

THE DATAFICATION CHALLENGE

INTRODUCTION TO THEMED ISSUE

The cover of this issue of VIEW is by artist Anton Grabolle. It is meant to show AI as an extension of human capabilities. AI, for Grabolle, is an invitation for new partnerships rather than a threat. In discussions of today's media landscape, it is often the other way around. AI is felt to be far less a partner than a threat by media practitioners and the general public alike. Will media work be done by machines? Will reality no longer be verifiable via media content? Will actors with bad intentions, or simply a lack of a sense of responsibility, destroy our trust in journalism and the news? Where in that case are we to turn to find the critical voices and the moral imagination that safeguard democratic government in a media landscape that in itself has become a cacophony of voices?

1 Datafication as challenge

As Agence France Presse's Jacqueline Pietsch, one of the authors in this issue, puts it: 'The media landscape is changing at breakneck speed. From the daily newspaper and the News at Six/Eight/Nine just a few decades ago, to 24-hour rolling news channels and now information on demand at any time of the day or night, from any location in the world via the internet and mobile phone networks. So many people have smartphones equipped with cameras that the number of content creators in the world has exploded.' Digitalization, data and datafication are at the heart of these changes. The individual content creators Pietsch refers to might use AI and produce seemingly professional content. Or seemingly amateur content might come from professional parties and not be based on research but on the algorithmic manipulation of existing digitised images, figures and texts. Ultimately, the enormous amount of content that is spread publicly is based on data, shaped by algorithms we do not understand or control and which then becomes part of new data sets, only some of which are accessible to all of us. Much becomes the private property of companies (think of tech giants here). A lot simply takes up space in data centres that require massive energy to cool their servers.¹ This new assemblage requires new kinds of work and new forms of critique in a world that has become susceptible to increasing polarisation across numerous levels of social, cultural and political life. Our public storytellers and storytelling have to be able to deal with datafication and understand algorithmic logic. They need to be able to use data well.

This issue of VIEW will take a closer look at the challenges journalists and multimedia makers face in a datafied world and how they might be trained to deal with them. The guest editors of this issue were all part of MediaNumeric (www.medianumeric.eu), an Erasmus+ co-funded project. Being inspired by MediaNumeric's outcomes, including its developed curriculum, courses, research reports and white papers, we have focused this issue by drawing inspiration from the theme of the project and its work. The EU-funded period of MediaNumeric took place from January 2021 to December 2023, and brought together partners from the Netherlands, Poland, France and Estonia, including: Netherlands Institute for Sound & Vision (NL), Inholland University of Applied Sciences (NL), Centrum Cyfrowe (PL), SWPS University of Social Sciences and Humanities (PL), AFP - Agence

France-Presse (FR), INA - Institut national de l'audiovisuel (FR), and Storytek (EE). The aim of MediaNumeric was, and continues to be, to bridge the gap between the educational offerings of higher education institutions and the journalism industry's need for more comprehensive staff skills in finding, exploring and telling stories with multimedia data. In this way, MediaNumeric has brought together industry and academic partners, as well as AV archives, a think-and-do-tank focused on digital openness/engagement and a media/storytelling incubator. This partnership aims to educate a new generation of journalists and multimedia makers by giving them the tools to help create a European media ecosystem, that is user-driven, fair and balanced, economically sustainable and technologically advanced.

A main accomplishment of MediaNumeric was to develop a curriculum on multimedia data-driven journalism and media production focused around three key modules (search & exploration of multimedia data; telling stories with multimedia data; tracking and debunking misinformation). The curriculum was tested in three, week-long winter and summer schools with students in France, the Netherlands and Poland. This validated teaching material was then transformed into an extensive, free-to-use, online learning platform (www.medianumericacademy.eu) in order to provide students in media and communication studies and young professionals in these fields with the theoretical know-how and skills needed to embolden them to take on the opportunities of data-driven journalism and media production. The teaching tools developed were based on both the expertise of the MediaNumeric consortium partners and a stakeholder board, and on new research which involved interviews with a large and varied group of experts in academic teaching and research, in journalism, media archiving and in data-focused NGOs. In various ways these experts all seek to understand and work with data logics and make that knowledge available for democratic purposes (among them countering misinformation).

With the editors of VIEW, an open call for papers was launched for contributions on the challenges of datafication for journalists and multimedia storytelling. We assumed 'the changing newsroom' would be its focus. As these things go, the issue turned towards understanding what needs to be done outside of the newsroom as much as within. The central question for this issue therefore has become how datafication for professionals is a multi-faceted challenge given diminishing trust in institutions and professionals, including misgivings and hope for data among journalists and the general public alike. This issue therefore explores how professionals might find help in not only coming to terms with datafication and algorithmic logic but also build it into a strength for public-minded news and documentary storytelling. Inspired by MediaNumeric, this is a project that has specifically aimed to bring academia and industry closer together, which is very much the project of VIEW.

Unlike a more traditional academic approach, this edition of VIEW aims to explore the issue of datafication by bringing together more practical articles from professionals embedded within these fields alongside more academic ones. We feel that featuring these different kinds of perspectives, approaches and expertise in one issue brings them into conversation with one another. Bridging the gap between such 'sides' speaks to both the aim and ethos of MediaNumeric, and importantly brings together different voices to consider our collective way through the datafication challenge. In particular, there are three articles in this issue that come from a more practice-oriented approach and which have all been developed by revisiting and reworking extensive research reports developed as part of MediaNumeric. These are: the article by Jacqueline Pietsch on national and broadcasting archives and the article by Laura Postma discussing the opportunities and challenges of implementing data journalism, digital verification and AI with a focus on the newsroom, which both draw from MediaNumeric's state-of-the-art research; and the text by Hermes and Berger discussing expert advice on educating for data literacy in journalism and the creative industries which draws from MediaNumeric's needs analysis research report.

MediaNumeric started before discussions of AI exploded as Open AI's Chat GPT-4 was released in 2023 and amazingly life-like simulations of voices, audiovisual content and texts hit the world. MediaNumeric was a project motivated not by the supposed fears and danger of datafication but by the more level-headed assumption that we

live in a datafied society in which creative professionals are too often unaware of how they can use data and how it will make their work stronger. They need, we suggested, better skills in working within this changing datafied context. This mission has become more urgent but not more difficult, despite widespread anxiety and apprehension over AI.

2 Becoming neo-Luddites is not an option

All content these days becomes data and part of data sets, the size of which we can only guess at given all that has also been digitised and stored before. Data moreover is processed in ways we have little access to. The outcome of all of this makes clear that both professionals and publics have a lot of work ahead to come to terms with, for instance, the sexism and racism that is already embedded in data that is found and used for documentary and news purposes,, as data feminist authors have pointed out (D'Ignazio & Klein 2020, Marcetic & Nolan 2020 in *First Monday*).² Much data processing after all happens in a 'black box' by algorithms most of us have no way of accessing or understanding. No wonder that datafication inspires awe as much as distance and fear. Dealing with datafication, requires that we understand what data is and that we master skills to manipulate and use those data sets.

In turn this makes clear that key tenets of media literacy, among them a critical mind-set that inquires into the source and means of the collection of data, are of little help when it is entirely unclear what data visuals are based on and what algorithmic logic was at work in creating graphs or generative tools. It is not hard to understand how the feeling might arise that we are condemned to paranoia and conspiracy theory. Or how we might see a neo-Luddite movement like the early 19th-century protests of textile workers against wage-cuts by manufacturers who started using machines. The Luddites lost out. Most of the textile produced by machines was of a lesser quality (and still is today). Protesters who smashed machines were shot at or penalised. Data-based technology, like its predecessor steam-powered spinning and weaving machines, is here to stay and will evolve. As we speak, datafication is transforming the modern media landscape in Europe, from the way content is created, to how it is distributed and interacted with. Do note that the Luddites were not so much anti-machine as they were against the way in which machines were used: against workers, to make an inferior product and as means to further consolidate and entrench class inequality. As with spinning and weaving, we might be critical of how computing power and data centres develop and how they are used.

The authors in this issue do not particularly identify as neo-Luddites. They do agree that data-driven media content production requires our full-on attention and a commitment to turn what data can do into partnership rather than into enmity or threat. They present work that aligns with a practice-based and activist voice, that counsels responsible use of data in media content production and underlines that we interact with platform algorithms to improve e.g., the effectiveness of fact-checking. Perspectives range from what fact-checking NGOs can do, to how the archive and the politics of metadata matter for media content creators, how journalists and creative media-makers need to be trained to engage with data, and how newsrooms could be organised differently to foster exchange about the use of data.

3 Don't hype the hype

In some of the literature on datafication and AI, counter-intuitive grounds are presented that we perhaps need not be overly worried about the social effects of disinformation. In a useful overview article Maurits Martijn, a journalist with the Dutch online news outlet *de Correspondent* quotes interesting academic sources. To think that disinformation and misinformation are the greatest dangers to social stability, well-being and democracy, would be to overestimate the extent of our news consumption (and therefore the effects news consumption has), he argues. However cynical, this is a form of comfort that apparently even holds for the increased consumption of news during the Covid-19 pandemic

(2020-2021) as a study by Altay, Nielsen, Fletcher 2022 shows.³ In addition, there is the more general argument not to add to misinformation by spreading concern about it. Don't hype the hype, writes Martijn and cites Van der Meer, Kroon, Verhoeven and Jonkman who warn against disproportionate attention to negative events.⁴ These, of course, happen to be exactly what media are invested in.⁵ Classic news research told us among other things that we find negative news more exciting and interesting. Galtung and Ruge's 1965 report on the structure of foreign news, from which this assessment comes, though much criticised, remains inspiring and elucidating today. From the perspective of newsrooms, it is still a given that negative news finds traction with readerships whether in quality news or in more sensationalist outlets. It follows that the more there is written about misinformation and disinformation, the more we will worry, and the further away we find ourselves from an analysis of what happens actually in daily life and what people actually do with the insights they gain from their news consumption.

Exactly this question is also tackled by the **Reuters Institute Digital News Report 2024** (p. 25). It tells us that more than half of the world population worries that news on the internet is not trustworthy. It is also true, however, as Rasmus Nielsen writes in *the Financial Times* that voting decisions have little to do with people's faith or their lack of faith in the news. Those who vote follow what are called already existing dispositions. That then makes lies by political leaders the real problem rather than disinformation more generally.⁶ Maurits Martijn adds that most people hardly ever see misinformation and that actual news consumption is low.⁷ Figures for the United States, which are quite possibly even lower than those for European countries, give very low percentages for news as part of media consumption generally (14%) when all different news sources are taken into account.⁸ The free content available on Statista for 2023 in addition notes that active news avoidance is high. In some countries (Greece, Bulgaria) over 50% of respondents say they actively avoid news, with 40% for the UK.⁹

Generally, then, datafication and, for lack of a better word, AI and 'algorithmization' may well be over-identified as major threats to the well-functioning of democracies.¹⁰ As editors we recognize these concerns. In making this issue though we prefer to present practice-based, hands-on work that tilts this perspective to thinking about datafication as a professional challenge. We welcome the reference in several contributions to an influential Council of Europe report on 'information disorder'.¹¹ It offers well-usable definitions of misinformation, disinformation and malinformation. It uses these terms as more precise indicators of 'information pollution' which, among other things, relates to populist political victories (Brexit, the election of Donald Trump in 2016). Here we want to note that those victories in part were based on outright lies rather than on any manipulation of data by seemingly objective or professional news makers or excessive amplification by big tech-owned platforms. Examples are percentages that are far away from actual figures, not based on any source or the promises to reform policy like healthcare in Britain that was never even planned, let alone executed.¹² That is to say that there is merit in reading 'information disorder' as a threat rather than as a reality. There are real reasons to be concerned, but too much concern will make information disorder a self-fulfilling prophecy.

4 Better ways of engaging with data, datafication and 'algorithmification'

The articles in this issue acknowledge the concerns of many over the growing sense that information and news are no longer trustworthy. They turn though to how we might regain our footing as citizens and as professionals. In this issue we therefore ask how we can understand and work with datafication in better ways. The issue consists of a mix of practice-based and more reflective articles to outline how we might counter the widespread dread that has become associated with the datafication of digital media. At its centre is evidence-based work with an activist backbone that provides eminently practical help going forward. Such help is much needed. The concern with misinformation signals how trust in institutions has lowered and how this does not merely concern governments but also institutions of the civil sphere such as journalism and public broadcasting. However much access to multimedia production and digital media tools seemed a vanguard of democratisation in the 1990s, it appears to have ushered in new divides that we have yet to find ways to undo.

Before providing more background to a discussion of 'fake news', to news and civic connection, and to research into creative labour in news and information, here is a brief overview of the topics the articles in this issue touch on. Laura Postma uses a literature review and interviews with eight media professionals to set out the main tenet of this issue: that it is important that more people in the newsroom learn how to work with large datasets both in developing and telling stories, and in checking the authenticity of stories through digital verification, who should learn these skills, and what benefits this can bring to media organisations and indeed societies as a whole. It is their argument that the future of journalism is at stake as much as trust in the media and in reliable information.

Evelyn Echle takes on this very challenge in her manifesto-like paper. She argues that to strengthen the profession of journalism we need to build not so much a bridge between academia and practical training but an open connection that feeds fact checker organisations as well as media training and media literacy education programmes. Awareness of the democratic role of journalism needs bolstering, and who better than educational institutions to do more work with journalistic content? Rather than a generic call for increased media and data literacy, this is a plea to use far better what is already available and to teach appreciation rather than competency. It thus offers an interesting route to take up the challenges outlined in the **Media and Audiovisual Action Plan of the European Union** which intends to support the recovery and transformation of the media and audio-visual sector. In addition, Echle writes, when journalism and the academy manage to work together far more closely, this will strengthen the professional field of journalism and help find a broader audience to appreciate journalistic storytelling for its own sake as well as for its democratic relevance.

Achieving positive impact with fact-checking, Marina Tulin argues, is far more doable than most of us think. Her evidence-based approach takes the new European Digital Services Act as its point of departure and explores how it might strengthen journalists in combating misinformation. Five concrete challenges and evidence-based suggestions are discussed. Tulin backs these with practice examples that may be applied by journalists who seek to advance the efficacy of their fact-checking efforts on social media by making use of the very algorithms that boosted the 'fake news' in the first place. Conscious of the toxic environment she discusses, she is also mindful that 'piggybacking on the virality of false content' can be a risky strategy, as it will make not just the rectification but also the false content stand out even more. Repeating factually accurate interpretation or information may be more beneficial, as it limits attention to false claims. To increase the spread and impact of a fact-check without backfire effects, a simple method is to re-post fact-checks multiple times. As the stories develop, these re-posts can be elaborated on with follow-up investigations and analyses. Other examples include a guide for those willing to act but somewhat lost in the world of TikTok.

National audiovisual archives have an important role to play in combating misinformation and building a new kind of newsroom in journalism, argues Jacqueline Pietsch in an exploratory essay. In particular, television and radio archives held by public and private bodies can provide a precious, and currently under-used, resource to debunk commonly held perceptions while making use of audiovisual content that is likely to reach far broader audiences than text-based information. National audiovisual archives can also play a role, say her informants, in developing tools powered by artificial intelligence that can free up time for journalists, allowing them to focus on value-added stories and thereby improve the media ecosystem. Practitioners and researchers therefore need to bridge the gap between the spaces of academia, the archive and journalism, and to think through what is needed of these spheres from the perspective of their colleagues and from society broadly. France's Institut national de l'audiovisuel (INA) and the Netherlands' Sound & Vision are the two national audiovisual archives that offer the starting point for this exploration.

Given the task ahead as sketched in the first article, the hands-on, practical suggestions offered by Echle and Tulin and the insights and confirmation offered by the experts quoted by Pietsch in her contribution, is refreshing. We need, of course, also to be mindful of the complexities of today's role in, and position of, the media in society. Datafication has recodified that relationship, with trust in news and in media generally going down sharply. There is no way to ascertain whether this is coincidental or a cause-and-effect relationship. Staying away from technological determinism inspired pessimism, Giovanni Ciofalo and co-authors present research on how datafication in television news during the Covid-19 pandemic was perceived by audiences in Italy. An ongoing project on the social effects of fake news was

reshaped to understand what happened during Covid as a neverprecedented number of scientists and a deluge of data hit television screens in Italy as elsewhere. They focus on a weird paradox in their material: apparently, audience members can both trust scientists and distrust the data they present and interpret. The article cautions us to be careful in thinking about datafication. Surely one possible reading of this paradoxical situation is to understand 'data' itself as menacing and an obstacle to engaging with the news. There is a link here to the last article of the issue.

In that last article, Hermes and Berger suggest we need to broaden the scope when we seek to understand datafication, whether as a power for good or as the raw material for misinformation and disinformation. Data is not just used by journalists but by creative workers elsewhere in the media and creative industries. This means that we need to understand better how to teach working with data to creative storytellers more broadly. Interviews with a broad group of 56 experts is used to explore how to approach teaching for data literacy. The experts found it easy to indicate foundational skills. Interestingly, they also suggest we take greater pain in understanding how data is perceived, and what the affect and power of data are. A first step in teaching digital literacy, they argue, needs to clarify that digital data is not simply 'true' (or untrue). It has a human-made history. Contrary to Grabolle's friendly fantasy image of an organic human-data-AI on the cover, other images of data come to the surface. Attention must be directed to these in order to marshal and match the affordances of data collections to human needs in ways that are transparent and open to control and critique. As the other articles make clear, journalists, archivists and fact-checkers will be and are undertaking this work. Although news organisations will have to organise more effectively for data-based reporting, there is more of a lack of expertise than resistance against the new forms of journalism that will come into being. The interviews in this article demonstrate the need to extend the group of future intermediaries who will work with and present data-based forms of media content. Future creative industries' professionals also belong to our society's authoritative storytellers, they too need to be taught to work with data, though they may have expected to do so as they enrolled in courses for the creative professions or jobs in the media and entertainment industries.

5 From a broader perspective

Together the articles in this issue aim to bring a new perspective to the challenge of datafication in its broadest sense: how to deal with data as journalists and multimedia makers? How to understand what others have been doing and use fact-checking well? How to envision the news work of the future? It is important to understand news historically in its double role of partly self-appointed watchdogs of democracy as much as a source of civic connection. Hilary Mantel's novel *A place of greater safety*, built on extensive archival research of the French revolution in 1789, presents a riveting perspective on the partisan and political roots of journalism in her portrait of Camille Desmoulins. He is a lawyer and a journalist critical of the Old Regime but also a rabble-rousing revolutionary with a flair for writing.¹³ It is only in the 20th century, that an idealised image of journalism comes to be established, seeing it as a neutral, objective fourth estate, critical of the powers that be. In 1992 Daniel Hallin referred to this as the era of High Modernism in journalism, at which time he already sees it as a bygone epoch.¹⁴

Understanding the news as crucial to democracy has become such an article of faith that to some extent it lives in denial of how news may be used more by particular groups and may have widely varying meanings across society. A key study here is Couldry, Markham and Livingstone's major, multi-method based study on news consumption and civic engagement. Notably many of those keeping news diaries, one of the methods used in the project, fail to complete their run. It is too depressing, they tell the researchers. Equally moving are those who deeply engage with the news but who find it difficult to find others to discuss the news with. Strange also is the way in which news definitions are discussed: can celebrity news count as real news, or not? Beyond engaging with datafication, there is work ahead to better understand what 'news' is for others, where it changes into 'entertainment' and whether and how this affects what we 'believe' of what we read and see.

This ties in with what we now would call ‘fake news’. We now see it as a real threat, but it is important to remember that it started as satire, that is: as entertainment. There is a deeply nostalgic pleasure in returning to Jon Stewart’s years at *the Daily Show*, *the Onion*, the Yes Men interventions and movies as well as their national versions across the globe.¹⁵ There is a double or even a triple lesson when we attend to the significance of satire. For one, *The Onion*’s reporting foiled many a fact checking department, offering as it did seemingly upfront journalistic content. Seen as a credible source, it led to

China’s *People’s Daily Online* publishing a news story originating from the United States naming North Korea’s leader KimJung Un the “sexiest man alive for 2012.” The Chinese report quoted an American story that described Kim as “every woman’s dream come true” (*The Onion*, 2012). Kim’s dimpled chin notwithstanding, the story was a spoof. It appeared in *The Onion*, a satirical newspaper. An update to *The Onion*’s original story endorsed the work by the *People’s Daily*: “Exemplary reportage, comrades.”¹⁶

Fact checking, as Postma points out in this issue, needs to go beyond mere verification, digital or otherwise. In addition, it needs a high degree of self-reflexive cultural sensitivity. Like media literacy, ultimately data literacy needs us to become aware of our own limits and limitations beyond suspiciousness. Like a sense of humour, such modesty is difficult for AI. Unsurprisingly, the *Onion* has also foiled AI algorithms that were unable to tell satire from factual storytelling. The third lesson that satire teaches us could well be that we might want to cherish the situated pleasure of being able to share a joke rather than teach computers to take them apart.¹⁷ We may not need AI to be able to recognize, or even worse, start making jokes, though apparently ChatGPT 3.5 is as good at writing jokes as human comedians.¹⁸ Then again, Alice Cai and co-authors rightly point out that ‘good’ AI is sycophantic AI. AI systems are aligned with human values, they write, which includes ‘removing toxic and biased data prior to training.’ It has made commercially successful large language models servile: ‘they dote on users, are agreeable and encouraging, respond in positive, deferential tones, and refuse to take strong position’. They have, in point of fact become so good that: ‘they characterize innocuous user requests as dangerous or unethical, agree with users on factually incorrect information, [...], struggle to adopt nonnormative personalities with authenticity, and are difficult to engage with on sensitive but important topics like religion, politics, and mental health’.¹⁹ Cai and colleagues argue in favour of more antagonism and against subservient, ‘moral’ models. While there are ethical limits, AI that helps us confront our assumptions, build resilience, or develop healthier relational boundaries surely are a good thing.²⁰

It is both exciting and daunting to see where current developments are leading us. This issue wants to offer a shop floor assessment of where we stand when it comes to the use of data in the public sphere, where it is quite evident that we need more of the work routines of quality journalism, combined with far more data dexterity. Fact-checking needs to become more integrated, data literacy needs to increase and we have to re-establish what different ‘news’ repertoires of use exist across society. Once we have a robustly built data journalism for the future, we might want to return to understanding political and social critique as related to the news but via other sets of generic rules. Surely given our current polarisation of views, we need to study how humour divides but also, possibly, connects. Just imagine what fun could be had using dexterity with data for inclusive rather than exclusive forms of humour. What Anton Grabolle would make of that.

The Guest Editorial Team of this themed issue of VIEW is made up of partners from the MediaNumeric project and include Julia Conemans (Sound & Vision), Joke Hermes (Inholland University of Applied Science), Rachel Somers Miles (Sound & Vision) and Kuba Piwowar (SWPS University of Social Sciences and Humanities)

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Joke Hermes in collaboration with issue Guest Editors

Notes

1. <https://www.wired.com/story/ai-energy-demands-water-impact-internet-hyper-consumption-era/>.
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3. Sacha Altay, Rasmus Kleis Nielsen, and Richard Fletcher. News Can Help! The Impact of News Media and Digital Platforms on Awareness of and Belief in Misinformation. *The International Journal of Press/Politics* 29, no 2 (2024), 459–484. <https://doi.org/10.1177/19401612221148981>.
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5. <https://decorrespondent.nl/15411/waarom-we-het-minder-over-desinformatie-moeten-hebben/8d328c94-4307-055b-22c1-5f35672a4139>.
6. Nielsen 2024, Financial Times, <https://www.ft.com/content/5da52770-b474-4547-8d1b-9c46a3c3bac9>.
7. Dutch source: <https://decorrespondent.nl/15411/waarom-we-het-minder-over-desinformatie-moeten-hebben/8d328c94-4307-055b-22c1-5f35672a4139>.
8. Also quoted in the Correspondent article by Maurits Martijn.
9. <https://www.statista.com/statistics/235550/daily-news-access-in-the-us-by-age/#:~:text=News%20avoidance%20in%20selected%20countries%20worldwide%202023&text=The%20share%20of%20news%20consumers,not%20to%20engage%20with%20news>.
10. As much as how AI is actually a product in search of practical applications, rather than an immediate threat: <https://www.ben-evans.com/benedictevans/2024/7/9/the-ai-summer>.
11. Claire Wardle and Hossein Derakhshan. *Information disorder: Toward an interdisciplinary framework for research and policymaking*. Vol. 27. (Strasbourg: Council of Europe, 2017).
12. See Will Hutton's exposé in *the Guardian* for examples: <https://www.theguardian.com/commentisfree/2021/jun/27/case-for-brexit-built-on-lies-five-years-later-deceit-is-routine-in-our-politics>; or the *Washington Post*'s ongoing factchecking of statements by Trump: <https://www.washingtonpost.com/politics/2021/01/24/trumps-false-or-misleading-claims-total-30573-over-four-years/>. In a way a funny example is of these Erasmus researchers who managed to build a model that predicts with over 70% accuracy whether a Trump tweet includes a lie: Van der Zee, Sophie, Ronald Poppe, Alice Havrileck, and Aurélien Baillon. "A personal model of trumpery: linguistic deception detection in a real-world high-stakes setting." *Psychological science* 33, no. 1 (2022): 3–17.
13. Mantel's novel was written in the 1970s, published first in 1992. It attracted a wide readership after her death. Much has been written about it. Here is a friendly blog post that introduces the book's project: <https://blogs.lib.umich.edu/lost-stacks/place-greater-safety-hilary-mantel>.
14. Daniel Hallin, "The passing of the 'high modernism' of American journalism," *Journal of Communication*, 1992, 42, no 3 (1992), 14–25.
15. See Amber Day's *Satire and Dissent. Interventions in contemporary political debate*. (Bloomington: Indiana University Press, 2011); Toby Miller's chapter on the Sisters of Perpetual Indulgence in *The well-tempered self*. (Baltimore: Johns Hopkins University Press, 1993); or Joanna Doona's work on Swedish satirical television, e.g. "Civic stage fright: Motivation and news satire engagement." *European Journal of Cultural Studies* 24, no 4 (2021), 850–868.
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18. Drew Gorenz and Norbert Schwarz, (2024) "How funny is ChatGPT? A comparison of human- and A.I.-produced jokes." *PLoS ONE* 19, no 7 (2024), e0305364.
19. Alice Cai, Ian Arawjo, and Elena L. Glassman. "Antagonistic AI." *arXiv preprint arXiv:2402.07350* (2024), p. 1. Extensive referencing to the research literature on AI in the article.
20. Cai, Arawjo, and Glassman. "Antagonistic AI."