2

A History of Misinformation

2.1 INTRODUCTION

Misinformation has only recently seen a surge in research interest and public attention, but the concept itself is much older. Not only have humans manipulated and lied to each other since the dawn of language, but animals are also known to use manipulation to achieve certain goals. In this chapter, we provide a historical overview of misinformation. First, we look at some of its possible evolutionary origins. We then trace how false information has been used as a tool of persuasion throughout history, and discuss the role of technological innovations such as the printing press and mass communications. Finally, we look at the recent advent of the internet era, and what role misinformation plays in society today.

2.2 DO ANIMALS LIE?

Misinformation has existed (albeit in a different form) since well before humans were around. Animals are routinely observed manipulating each other at the sensory and perceptual level (Mokkonen & Lindstedt, 2016). Michael Bang Petersen, Mathias Osmundsen, and John Tooby (2022) mention the example of two male deer entering a conflict over access to a mating partner or a stretch of territory. For both animals, it's best not to have the conflict escalate into full-fledged combat (which can result in serious injury even for the winner). Their conflict therefore follows certain rituals, during which both animals try to persuade the other that they would win if they were to actually fight. For two animals belonging to the same species, the best predictors of fighting ability are relative size and strength. Loudness is correlated with size (in deer anyway), and so when two male deer engage in conflict, the first thing they do is bellow at each other from a distance. If there's a clear difference in loudness, the stag with the quieter bellow (likely to be significantly smaller than the other stag) tends to cut its losses and leave. If no clear winner

https://doi.org/10.1017/9781009214414.004 Published online by Cambridge University Press

can be determined, the two animals meet each other face to face, but they don't start fighting quite yet. Instead, they begin to parallel-walk next to each other, sizing up their opponent (from the side, because it's easier to see how big a deer is from the side than from the front) and trying to convince the other that they'd lose if a fight broke out. If there's a clear difference, the likely loser usually withdraws. Only when the parallel walking doesn't yield a clear outcome do the two stags engage in physical combat by locking their antlers together.

Petersen, Osmundsen, and Tooby argue that while it's important for both stags to be able to accurately determine their opponent's strength, they also benefit greatly from deceiving their opponent into thinking they're stronger than they actually are. In other words, it's extremely important to extract accurate *cues* about the opponent's fighting ability, but also to emit deceptive *signals* that exaggerate their own. After all, if two animals are of about equal actual strength, but one of them is tricked into thinking the other is stronger and withdraws, then the other wins the conflict without having to engage in costly physical combat. Petersen, Osmundsen, and Tooby, following a theory put forward by John Krebs and Richard Dawkins (1978), argue that natural selection therefore rewards strategies that seek to instill false beliefs in one's opponents. Examples of these strategies are everywhere: cats raise the hairs in their fur in order to look bigger (known as "piloerection"), and animals such as snakes and possums are known to play dead to trick predators. Squirrels pretend to hide food to fool their competitors and reduce the chances of their stash being stolen (M. A. Steele et al., 2008). Professor of Comparative Cognition Nicola Clayton, a colleague of ours in Cambridge, has done research showing that intelligent birds such as jays and ravens often hide their food using misdirection techniques that resemble those used by professional magicians (N. S. Clayton et al., 2007; Garcia-Pelegrin et al., 2021). Of course, this dynamic runs in two directions: not only is it beneficial to deceive, but also to not be deceived. Animals therefore also develop strategies to detect whether the signals omitted by an opponent are accurate, leading to a kind of coevolutionary "arms race" in which both deception ability and deception detection tools constantly evolve.

While this reasoning may apply to animals, it doesn't have to hold for humans as well. In his book *Not Born Yesterday: The Science of Who We Trust and What We Believe* (2020, Chapter 4), Hugo Mercier departs from the "arms race" analogy, and instead likens the evolution of human communication to the evolution of omnivorous diets. Many animals have very specific diets (e.g., pandas eat only bamboo), and therefore don't usually have to worry about their food choices (e.g., because the food they eat is almost always fresh). This also means that they don't evolve mechanisms for learning how to avoid "bad" or toxic food, because they don't encounter this in their natural environment very often. Omnivores, on the other hand, are happy eating many different types of food, which increases both their versatility and adaptability as well

https://doi.org/10.1017/9781009214414.004 Published online by Cambridge University Press

as their vulnerability to disease. This leads to both higher openness (a higher willingness than other animals to consider new types of food) and higher vigilance, and the emergence of strategies that help them avoid food that is likely toxic. These strategies can require quite a bit of sophistication, for example, because animals need to remember what they ate a few hours ago that might have made them sick. Mercier argues that the difference between humans and other primates in terms of their communication ability is similar to the difference between specialist and omnivorous animals. Where nonhuman primates communicate mostly using specific signals, humans can communicate about anything and everything if they want to. Humans are therefore much more open to different forms of communication, and with that also more vigilant. So rather than evolving from a state of gullibility to one of vigilance, as the "arms race" analogy would suggest, Mercier says that the reverse is the case: humans evolved from a situation of conservatism (with only a limited set of communicative signals being able to affect us) to one of vigilance *and* openness. In other words, vigilance (against being manipulated) and openness (to different forms of communication, including manipulation) go hand in hand; people, in Mercier's view, are therefore not nearly as vulnerable to manipulation as many believe. Then again, as is often the problem with how evolutionary psychology approaches the study of modern-day human behavior, Mercier's argument is difficult to test experimentally; it may well be the case that some forms of manipulation are highly effective (see Chapters 3 and 4, for example), even if the evolutionary process that underlies them isn't clear.

2.3 MISINFORMATION THROUGH THE AGES

It's fairly safe to assume that before we had writing systems, early humans engaged in plenty of attempts to manipulate and deceive one another, but we don't have a lot of evidence available to know for sure. However, with the invention of writing also came historiography and record-keeping, and ever since then plenty of societies have recorded examples of successful and not so successful misinformation. Joanna Burkhardt, in her report *Combating Fake News in the Digital Age* (2017), divides the history of misinformation into four separate eras: (1) before, and (2) after the invention of the Gutenberg printing press; (3) the era of mass media; and (4) the internet age. We'll discuss the role of misinformation in each of these time periods and explore how technological innovations have influenced the creation and spread of misinformation throughout the ages.

2.3.1 Before the Printing Press

Perhaps the earliest known example of misinformation can be found in the Babylonian epic of Gilgamesh (written about 2100–1200 BC). In his book *Ea's*

https://doi.org/10.1017/9781009214414.004 Published online by Cambridge University Press

Duplicity in the Gilgamesh Flood Story (2019), Martin Worthington, a professor of Middle Eastern Studies at Trinity College Dublin, claims to have found an example of "fake news" in the ancient Mesopotamian poem the *Epic of Gilgamesh*. In 1872, the Assyriologist George Smith discovered that the eleventh tablet of the *Epic* (produced in the seventh century BC) contained a passage very similar to the Flood story from the Book of Genesis. In the story, the God Ea (known as the "trickster god") warns Uta-napišti, the Babylonian version of Noah, that a huge flood is coming, and instructs him to build a boat and take in birds and beasts of every stripe. Once the boat was finished and Uta-napišti shut its doors, rain began to fall, and all the rest of mankind perished. After six days the rain stopped, and on the seventh day Uta-napišti sent out birds to go find land. The third bird, a raven, didn't return, indicating that it had found land and that the waters were receding (British Museum, 2022; University of Cambridge, 2019).

Worthington argues that Ea's warning to Uta-napišti about the oncoming flood was a verbal trick, designed to be understood in multiple ways. One interpretation of Ea's message to Uta-napišti is that of a promise of abundant food if humans would help him build the Ark. Another translation of the same words, however, warns Uta-napišti of impending disaster. The words "ina šēr(-)kukkī, ina lilâti ušaznanakkunūši šamūt kibāti" can be interpreted both as "At dawn there will be *kukku*-cakes, in the evening he will rain down upon you a shower of wheat," and "By means of incantations, by means of wind-demons, he will rain down upon you rain as thick as (grains of) wheat" (taken verbatim from University of Cambridge, 2019).[1] In other words, Ea manipulates Uta-napišti by making him believe that building the Ark will bring him great rewards, even though his words could just as easily mean that disaster is afoot. Why exactly Ea decided to be this duplicitous is a matter of debate. Worthington (2019, pp. 325–327) offers several explanations. For one, Ea was bound by an oath to the other Babylonian gods not to reveal the flood to humans. By being ambiguous to Uta-napišti, he didn't technically violate his oath while still helping mankind survive the deluge. Another possibility is that Ea was acting out of self-interest. In Babylonian theology, the gods relied on humans to feed them. If all of mankind died in a flood, all the gods would starve. Tricking Uta-napišti into building an ark that would allow him to survive would therefore not only be beneficial to Uta-napišti and all the others on the Ark, but also to himself.

During the last war of the Roman Republic (32–30 BC), right after the death of Julius Caesar, his potential successors, Mark Antony and Octavian (Augustus), both made use of common misinformation techniques to win over the hearts and minds of the public. These are sometimes referred to as the "Info-wars of Rome" (Kaminska, 2017). Octavian claimed that Antony was

[1] Our ancient Babylonian is a bit rustier than it once was, sadly.

https://doi.org/10.1017/9781009214414.004 Published online by Cambridge University Press

"bewitched" by his new wife, Cleopatra (then queen of Egypt). To undermine Antony's campaign, Octavian allegedly produced a fake document claiming to be Antony's final will, which revealed his true commitment to Cleopatra and Egypt rather than Rome (MacDonald, 2017). As depicted in Shakespeare's famous rendition of the story, Antony and Cleopatra both died by suicide. Octavian is often regarded as a true master of manipulation: he even had coins minted with catchy slogans to help spread his propaganda (Sifuentes, 2019).

Skipping ahead a few years, misinformation and harmful rumors were common throughout medieval Europe, often with negative consequences. For example, think of the many witch trials (Boudry & Hofhuis, 2018) and the persecution of minorities based on false information (Terrell, 1904). In 1475, rumors began to spread around Trento, Italy, about a missing boy who had supposedly been abducted and killed by some of the city's Jews, who were said to have drunk his blood as part of their Passover celebration. The Prince-Bishop of Trento, Johannes IV Hinderbach, called for the arrest and torture of all of Trento's Jews and had several of them burned at the stake (Hsia, 1992). The Pope in Rome tried briefly to intervene through a mediator (apparently aware that the stories were false), but Hinderbach refused to back down, and tried to have the boy canonized as Saint Simon of Trento (Soll, 2016). Anti-Semitic stories of "blood libel" and the supposed ritualistic killing of Christian children by Jewish communities have been common throughout Europe since at least 1144, with the death of a twelve-year-old boy from Norwich, England. As recently as 2014, the Anti-Defamation League petitioned to have a Facebook page called "Jewish Ritual Murder" taken down (Teter, 2020).

2.3.2 After the Gutenberg Printing Press

There's little doubt that Johannes Gutenberg of Mainz, Germany, brought about a revolution in mass communication with the creation of his "movable type" printing press (the use of movable blocks, such as pictographic or alphabetic characters, to reproduce a document), around 1440 AD. However, Gutenberg probably shouldn't be called the "inventor" of the printing press. There is evidence of printing (with large wooden blocks rather than individual metal ones) being used in Zhejiang, China, as early as 800 AD (Newman, 2019). Bi Sheng, a Song dynasty engineer, invented the earliest known movable type technology (using Chinese porcelain) somewhere between 1039 and 1048 AD (He, 1994). The first movable type that used metal (the type that Gutenberg perfected) probably originates from Korea: some accounts claim that a thirteenth-century Korean civil minister named Choe Yun-ui invented movable metal type printing to print a lengthy Buddhist text (Newman, 2019), and the oldest surviving book that was printed using this type is the *Buljo-Jikji-Simche-Yojeol* (or *Jikji* for short), which dates back to 1377 (Park & Yoon, 2009).

https://doi.org/10.1017/9781009214414.004 Published online by Cambridge University Press

In an interesting example of misinformation, the Dutch city of Haarlem once also claimed to be the cradle of the printing press. Laurens Janszoon Coster, a sexton (or parish clerk) who supposedly lived in the city in the late fourteenth and early fifteenth century, was long said to have invented metal movable type printing and run a successful printing company in the 1420s, about twenty years before Gutenberg (van der Linde, 1870). However, the only source for this claim is the book *Batavia* by Hadrianus Junius, published in 1588, and no contemporary records of Coster's invention appear to exist. Junius is said to have made this claim "not to convey facts, but to deliver a deliberate mythologization of an already well-established legend about the invention of printing in Haarlem" (Robbe, 2010). In other words, he made it up for clout. Tragically, the city of Haarlem remained devoid of further noteworthy achievements until a New York City neighborhood was named after it in the year 1660.

Nonetheless, Gutenberg's printing press undoubtedly made reading materials much more accessible to the masses. This had several important consequences both in Europe and worldwide. For example, Jeremiah Dittmar (2011) argues that European cities where printing presses were established grew about 60 percent faster between 1500 and 1600 than similar cities without a printing press. In the first few hundred years after Gutenberg's innovation, Europe and then the rest of the world witnessed the rise of mass-printed books, novellas, essays, pamphlets, and newspapers. Writing and publishing, previously beholden mostly to religious institutions (Copeland, 2006), soon became widely available as tools designed to not only inform but also to persuade, frighten, and mislead. The famous Anglo-Irish satirist Jonathan Swift, frustrated with the fraught political climate of his time, published an essay called *The Art of Political Lying* (1710). He writes:

> Few lies carry the inventor's mark, and the most prostitute enemy to truth may spread a thousand, without being known for the author: besides, as the vilest writer hath his readers, so the greatest liar hath his believers: and it often happens, that if a lie be believed only for an hour, it hath done its work, and there is no further occasion for it. Falsehood flies, and truth comes limping after it.[2]

Swift, for his part, was no stranger to publishing works that veer into misinformation territory, although, like the example of Kim Jong-Un from the previous chapter, these works were satirical. He's best known for *Gulliver's Travels* (1726), a famous work of satire that lampooned popular adventure books such as Daniel Defoe's *Robinson Crusoe* and whose first edition was published as if it were a factual account of the author's travels under the pseudonym Lemuel Gulliver, "first a surgeon, and then a captain of several ships." Another example is *A Modest Proposal* (1729), in which Swift ironically

[2] Incidentally, the last line is possibly the original source for the well-known expression "a lie is halfway around the world before the truth has got its boots on," variously and erroneously attributed to Winston Churchill, Mark Twain, and Oscar Wilde (Tearle, 2021).

https://doi.org/10.1017/9781009214414.004 Published online by Cambridge University Press

suggests that poor Irish people could sell their children as food to the rich to earn some extra cash (even going so far as to suggest different ways the children may be prepared and served).[3]

In some countries, the widespread availability of printing gave rise to the development of mass media and a free press. In his book *The Idea of a Free Press: The Enlightenment and Its Unruly Legacy*, David Copeland argues that in early seventeenth-century England and eighteenth-century America, the first printed newssheets were "published by authority," and fit the needs of people who held political power. Alongside such government-directed publications, a public desire for information and competition among political and religious actors opened up the way for a press that printed *despite* authority (Copeland, 2006, p. 8). Eventually, this process (along with the increasing popularity of Enlightenment ideas about freedom of expression and liberty of conscience) led to the establishment of the free press as we know it today.

There soon came a period where journalists and other media content producers tried to test the limits of the media landscape. Sensationalist stories became hugely popular, often at the expense of accuracy. The nineteenth and early twentieth centuries featured a series of famous hoaxes and journalistic pranks. A good example is the Great Moon Hoax of 1835, when *The Sun*, a New York-based newspaper, published a set of articles describing a series of alleged discoveries on the moon, such as moon bison, trees, oceans, and even a new species called "vespertilio homo" or "man-bats." So many people are said to have believed the story that religious groups were starting to prepare for missionary work on the moon, although it's very difficult to find independent verification of this (Matthias, 2022). The author of the hoax articles, Richard Adam Locke, later said that it wasn't his goal to fool anyone but that he had "underestimated the gullibility of the public" (Zielinski, 2015). The well-known writer and poet Edgar Allan Poe also wasn't happy with the story, not only because he knew it was made up but also because he believed that Locke had plagiarized a previous story of his about a man who travels to the moon in a hot air balloon. Poe later retracted this accusation, but he did publish a hoax article of his own a few years later (and in the same newspaper), about a man who had crossed the Atlantic Ocean in a hot air balloon (Goodman, 2008).

Another amusing example of how heated early journalism could get is that of two competing newspapers from West Virginia, the *Clarksburg Daily Telegram* and the *Clarksburg Daily News*. Suspicious that *Daily News* editors were stealing their stories, the *Telegram* published an article in 1903 about a man with the unlikely name of Mejk Swenekafew, who had been shot after a fight with a friend of his over a pet dog. The next day, the same article appeared

[3] Cameron Brick, a professor at the University of Amsterdam, wrote a "modest proposal for restoration ecology" (2019), which involved a "radical culling" of an invasive non-native species (i.e., humans) in California.

https://doi.org/10.1017/9781009214414.004 Published online by Cambridge University Press

in the *Daily News* as well, after which the *Telegram* revealed that they'd made the story up and that Swenekafew's name spelled backwards read "we fake news." The *Daily News* was forced to publicly admit their wrongdoing (Starmans, 2019).

The hilarity of these hoaxes and pranks notwithstanding, the rise of modern journalism was not without hurdles. Misinformation has been rife throughout its existence, sometimes with serious consequences. Throughout the nineteenth century, US national media often painted lynchings of black Americans in a positive light, and portrayed racist lynch mobs as "chivalrous knights who were defending the honor of their race" (Wasserman, 1998). These lynchings were often triggered by false stories of African-Americans committing crimes such as rape and murder against white people (Terrell, 1904).

Perhaps one of the most consequential examples of deliberate misinformation is the forgery known as the *Protocols of the Learned Elders of Zion* (original title: *Програма завоевания мира евреями*, or "the Jewish program for conquering the world"). This document, created in 1903 by the Russian secret service under Tsar Nicholas II, alleges a massive Jewish conspiracy to control the global economy, the press, and international politics (Whitfield, 2020). It was based on a variety of anti-Semitic sources, such as the 1868 novel *Biarritz* by the Prussian postal worker and agent provocateur Hermann Goedsche. One chapter in the book describes a nightly meeting in a cemetery in Prague where Jewish leaders discuss their plans for world domination (Cohn, 1966). Despite being exposed as a forgery as early as 1921, the *Protocols* found massive uptake especially after World War I and the Russian revolutions of 1917 (Bronner, 2007). The *Protocols* continue to influence conspiracy theorists even today (Whitfield, 2020), which shows the limitations of debunking misinformation after it has spread, something we will get back to in Chapter 7.

2.3.3 The Mass Media Era

It's difficult to pinpoint exactly when the mass media era started: was this after printed materials became available to large audiences in the sixteenth century, after the emergence of newspapers in the seventeenth century, after photography and the telegraph were invented in the early nineteenth century, or even with the rise of the newspaper industry in the late nineteenth century? For the sake of clarity, we'll put the starting point of the mass media era around 1920, when nonprint media such as radio and later television became broadly available (at least to audiences in industrialized countries). The first commercial radio program in the US was broadcast from Pittsburgh in 1920 (Federal Communications Commission, 2020), and the BBC started broadcasting from London in 1922. Soon, most people who could afford a radio had one in their home.

Orson Welles' *War of the Worlds*, broadcast on CBS on October 30, 1938, is now widely known as a powerful example of the persuasive power of the

https://doi.org/10.1017/9781009214414.004 Published online by Cambridge University Press

mass media. Being the Halloween episode of a longer radio series, its premise was to make an invasion of Earth by Martians sound as realistic as possible, with newsreaders describing the horrors inflicted by the invaders' heat ray in gruesome detail. People who tuned in during the broadcast had missed the introduction explaining that the show was a fiction, and media outlets reported that so many of them had fallen for the hoax that it evoked "mass hysteria" (Schwartz, 2015). However, there doesn't appear to be much evidence for this: investigations by Jefferson Pooley and Michael Socolow at *Slate* (2013) and David Emery at *Snopes* (2016) showed not only that very few people had listened to the broadcast (because it aired at the same time as a much more popular program), but also that reports of mass hysteria were greatly exaggerated. What did happen, according to author A. Brad Schwartz (2015), is that *The War of the Worlds* provoked a nationwide debate about the power of the radio as a tool to mislead people, a debate amplified by the rise of the Nazis in Europe and Joseph Goebbels' use of radio for propaganda purposes.

Speaking of Goebbels, the Nazi regime was the first to make extensive use of modern media technologies to spread propaganda. Goebbels believed that propaganda should serve as the "background music" to government policy (Goebbels, 1934). In service of this, he made sure that almost every German had a radio in their home to listen to Hitler's speeches, and directors such as Leni Riefenstahl further popularized the regime through propaganda films such as *Triumph des Willens*. This policy appears to have had long-term consequences. Nico Voigtländer and Hans-Joachim Voth (2015) conducted a study in which they found that Germans who had grown up in the 1920s and '30s were two to three times more likely to espouse extreme anti-Semitic beliefs (and generally had more negative attitudes about Jews) than people born earlier or later who hadn't been exposed to Nazi propaganda in schools, through the media, and in the Hitler Youth. This effect was especially pronounced for people born in regions of Germany that had stronger anti-Semitic attitudes before the Nazis came to power, indicating that indoctrination may be particularly effective when it exploits preexisting prejudices (see Chapter 4).

After World War II came the Cold War between the US and the USSR, which was rife with propaganda and misinformation. Both America and the Soviet Union set up propaganda programs aimed at destabilizing countries in each other's sphere of influence (Sussman, 2021). Famous are US Senator Joseph McCarthy's unproven accusations of Communist subversion in the government, media, and entertainment industries. The Soviets, for their part, jammed foreign radio broadcasts, arrested citizens for allegedly listening to them, and tried to spread pro-Soviet narratives through arts and literature, a phenomenon known as Agitprop (Magnúsdóttir, 2018). The Cold War came to an end in 1991, when the Soviet Union dissolved into numerous independent states and the Warsaw Pact, the collective defense treaty of many Socialist

https://doi.org/10.1017/9781009214414.004 Published online by Cambridge University Press

countries, ceased to exist. This also put a temporary damper on political disinformation, as Russia and the West became uneasy allies for a while.

The first years after the Cold War marked one of the most notorious examples of misinformation, at least in the Western world. In 1998, Andrew Wakefield, a British medical doctor, published an article in the prestigious journal *The Lancet* alleging a link between the MMR (measles, mumps, rubella) vaccine and autism in young children. The study caused a worldwide media uproar, and a significant and immediate increase in vaccine skepticism (Motta & Stecula, 2021). However, the study soon turned out to not just be a scientific mistake but a deliberate fraud (Rao & Andrade, 2011): an investigation by journalist Brian Deer (2004) revealed that Wakefield and his lead coauthor John Walker-Smith had misrepresented their data to fit their preconceived conclusions. *The Lancet* later retracted the publication in its entirety, and most of Wakefield's coauthors renounced their affiliations with the paper and himself. The *BMJ* later noted that "the [...] paper has received so much media attention, with such potential to damage public health, that it is hard to find a parallel in the history of medical science" (Godlee, 2011).

2.3.4 The Internet Era

It is an uncontroversial fact that the Internet was invented by former US presidential candidate and Nobel Peace Prize winner Al Gore. In a 1999 interview with CNN anchor Wolf Blitzer, Gore claimed that he "took the initiative in creating the Internet." His political rivals and the media were quick to exploit Gore's statement as fodder for ridicule, linking it to previous gaffes and crediting Gore with various other important discoveries such as the :-) emoji and opposable thumbs. Not to be outdone, Gore later also (jokingly) claimed to have invented the environment. Gore's gaffe is an example of an imprecise statement being taken out of context and beginning to live a life of its own, which is something that often happens in the context of misinformation. Although "taking the initiative in creating the Internet" may be taking things a bit too far, Gore (as a Congressman and later as Senator) had been heavily involved in promoting high-speed telecommunications technology and national network initiatives since the 1970s (Kahn & Cerf, 2000). In 1986, he was also the chairman of a senatorial subcommittee that fostered the creation of a series of supercomputer centers which were key in the emergence of the commercial Internet a few years later. All in all, Gore may have been a victim of his own tendency to exaggerate his accomplishments, but it's difficult to dismiss his claim as false (Wiggins, 2000). Nonetheless, the meme abides.

As with the Gutenberg printing press, who gets to claim credit for the Internet's invention is less important than the effects it may have had on the spread of (mis)information. We don't know exactly when the first person started lying on the Internet, but it's fairly safe to assume that this happened

https://doi.org/10.1017/9781009214414.004 Published online by Cambridge University Press

soon after it became widely available in the mid-1990s. One of the first known examples of email spam is an email titled "Global Alert for All: Jesus is Coming Soon" (1994) by someone named Clarence L. Thomas IV.[4] Phishing scams, emails made to look like they were sent by a reputable organization with the intent of extracting money from recipients, date back to about 1995 (San Martino & Perramon, 2010). *The Onion* began publishing satirical news in 1998, and their articles were regularly mistaken for real news and reposted by non-satirical news outlets, as we saw in the previous chapter (Posetti & Matthews, 2018).

A hugely influential example of harmful misinformation in the internet era came from one of the world's foremost media outlets, the *New York Times*. In the run-up to the 2003 US invasion of Iraq, journalist Judith Miller published a series of articles alleging the existence of an Iraqi site said to be producing biological weapons. Miller's accounts, however, were never independently verified (Posetti & Matthews, 2018). After the United States invaded Iraq, the US government was forced to admit that the "weapons of mass destruction" that the Iraqi government was said to harbor (a major pretext for the invasion) didn't exist (Borger, 2004). The *New York Times* later issued an apology, stating that Miller's reporting had been inaccurate and that its editors had failed to weigh the available evidence against their desire to have Saddam Hussein removed from power (*New York Times*, 2004). Some argue that Miller's reporting directly influenced the US government's decision to invade, highlighting the potential for misinformation to have real-world consequences (Posetti & Matthews, 2018). Moreover, research by Stephan Lewandowsky, a professor of cognitive science at Bristol University, and his colleagues showed that the false claims of weapons of mass destruction continued to influence people's reasoning despite the later retractions (Lewandowsky et al., 2005).

The internet era also ushered in a time of information warfare. Leveraging the Internet and social media to spread certain narratives during violent conflict became an increasingly important part of warring parties' strategies. The goal of such information campaigns is to influence public opinion among target audiences (domestically or internationally): for example, to reduce popular support for a government's economic sanctions against another country (Jankowicz, 2020; Van Niekerk, 2015). Well-known examples of conflicts where information warfare plays a key role are the war in Syria and the Russia–Ukraine conflict, the latter of which we discuss in detail in Chapter 3.

Throughout the 2000s and 2010s, politicians began to make increasing use of the Internet for their election campaigns. However, social media also proved to be a useful vehicle for political misinformation. This topic became especially salient in 2015 and 2016, when misinformation was said to play an

[4] Unlikely to be the same person as US Supreme Court Justice Clarence Thomas, as far as we can tell.

https://doi.org/10.1017/9781009214414.004 Published online by Cambridge University Press

important role in the US presidential elections and the Brexit referendum in the United Kingdom. Although there currently doesn't seem to be convincing evidence that misinformation directly influenced these elections' results (Allcott & Gentzkow, 2017; Bovet & Makse, 2019; de Waal, 2018; Eady et al., 2023; Guess et al., 2019), there has been widespread concern that the spread of misinformation may adversely influence the democratic process (Mackey, 2016). For instance, the Russian government mounted a disinformation campaign during the 2016 US presidential elections, which was primarily aimed at increasing support for the Republican candidate, Donald Trump, and reducing support for his Democratic rival, Hillary Clinton, as well as to undermine Americans' trust in the electoral system (Ferrara, 2017; Keller et al., 2020; Timberg & Romm, 2018). To what extent this was successful is up for debate (considering the billions of dollars in campaign expenditures by both major parties and external donors), but there is some evidence that the impact of disinformation campaigns was low (Eady et al., 2023). Others saw political misinformation as a lucrative business. For example, a group of teenagers from the Macedonian town of Veles ran a network of "fake news" websites pushing out nonsense articles about the US elections. Their goal wasn't to influence politics but rather to make money: the web traffic they managed to attract resulted in significant income from advertising revenue (Kirby, 2016).

Nonetheless, the widespread use of bots and other automated methods to spread misinformation has become cause for concern (Starbird, 2019). One study estimated that around 17 percent of the Twitter user base was made up of bots (Varol et al., 2017). Social media platforms such as Facebook and Reddit regularly find and remove bot networks, many of which appear to be run by governments (Marineau, 2020). These bot networks do not create misinformation from scratch; rather, they identify narratives that suit a particular political purpose, and amplify them (Badawy et al., 2019; Broniatowski et al., 2018; McKew, 2018).

Of course, no history of misinformation would be complete without mentioning the COVID-19 pandemic. In the early days of the pandemic, when there was a lot of uncertainty about the origins, causes, and spread of the virus, as well as about how to treat it, there was plenty of room for misinformation to proliferate widely. The World Health Organization (WHO) went so far as to declare this problem an "infodemic" (Zarocostas, 2020). COVID-19 misinformation ranged from false information about how to cure the disease to speculation about the virus having escaped from a research lab in Wuhan and, later on, conspiracy theories about COVID-19 vaccines (Brennen et al., 2020; Loomba et al., 2021).[5] In Iran, hundreds of people died after drinking poisonous

[5] The idea of the COVID virus having escaped from a research lab is plausible enough to have been taken seriously by a host of respected scientists (Horton, 2021), and pressure by Chinese officials on WHO investigators to dismiss the theory has raised suspicion (Dyer, 2021a, 2021b). However, a large-scale investigation later determined that the outbreak very likely

https://doi.org/10.1017/9781009214414.004 Published online by Cambridge University Press

methanol in an attempt to cure the disease (Delirrad & Mohammadi, 2020). In Great Britain, people set mobile phone masts on fire, believing that 5G radiation was somehow linked to COVID infections (Jolley & Paterson, 2020). More amusingly, a group of researchers published an ostensibly serious article claiming that "COVID-19 arrived via a meteorite, a presumed relatively fragile and loose carbonaceous meteorite that struck Northeast China on October 11, 2019" (Steele et al., 2020). We return to the topic of COVID-19 misinformation in Chapter 3.

2.4 CONCLUSION

In this chapter, we have discussed the history of misinformation, from its possible evolutionary origins to the advent of the digital age. We have shown that lying and manipulation are common strategies for survival and procreation in the animal kingdom. We have also seen that malicious rumors have been common throughout the ages, which can be used as a coordination device to incite deadly interethnic riots (Horowitz, 2000). Deliberate propaganda has also been part of human politics for millennia. The Gutenberg printing press enabled the rapid dissemination of printed materials to audiences everywhere, leading not only to the rise of the free press and modern journalism but also to hoaxes, low-quality tabloids, and organized disinformation. In the internet era, misinformation is a more salient topic of discussion than ever before. Whether Al Gore's invention has materially affected the spread and proliferation of misinformation isn't easy to say (see Chapter 5): rumors and half-truths were known to spread even before the Internet, and there are plenty of examples of harmful misinformation throughout history. At the same time, this is the first period in history where misinformation can be automated, shared with others within the blink of an eye, and easily targeted at both massive audiences and specific subgroups. That said, although it's easy to point at individual examples of misinformation likely having had adverse consequences, this doesn't necessarily mean that the problem is pervasive enough to wreak havoc at the societal level. We discuss this question in the next chapter.

originated in the Huanan seafood wholesale market in Wuhan, and was thus of natural origin (Worobey et al., 2022). That said, the former head of the Chinese Center for Disease Control said in May 2023 that a lab leak "shouldn't be ruled out" as a possibility (Camut, 2023), so some uncertainty remains.

https://doi.org/10.1017/9781009214414.004 Published online by Cambridge University Press