muzzle clause is often limited, expiring, for example, upon the airing of the show. However, the conditions of NDAs can also last much longer. One came across my desk that prevented the signatory from revealing behind-the-scenes production information until the end of time. Breaching the terms of an NDA can bring on lawsuits, including a suit on the grounds of defamation (a false statement that injures the reputation of a person or a company). Even though "proof of substantial truth is a complete defence" against an allegation of defamation (Rolph 2025: 1), the prospect of engaging in a costly and stressful legal battle against a big company weighs heavily against the urge to speak out.

In the wake of the MeToo movement, lawmakers have been chipping away at NDAs, limiting what kinds of wrongdoing such agreements can legally keep under wraps and for how long (e.g., Keegan 2019; Marr 2022; Madarang 2023). Whether this legislative trend will have an effect on fakery in nature documentaries seems unlikely. Sexual assault is a crime; embedding moving images of a captive animal into a wilderness scene (for example) is not.

Conclusion

The damage done by dishonest nature documentaries may be irreversible as viewers steeped in hoaxes and conspiracy theories fail to differentiate between fictional narrative and fact, with potentially enormous environmental and social consequences (Wallace 2018). In the meantime, researchers should try to avoid lending credibility to fakery in programming that is presented as nature or science documentary. Scientists approached by media companies are strongly advised to ask plenty of questions, get all agreements in writing, keep copies of all correspondence and not sign anything that would forever block them from blowing the whistle on jiggery-pokery in the aired productions. Otherwise, the scientist risks joining the ranks of bamboozled and silenced researchers, whose numbers can only be guessed. In some contexts, the best option may be to publicly ignore fakes, depriving them of publicity. In time, discerning observers may recognize the fact that credible experts are dismissing the fakes, although the extent to which this will counteract the swallowing of fraudulent screen content by the general audience is probably limited.

It is cold comfort that the powerful AI video-generating tools that are appearing on mobile phones may render these warnings antiquated. Social media platforms are already awash with short, entirely fabricated videos (Chen 2025). One viral genre comprises wild animals engaging in cute antics in gardens; another is whales being scraped clean of barnacles (Marcin 2025). The degree of realism varies and is improving rapidly. (I was fooled by some of the videos purportedly captured by garden security cameras but not fooled by the barnacle-encrusted whales.) "Welcome to the era of fakery," intones

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the lead consumer technology reporter for *The New York Times* (Chen 2025). How long will it be before realistic full-length nature shows—populated by phony scientists commenting on bogus animals—are being manufactured with the same convenience and realism as short videos of bears bouncing on backyard trampolines? Whatever the actual timeline, these developments endanger the credibility of scientific knowledge and our ability to communicate it to the public, undermining our struggles against the many threats to biodiversity on this planet.

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