2nd LISBON

WINTER SCHOOL

FOR THE STUDY OF COMMUNICATION

MEDIA AND UNCERTAINTY

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CONVENORS:

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Opening Session

NELSON RIBEIRO

Dear guests, dear participants, good morning to you all. It is a great pleasure to welcome you to this second edition of the Lisbon Winter School for the Study of Communication. And it's also very nice to see some faces that I recognize from last year. This means that for the second year, we convene here at Católica for an intense week of scholarly discussions on topics central to communication and media studies. In the first edition, we focused on the topic of "Media and Populism". While now in 2020, we will be discussing "Media and Uncertainty". The connection between these two topics is somehow obvious. This is because we aim to continue the debates we started last year while also looking into new dimensions of the challenges, risks, and hopefully opportunities the media are currently facing. Once an uncontested pillar of democracy due to its role of scrutiny, journalism is now under attack by the same institutions it aims to preserve.

While in the long run, the existence of democracy does depend on a strong public opinion that cannot exist without journalism, in many countries the public does not seem to care about the future of the media. Neither is it outraged by the emergence of companies, political groups, and agents specialized in the production and dissemination of disinformation. In the U.S. Donald Trump brags about having coined the concept of fake news. Even though this assertation is false, the fact that the creation of such a concept can be perceived as something that one can brag about is a tangible example of the troubling and uncertain times we are living in.

The precarity of the professions within the media, the verbal attacks perpetrated by world leaders and the changing media landscape that blurs the separation between news and opinion, between facts and fiction have brought uncertainty to the core of the media in countries so diverse as the United States, Brazil, the Philippines, and Hungary, just to mention a few examples situated in different geographical locations and also with different cultural traditions. Last year, in her inaugural address here at the Lisbon Winter School, Ruth Wodak spoke of the danger to democracy posed by what she labeled as shameless politics in which racist, misogynist, and divisive ideas are spoken out loud by politicians that have promised to defend democratic institutions. One year after many of us gathered in this same building, the scenario has not changed significantly. Both social and legacy media continue to be used as platforms for the dissemination of hate and/or disinformation. And journalism continues reluctant to grasp that it needs to change in order to deal with forces that play the democratic game while trying to subvert it.

Barbie Zelizer has identified a series of reasons that explain journalism's failure to understand current authoritarian populism. Her thesis is that these reasons can be traced back to a cold war mindset that has led news to become less nuanced, more conflict oriented, and lacking historical context. The roots of this mindset seem to run deep in the newsrooms and they actually extend way beyond the U.S. also because the American model of journalism has been widely influential worldwide. Within media environments, uncertainty builds up from the rapid unfolding and often unforeseen ramifications of digital technology, the collapse of traditional business models, the emergence of new players and platforms, the development of new reception practices and changing expectations of how the media are expected to perform. One question becomes central in newsrooms and media companies around the world. Is the media still a viable sector?

While several countries notably in Europe, have adopted policies to support companies that produce original news content, a new model that will guarantee the survival and independence of relevant journalism is yet to be found. And while media institutions are troubled by uncertainty, they are asked to help make sense of the times we are living in. Times that are marked by social inequality, climate change, and a deep sense of risk that impacts on all dimensions of our public and private lives. Therefore, at this winter school, some keynote lectures and papers will deal with uncertainty in the media, namely Victor Pickard's talk on the future of journalism. Others including Teresa Ashe, Fathali Moghaddam, Esa Valiverronen, and James Painter will help us understand how the media frame political, economic, environmental, and scientific realms. Sonia Livingstone, Carla Ganito, and Saskia Witteborn on the other hand, will focus on how we perceive risk in our private and family lives and how technologies are being used to promote and also to avoid a sense of risk in different contexts.

On behalf of the conveners, I would like to thank all those who have accepted to give lectures at this year's Lisbon Winter School. I really feel privileged that we have such a great line-up of keynotes and papers, and I hope that you will find the Lisbon Winter School a safe haven for truly academic discussions at a time in which academia is also under threat in many countries by those who devalue the importance of knowledge and who do not recognize the importance of intellectual debate.

In *Liquid Times: Living in an Age of Uncertainty*, Bauman wrote about the collapse of long-term thinking, planning, and acting, and the disappearance or weakening of social structures in which thinking, planning, and acting could be inscribed. Even though this diagnosis does seem to describe well our times, it is also true that uncertainty has always been part of human life and has a close bind to the idea of change. Today, we are said to be living a moment of profound and fast change with the disappearance of what used to be solid institutions

and structures. When thinking not only, but also about the media, the digital environment is presented as the main force behind today's rapid change. However, the changes brought about by digitization have been intensively discussed over the last 25 years at least. And social media have been on the hotspot for almost 15 years.

So is the uniqueness of our times really brought about by the fact that change happens faster than ever? Or is it also that our own perception of time and speed are shaped by the fact that we are living here and now and tend to look at the past as stable and predictable? Can this be a way of dealing with the uncertainty we feel today? And if so, how do we use the media to create the narratives that help us deal with risk and uncertainty? These are all questions that I will not answer, which is one of the great advantages of speaking at this opening session in which I'm allowed to only ask questions. It is, however, my profound wish that some of these questions will be dealt with throughout the week, and I do believe that will be the case. So to conclude, I hope that you will have the time to appreciate the program that we have put together. And I would like to thank all the conveners for their help in the organization. A special reference has to be made to Barbie who has believed in this crazy idea of a Lisbon Winter School since the first time. Not only Barbie, but her Center for Media at Risk have been huge enthusiasts of the idea even before it existed. And of course I would also like to thank the support and the commitment of the other conveners, Risto Kunelius here in the room, Francis Lee and Sarah Banet-Weiser who will be joining us tomorrow. They have made this winter school more global and it is thanks to them that this year we did get submissions from all continents.

Finally, a word of thanks for the support of the Research Center for Communication and Culture and of our Rector Isabel Gil. Not only has she believed in this idea since the beginning, but she has been the inspirational force behind the whole idea of creating this winter school. So thank you very much.

PETER HANENBERG

First, I wanted to thank the conveners for being partners in this endeavor and for making this, as Dean Nelson said before, a very global initiative with a global participation. And, of course, I wanted also to thank our local staff for their work, starting with the president of the organization committee Nelson Ribeiro, but also with all the nice people helping out from the Research Center and from the School of Human Sciences.

If you allow, I would like to invite you to a very short reflection not so much on the term of media but on the term of uncertainty. Of course, your attention in these days and continuing the work started last year with a reflection on populism will focus on the aspect of media and on false media, false news and fake news, and lies and all of these terrible things including the lack of transparency, the lack of information, propaganda and whatever can be said in terms of media and uncertainty. But when we look at the term of uncertainty it has its own implications and its own history. And my first relation to the term of uncertainty comes from the uncertainty principle from Heisenberg and from quantum physics.

If we look at the history of science and the role of uncertainty in science, it is certainly, what Nelson Ribeiro said before, a motor of change. But it is also something, which quantum physics told us, with two consequences which social science might consider more and more deeply. The first one has directly to do with the topic of media and society… media and uncertainty. Because quantum physics tells us that any observation, any mediation impacts on what we are observing. So there is no neutral observation. Observation is always impacting on what is observed. And I think taking this into account in communication and media studies is the very first thing to do. Media do not just report on something. They change the thing they are reporting on by reporting on it. This is the first lesson.

And the second lesson, which is a bit more problematic, is that quantum physics also tells us that we never can really be certain, that we always have to count just on probabilities or approximations. So there's always a rest which is not really like that. And I think this is something which also social sciences should consider accept as a condition of their own working. And this is also true for media studies and media practices.

The fact that there is always something which our knowledge does not address properly leads me to a third point, which I think would be something like uncertainty as an attitude. And maybe this uncertainty as an attitude accepting uncertainty could be something which helps us to come around with the strange success of fake news and populism and all these challenging recent occurrences. When I say uncertainty as an attitude, I'm thinking of the motor that uncertainty signifies in terms of plurality. If I'm uncertain, then there might be other persons who are also uncertain and we meet in this realm of uncertainty. Plurality needs a certain uncertainty. If there would not be uncertainty, there would not be plurality. To come to terms with a plurality of uncertainty in this sense, I would follow the German sociologist Armin Nassehi who has suggested that translational skills could be key to address uncertainty as a necessary attitude. Translational skills count on difference and approximation, not on equivalence and certainty. Speaking from the standpoint of translation means knowing that we don't really tell what is the case, because we tell it in a different language; there is always a rest of something which is not really like we say. Such translational skills might be useful to come to terms with uncertainty also in the media practice.

The book that Armin Nassehi has written, is not on uncertainty, but, and I think this is significant, on complexity. And complexity is like a big sister of uncertainty while facing uncertainty as an invitation to a translational practice. That is something which we could follow up on in dealing with the challenges of media and uncertainty. So I hope, as Nelson Ribeiro expressed it as well, that the following days will foster this debate in the sense also of a translational practice in which we discover our readiness for uncertainty and also the promising parts of uncertainty which lie in the domain of plurality. So welcome and exciting days for all of us. Thank you.

ISABEL GIL

I'm absolutely delighted to welcome you to Lisbon and to Católica. And I'm using the word delighted not in the rhetorical sense as rectors and presidents of universities always do when they open events like this, but truly for two main reasons. One, it's because this is truly a worthy scholarly endeavor and I want to congratulate Dean Ribeiro and the conveners for creating a program that has clearly grown, that is impactful and that will strategically make a difference in the study of communication. This is what academia is about. This is what universities are about. They are not about reproducing and replicating knowledge but about questioning and providing new answers or strategies to move ahead.

We live in hazardous times, as Dean Ribeiro was just saying, where academia and universities are under threat for many reasons, including public policies and the stress on budgets. And as a university president, I'm very well aware of the stress on budgets and the hard decisions that have to be made in that regard. But there are lines that cannot be crossed. And one is that we need to stay committed to quality, excellence and a willingness to do things differently to create a school. This is what the School of Human Sciences has been doing for a long time, a school with its own brand of communication placed on the intersection of culture and communication. And I want to thank Barbie Zelizer for this. She has been a colleague from the inception of the transformation of the school in this direction. And it's clearly for all of us a joyful moment to welcome participants from all over the globe to share their ideas, to discuss in this Winter School.

But the second reason is more personal because rectors and presidents are what a friend of mine calls everythingologists. That is, we have to pass opinion on anything from nursing to law, economics, management, medicine. And this is an occasion to really relate to the topic and the theme of an event at my academic home, which is the School of Human Sciences. Peter Hanenberg was very humble in just saying that at the Research Center for Communication and Culture we are very proud for having been assessed and ranked as excellent in the recent research assessment of the Portuguese Foundation for Science and Technology. What he hasn't said is that it has been recognized as the top center in the country on the cusp of the Humanities and the Social Sciences. And so I want to thank him and the school for this effort.

But now on to the topic. I have to say something about the topic if you allow me. If you read the news today, yesterday, this is clearly a world of uncertainty and growing uncertainty. Before the daunting events that have been taking place in the world, from war to terrorism, from climate disasters to the financial crisis, uncertainty is more than a timely topic. It is a defining element of our late modern condition. Modern industrialized societies have repeatedly described themselves both as knowledge societies and as risk societies with uncertainty again, as a strategic driver of their development. But uncertainty has been around as an anthropological trope for a very long time. In fact, the aversion of uncertainty has marked the work of culture from narratives as distinct as scientific explanations, rationalist assumptions about prospective events or even religious dogma. What changed with modernity was the fact that risk and uncertainty became increasingly perceived as stimulants for action.

Because I come from cultural studies, I studied narratives, and I'd like to recall a small, perhaps, not a so small episode narrated by a philosopher William James reacting to the San Francisco earthquake in 1906. The story presents a watershed moment, the shift from the negative appraisal of instability into an understanding of uncertainty, violent and rocky though its effects may be, as a creative new beginning. In an essay that he wrote, published in 1906, he called some mental effects of the earthquake. He reflects on the experience of being caught in the waves of destruction at the University of Stanford where he was spending time as visiting lecturer. Striking in James' description is the presentation of the earthquake as a prefigured event, something that he had been expecting from friends' descriptions of the Californian shakes. His reaction to the experience was a sense of, and this is the word he used, gleeful recognition because he was schooled in uncertainty.

James contends he felt no fear whatsoever and was filled with a deep admiration for the overwhelming power of this natural phenomenon and the resilience of some of the wooden structures on a campus that was almost flattened. In any event, what struck James the most was the need to communicate the experience more than fear and emotion that struck those who heard the news from afar. James stressed the need for narrative to find story and to tell the story. This is what journalism does, right? The earthquake became a stimulant for action for the reconstruction effort. It became an opportunity for the exposure of the creativity and strength of Californians and Americans in general and a trigger for discursive cultural action. James' discussion of the San Francisco earthquake reflects the opening to uncertainty and risk as pivotal narrative frames of the modern condition. The question is no longer about seeking out narratives to avert risk and uncertainty as it happened in the past, but about owning uncertainty as a stimulant for action.

Today the logic of the knowledge society clearly speaks to the entanglements that Niklas Luhmann has already addressed in his work on the risk society where technological development and scientific differentiation pivot around engagement with risk and the acceptance of hazard to understand the misery and perhaps the glory of our condition then. It is urgent to unpack our certain terms of this narrative are made to mean knowledge, information, data, uncertainty, ignorance, risk, fake news, as Dean Ribeiro is saying, and more than finding answers. It is urgent to ask the right questions as you shall certainly be doing along the glorious days of this Winter School. I bid you good work, and have some fun as well.

Uncertain Futures and Future Uncertainties Facing Media Systems

MUIRA MCCAMMON

Annenberg School for the Study of Communication, University of Pennsylvania

In January 2020, speakers at the second Lisbon Winter School for the Study of Communication convened and offered a comparative and global approach to the study of media and uncertainty over time. At the time, it was evident that media institutions, news workers and information consumers faced uncertain futures, unknown risks, unwelcome pathologies and unexpected structural deficits. The collapse of traditional business models, the emergence of new digital platforms and the rise of news deserts seemed to threaten the viability of media. Were these threats to the global media environment simply cyclical patterns of crisis or part of a broader societal acceptance of inequality, ignorance and institutional apathy? What would it mean and what would it take to reimagine media systems so that they could have sustainable, just and democratic futures?

Questions such as these reveal how the very notion of a future functions as a terrain for the contestation of power, for as John Urry (2016: 11, 17) explains, "a key element of power is thus power to determine—to produce—the future, out of the many ways it is imagined, organized, materialized and distributed". Discourses of the future are dynamic, constantly changing based on what information is available, amplified and accepted as truth. Media practitioners play a powerful role in introducing, explaining and mediating facts to societies. They are engaged in a constant struggle against agnotology, the active creation and preservation of ignorance. Despite the critical nature of their work, today the profession is engaged in a fight against precarity, authoritarianism and misinformation.

When speakers came together in Lisbon in January 2020, they spoke of various themes—economic logics, communication practices, media activism, political accountability, environmental precarity—and also acknowledged what they did not know. Absent from all these talks was a topic that has now become part of the global lexicon: pandemics. In a way, COVID-19 has revealed the power of uncertainty and demonstrated how a global health crisis exacerbates the frailty of media institutions, multiplies the risks reporters encounter and prompts a reckoning with the need for accurate scientific knowledge. The pandemic has also put into relief what Karin Knorr-Cetina (1999) calls "negative knowledge"—that is "knowledge of the limits of knowing, of mistakes we make in trying to know, of the things that interfere with our knowing, and of what we are not interested in and do not really want to know" (64).

COVID-19 is not the first global health crisis, nor will it be the last. That uncertainty, that painful knowledge, will undoubtedly provoke reckonings, collaborations, failures and successes that may redefine information ecosystems. But what happens in the future is also entangled with the past, and thus what the speakers at the second Lisbon Winter School for the Study of Communication discussed before the pandemic overtook the world informs the future that follows it. This collection might therefore be deemed an intellectual artifact of the *before times*. It is a form of future talk, an envisioning of the future, but it is above all a meditation on uncertainty. To quote Damaris Colhoun (2016), "uncertainty can be a powerful tool. When reporters embrace how little they know, resist forming conclusions and share their doubts with their readers in a form that breaks with convention, they may wind up getting closer to the truth" (1).

This E-book has pre-pandemic roots but post-pandemic implications. Through its curated collection of keynote speeches, it provides a detailed diagnosis of how uncertainty can travel across media systems, continents, contexts and cultures. It is therefore fitting that the conference was jointly organized by the Faculty of Human Sciences (Catholic University of Portugal), the Annenberg School for Communication (University of Pennsylvania), the Faculty of Communication Sciences (University of Tampere), the Department of Media and Communications (London School of Economics and Political Science) and

the School of Journalism and Communication (Chinese University of Hong Kong). The speeches transcribed for this collection reflect on how uncertainty molds the media in different geographies and how societies rely on the media to deal with moments of uncertainty.

In his chapter on uncertain futures, "Does Journalism Have A Future?," political economist Victor Pickard draws on his latest book, *Democracy Without Journalism?* (Pickard, 2020), and urges media scholars to reflect on the structural roots of misinformation. In his talk, he emphasizes three broad policy failures that have empowered the rise of what he terms "misinformation society." The first problem, Pickard explains, is the rise of unregulated information monopolies, such as Facebook. The second failure involves the regulatory capture of the very government institutions designed to regulate the American media system. The third failure is the consistent lack of financial support for reliable journalism. Pickard pushes for a reimagining of the future of the newspaper industry and, by extension, journalism as a whole. For Pickard, saving journalism requires rethinking the structural pathologies underlying American information systems. These pathologies, he argues, have led to the creation of a news media system that's unable to fight persistent commercial pressures. To save journalism from ongoing systemic market failure, Pickard outlines a series of remedies in his address.

Uncertainty can provoke, divide and asymmetrically affect people. In her chapter, "Migration and Technologies in Contexts of Uncertainty," communication and migration researcher Saskia Witteborn explores how asylum seekers and migrant domestic workers in Hong Kong use technology in their romantic relationships. Witteborn finds that mobile technologies enable connectivity and intimate relationality between migrants who face social, geographical, legal, economic and even political uncertainty. For migrant domestic workers in Witteborn's study, owning a mobile phone while living in a space of flux helped bridge certain temporal and experiential asynchrononies. A couple connected by phone might be working long hours separately but neither person would be entirely off the grid, alone. For many refugees and asylum seekers living in Hong Kong, what Witteborn calls a "transit space," it is the phone that becomes like a home.

James Painter's chapter, "Communicating Risk and Uncertainty via the Media," puts portrayals of climate change in legacy, digital-born and social media around the world in conversation with the rich history of environmental communication. He debriefs his efforts to map what is known and not known about climate journalism. Painter and his colleagues are motivated by what they see as the need to better understand news frames of climate change and their relationship with an ever-evolving science communication ecosystem. For Painter, an underexplored area of study is how audiences respond to uncertain frames that appear time and time again in climate reporting. He cites five troubling trends that may impact how news consumers access future journalistic coverage of climate change: the decline of printed news, lack of trust in media, the shrinking science beat, the pluralization of sources and the digitalization of science communication. In her piece, "Climate Change: Discourses of Making and Unmaking," Teresa Ashe focuses on different elements of scientific knowledge and environmental communication. For her, there is a need to unpack the communicative potential of scientific knowledge and how past scientific discoveries inform current discourses and policymaking. Ashe asserts that science, politics and philosophy co-produce each other and cannot be separated easily. She puts forth an interdisciplinary argument—that power and knowledge shape each other and build off of pre-established notions of science and statehood in order to create different meanings and understandings of climate change. Part of what Ashe interrogates is how certain scientific fields, such as environmental studies and geology, have evolved as disciplines and how certain scholars in these subfields gradually helped develop the idea of anthropogenic global warming of the climate. She notes that the history of scientific knowledge was a collaborative undertaking. It exists thanks to an amalgam of various wars, geopolitical alignments, experiments, military operations and imaginings of the future. Drawing on this fact, Ashe explains how climate change means different things globally, because it means different things to different people. To advance knowledge related to climate change thus requires sitting with uncertainty and crisscrossing fields whose scholars do not necessarily or normally speak to each other.

Psychologist Fathali Moghaddam's contribution, "The Immortal Dictator," reviews the cognitive foundations of dictatorship and democracy in order to explain why authoritarian regimes are on the rise. For Moghaddam, the answer is entangled with the consistent failure of revolutions and the fact that democracy remains a recent phenomenon. Revolutions fail, Moghaddam laments, in part because certain psychological rigidities exist within societies and are passed down from one generation to the next without major change. These rigidities persist even as individuals navigate uncertainty. Moghaddam describes a series of experiments he ran, which found that when people feel threatened, their support for civil liberties drops. The data also indicate that people become less concerned about maintaining human rights when their physical safety is being directly threatened. Moghaddam reflects that authoritarian leaders know these findings intuitively and are prepared to weaponize them. For human beings to live and thrive in democracies, Moghaddam claims, they must be psychologically primed to see the benefits of free elections, free expression and the free press.

Sonia Livingstone, a specialist on children and media, looks at how uncertainty maps onto family life and parenting styles. In her chapter, "Family Risk and Uncertainty in the Digital Age," she considers how children's struggles in the digital age are shaped by societal institutions, governance and the public sphere. Using semi-structured interviews with 70 families in London, Livingstone examines how parents imagine their children's digital lives and technologically mediated futures. Central to her own method is the process of asking parents what kind of futures they want for their kids. Parenting is, in fact, its own form of uncertainty, a labyrinth of societal, economic and psychological risks that almost never fully disappear. Livingstone's research agenda is four-fold. Livingstone finds that open mindedness about digital technology criss-crosses class lines and that empathetic identification with the experience of being a child is not restricted to middle class parents. For many in her sample, children and parents work in tandem in a process of "joint media engagement" (Gee et al., 2017) to navigate

the uncertainty of technology. As Livingstone notes, the mere mention of digital technology brings out hopes and fears that parents have for their children. Parents do not all have the same fears and cannot be thought of as an entirely homogenous group. What unites them is that they are engaged in an endless process of negotiation of how to be in the digital world *and* how to belong to what Anthony Giddens (1991) called the modern democratic family.

In his chapter, "Science and Expertise under Fire: Political Control, Online Hate and Freedom of Expression," media scholar Esa Väliverronen describes how different types of scholars encounter pushback, physical threats and state censorship. She draws special attention to the plight of climate scientists and environmental researchers, whose efforts to publish scientific findings and to urge policy-makers to take regulatory action often fail. These failures, Väliverronen shows, are facilitated with the help of scientific publishers who cave to state pressure. She makes the case that there is an explicit connection between authoritarian populism and distrust in science and offers a Finnish case study to denote how populist politics can undermine science and encourage self-censorship among scientists.

In her chapter, Carla Ganito argues that smartphones introduce a degree of uncertainty into the social sphere. Her piece, "Curated Lives: Smartphones as Tools of Control, Anticipation and Avoidance," posits that smartphones serve as tools of "premediation" (Grusin, 2010), wherein users seek to shield themselves from uncomfortable truths and situations. In this regard, phones serve as technological bodyguards, which transport people to mentally safer environments when necessary. Drawing on communication history and affordance theory, she cautions that not all smartphones are the same, and thus differences in features can drastically alter users' affective experiences. Collectively, people with smartphones can try to use these features to avoid traumatic futures, but curating socialization in this way is not without its risks, she explains.

The E-book also includes a series of shorter meditations by Isabel Gil, Nelson Ribeiro, and Peter Hanenberg about media systems and the uncertainties they face. Gil probes how uncertain times can rock institutions that are responsible for knowledge production. She describes uncertainty as a defining element of our late modern condition. Grounding her analysis in cultural studies, Gil speaks of a single episode in time: the San Francisco earthquake in 1906. Meanwhile, Ribeiro nods to democracy's need for journalism and urges media scholars to adopt an analytical framework that sees threats to newsrooms as cyclical. Drawing on Bowman's *Liquid Times: Living in an Age of Uncertainty* (2007), he warns of the dissolution of what were once solid institutions and structures. "Is it that our perception of time and speed are shaped by the fact that we are living here and now and tend to look at the past as stable and predictable? Can this be a way of dealing with the uncertainty we feel today? And if so, how do we use the media to create the narratives that help us deal with risk and uncertainty?" asks Ribeiro. Lastly, Hanenberg dissects the term *uncertainty* by reflecting on its own implications, etymology and history. He adopts principles from quantum physics in order to convey one of two lessons about communication. First, he explains that any mediation impacts what is observed and observable. Thus media do not just report neutrally; their work changes the thing that they report on *by reporting it.* For Hanenberg, the mere existence of complexity, a sister to uncertainty, requires that people develop translational skills, so that they can navigate difference and approximation, instead of expecting equivalence and certainty.

The essays in this collection grapple with uncertainty, how it influences communication practices, places where news is made, moral frameworks and media systems globally. They reveal how digital technologies can introduce elements of certainty and crystallize informational control. The authors ultimately reckon with the unknowable nature of the future and the limits of knowledge about the past. They call for a rethinking of methods, a re-imagining of media systems and a reckoning with the ways in which media practitioners debunk misinformation. Ultimately, the contributors acknowledge that uncertainty is not a poison. It can motivate people to re-envision media institutions, accept the limits of knowledge and strive for a more just, truthful world.

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Climate Change: Discourses of Making and Unmaking

TERESA ASHE

The Open University

Thank you very much for that lovely welcome. Well, it's really lovely to be here.

I didn't expect to be first on and I'm actually not a media studies person. I started off, many years ago, in international relations (IR) thinking I want to study the United Nations Framework Convention on Climate Change (UNFCCC) and cutting-edge climate science and cutting-edge environmental economics. And it didn't work out like that.

So today I'm going to talk a little bit about my research and where it went and why it went there. I was hoping that I'd have several days to kind of get a feel for the group and what kind of things you might be interested in, what kinds of things might help you, instead I'm first on. So, you're going to just hear whatever comes out of my mouth.

My interest started off being in 'Climate scepticism in the U.S.': How it impacted international negotiations, why it was hard to get a climate change agreement, etc. My focus was on the 1990s. So this was before the Copenhagen Summit in 2009 and people were saying, "Don't study climate scepticism. It's dying out. It will be pointless. It will be career suicide. There won't be any in 10 years." Which would have been kind of nice, but it's not the case.

I started doing my literature review and trying to find somebody that was writing about climate scepticism the way I wanted to read about it. Which was helping me contextualize it, understand its history. Why did this make sense to people? Who believed this? What was the diversity within climate sceptical discourse? Where was it coming from? Who was articulating it and who got to say whether it was scepticism or denial? And at the time I wasn't looking in the right places, I couldn't find much. I kept hitting lots of comments about climate scepticism and about how it was affecting what was going on, particularly in the U.S, how it was affecting the UN, etc. but it always seemed to come down to, either: "These people are ignorant, they just need to learn. They'll read some science and they'll be fine." Or it came down to: "This is economic interests. What they're saying doesn't really matter. We just need to look at where the money's going, where the money's coming from, who is seeding these stories." And both of these explanations felt, not necessarily inaccurate, but they didn't get me any further. I wasn't really interested in whether sceptics were right or not. I was interested in why they had the power they had. Why does this kind of knowledge have power? Why is it that for some people, a scientist in a white coat says, "This is true." And even though it's deeply inconvenient, very confusing, hard to understand and requires vast technological networks to get the hang of, some people go: "Oh, okay then. You have the authority to tell me that and I will be willing to believe it." And for other people, it just made no sense: that authority didn't hold. Why were some people responding in one way and other people responding in a completely different way?

I felt that there was a lot of tacit positivism under the research that I was looking at. It wasn't really naively positive. It was just that, epistemology wasn't what the researchers wanted to look at. They wanted to look at the international negotiations or they wanted to look at how business influences things or they wanted to look at the political economies of the different countries. And, therefore, there was a sort of tacit assumption that the science was isolated from the politics, that the science was reliable and informed the position of the social researcher, which then meant the only real questions you could ask were, "Why are people wrong about this? Why do climate sceptics keeps saying something that's obviously untrue?" Which didn't feel like a very helpful position. It also, back at the time I started researching, felt like it actually quite played into climate sceptical hands discursively, because if you kept arguing that the authority of science rested on the fact that it was isolated and non-socially-situated, most of the sociology of science had proved that that authority could really never be sustained. The climate sceptics could easily show that there was money behind science. I mean, how

could there not be money behind big science? Someone has to pay for satellites and computers and staff. It felt like that tacit positivism in itself, was playing into the way the discourse was playing out in public conceptions of science.

So I started asking completely different questions. That probably meant that I wandered way off from International Relations (IR). I mean, I can kind of pretend I'm an IR scholar still, but actually the research I ended up doing was only loosely IR, but actually it was discourse analysis; it was history of meteorology; it was science and technology studies (STS) and loads of other random things. I don't know whether I'm an inspiring story of interdisciplinarity or a horrible warning about what happens when you go down these routes because your lovely, neat PhD: 'This is what I'm going to do', turns into some great big sprawling project. You think you're in one discipline and you end up in three. I teach geography, economics, environmental studies, politics and IR now, and people say, "So what's your *real* discipline?" And I'm like, "Erm… I do climate change?" And it's not even really that. What I'm interested in is how elite discourses hold power. It's not even just the natural sciences, it's economics as well. It's, "How can you have a climate sceptical discourse that says, 'We don't believe in all these things that scientists around the world have all been working on really hard for decades with vast amounts of money. But an economic market logic? *That's* completely sacrosanct! *That's* utterly reliable! Economic scientists have told us *that*, so *that* can't be messed with.'" So I was really interested in who has the authoritative knowledge and how do those knowledges crash into each other in public space, in political space and in scientific space. I started asking questions that would… They sort of seemed simple but weren't. Like, "Why do we think about climate change the way we think about it today? When did we start to think about it like that? And what are the polarizations that mean that different groups in different places at different times, have completely different receptivity to messages about climate change?"

So, that became my PhD many years ago. And the problem is that then I went into teaching and I do bits of research when people contract me in as an expert on environmental scepticism, but, actually, I don't get paid to research, so this has ended up being turned into a book project, which just keeps going on and on. And my worry is that by the time I finally get it to the point where I want to publish it, it will feel like ancient history. And listening to these wonderful people introduce me this morning, I was thinking, "Yeah, in some ways it maybe makes sense that I'm the starting person for this week's talks, because I started looking at climate change when misinformation, what we maybe now think of as 'fake news' was this cutely weird little American thing that was kind of fascinating. Let's look at that! And, actually, the relevance of that research has grown and mushroomed rather than being a kind of, 'Look at this weird little particularity'."

Figure 1 | Climate Camp Activists in 2007 under the banner 'We are armed… only with peer-reviewed science' Photographer Kristian Buus (https://www.theguardian.com/science/political-science/2013/may/29/peer-review [Accessed: 13/05/2020])

This, Image 1, is one of my favourite images for talking about climate discourses. It's from the climate camps in the UK in the 2000s. They're protesting a third runaway at Heathrow and they have a banner that says, "We are armed… only with peer reviewed science." Which is kind of a joke about the way the media and the police frame activists and saying, "Hey, we're actually not violent at all. We're just kind of using the authority of scientific knowledge, which is fairly unassailable and doesn't need weaponry to enforce it, because it's just so obviously true." But actually, they're not armed with just peer reviewed science. Some of them have scientific papers stuck to their hands. That's the imaging that they're trying to give you. But these pictures at the front, those aren't scientists. I'm told those are people who had already been caught up in climate related natural disasters and been killed or harmed. The suffering has already started.

So even as these protesters claimed the authority and power of science to shore up their values and politics, they were holding pictures of people that said, "These things matter. There are human beings behind this. This is going to cause suffering." And I kind of like that image, because it does what I tried to do in my research, which is accept that science, politics, values, philosophies, discourses, epistemology and human society are all jumbling and mixing and co-producing each other and they can't be separated comfortably. And that separating them comfortably you often miss a lot of what's going on. Which meant my PhD and the book that I'm writing have become a very slow burn research project, kind of a genealogy of climate change, lots of thick description with an interest in science and politics and policy, but mostly in how science and society interact, how power and knowledge are shaping each other and how those ideas of science and states, how those discourses change over time to create different meanings and different understandings of climate change particularly.

So I started asking completely different questions.

	Historic Period	Focus		Theory
SECTION ONE	Pre-1960s	Climate Change Science:	Becoming a viable scientific theory	Actor-Network Theory -Bruno Latour
SECTION TWO	Late 1960s to early 1980s	Climate Change Politics:	Becoming an environmental idea	Genealogy/Discourse analysis -Michel Foucault
SECTION THREE	Late 1980s to 1997	Climate Change Policy:	Becoming a policy problem	Discourse analysis -Maarten Hajer (drawing on Michel Foucault and Ulrich Beck)

Figure 2 | Structure of my book

Image 2, shows you the structure of my thesis and the book that I am writing on climate discourses. The book breaks down into three parts historically that look at the science, the politics and the policy. But it's not that in section one I say, "Oh, there was only science before the Cold War and then we stop." It's more that it's looking at the way the science develops and is shaped by the social concerns of the time; the politics of the places it's developing; the technologies that are being used in other disciplines and concerns that are shaping the way the science emerges. And then once the issue becomes a viable theory for scientists, I then, in section two, start looking at how the political layer is layered over that: how is the science and the politics positioning climate change and how does the idea of climate change, as an environmental issue that we are now fairly comfortable with, how did that come about; particularly in America, where I was interested in the anti-environmental movement emerging as a response to that.

And then when I finally got back to UNFCCC in section three, the international agreement which I originally wanted to study, I wasn't doing traditional analysis. I was interested in the way that science was operating. And how you could use maybe epistemic community theory to understand both the Orthodox and Heterodox claims to authoritative knowledge about climate change. I wanted to look at the Intergovernmental Panel on Climate Change (IPCC) and the Subsidiary Body of Scientific and Technological Advice (SBSTA), but I also wanted to look at climate sceptical think tanks and see how those operate and how their ideas are playing out discursively within the arena of the UN.

In order to try to tackle these issues, I was drawing on theorists who, they maybe don't naturally sit next to each other, but actually do bring together what I wanted to look at. They work quite well, because you've got Bruno Latour's, Actor-Network Theory, arguing that you can't presuppose the material you're coming to. You just have to get there and start to map it out and untangle it and understand the relationships between the different disciplinary understandings thereof. He has the really useful idea that science is not separated from society. It's actually where society intensifies its efforts, it draws in money, it draws in power and influence and effort and intelligence and discursive power into these knots of deeply tangled material to try to deal with human problem. And then for some reason, the story we tell about it is that it's completely devoid of human values and politics and technology and money, whereas for him it's the most deeply knotted bit of the social fabric.

When I started moving onto politics, Michel Foucault obviously suggested himself because I was interested in power and knowledge, how discourse develops. Foucault is very useful in terms of genealogy, but for looking at the politics, he keeps reminding us that actually technologies matter, that science matters. That how we communicate and share stories matter. So in looking at the politics, he was very useful for not forgetting about the materiality of the science.

And then when I got to actually looking at the international relations stuff, Maarten Hajer's work on environmental discourses in acid rain was incredibly useful. His starting point, drawing on Foucault and Ulrich Beck was that we can't start by asking why nobody does something about this big important environmental problem. We have to ask who is saying that this environmental problem needs looking at and what are the efforts at pulling it off the policy agenda? Who's changing the narrative and pushing us off in other directions? We need to actually study how a problem for policy, becomes a problem for policy, rather than just looking at the policy options and how they're debated. So you can see it kind of got to be quite a long book really.

I was trying to decide what to talk about today in terms of going into detail about bits of the book. The bits I usually talk about if people aren't particularly environmental studies situated, is the early science of climate and how the idea came about. Just because it's a bit more entertaining and, if I give this as a lecture, students kind of settle down, like they're watching a TV program and just enjoy the storytelling washing over them, because people learn and remember from stories really well. So I will do that rather than going into detail about the politics or the policy or the role of the media because I think it's quite interesting to see how a historical narrative can help you better understand where you've got to now, with your own understanding of climate change.

The first part of the book looks at the idea of anthropogenic global warming of the climate. Where did that idea come from? How did it emerge? Firstly, the notion of 'climate' historically, dates back at least as far as ancient Greece, where their understanding of the way that the sun is hitting

the planet, a spherical planet, gives them the idea of climatic zones that are basically latitudinal zones. The equator is really hot, it has a particular climate. Then there's the Mediterranean, which is the nice climate. And then there's the frigid climates at the top. They have a fairly 'scientific' understanding of climate, which then develops through the years into being much more related to personal health. So human beings, their affective response to a new environment is to be too hot or too cold or it's too wet and you start coughing. And the idea of climate is very close to medical discourses about how human beings respond to their environments, rather than being necessarily something 'out there in the world' with the flora and fauna, and certainly not something to do with the spherical earth again for quite a long time.

When we start getting near to the period where climate science might be emerging, meteorology/climatology are trying to understand the weather, trying to understand climate. It's quite tough to do because you, as a meteorologist, you are getting to the point where you could try to work out what the weather's going to do, based on some climatic readings and then knowing the numerical weather prediction techniques (the equations that would let you predict the weather into the future). But during the first world war, Lewis Fry Richardson was trying to do this, he worked out that you could kind of do it, but if you had a football stadium full of people with the latest technology, which was slide rules, all working on a problem, you might be able to predict the weather at about the same rate that the weather was happening, which was not massively useful because you could look out of the window to get the same information.

In terms of climatology, you had people trying to collect data sets from networks that were beginning to be really closely linked together by technologies like the Telegraph, which meant you could actually get information to a centralized place. But people were really struggling to use probability to find obvious patterns that were better than just a farmer who was used to that region saying, "Yeah, it's probably going to be wet next Wednesday." The science really wasn't pushing things yet. And the idea of climate at this time, really, it wasn't a concept that would make sense to think of it changing. It was: "Weather is what's happening every day; climate is what's usually happening at this time in a particular place at a particular time of year." Your understanding of climate couldn't really change unless you changed the place you were looking at or the period over which you were looking at it.

"Weather is what's happening every day; climate is what's usually happening at this time in a particular place at a particular time of year."

On the other hand, in geology, there was sudden realization that actually maybe quite a few of the Western European landscapes that had been historically best explained as caused by the great flood, Noah's flood, which had moved great rocks or carved out bits of the hillside. Realization that actually glaciers made way more sense, swept through the nascent geological discipline and left everyone worrying because they were thinking, "Okay, so if we can have completely temporate areas that we've been living in for centuries that were once absolutely engulfed in ice, what's to stop that happening again? That's quite a worrying idea."

And geologists spent quite a lot of that century trying to work out what could possibly account for these kinds of changes in the global climate or large regional climates.

One of the explanatory processes, and there were so many - there were so many different people looking at different things and one of the big problems geology had at this time is that, with a very neat mechanized conception of the universe, geologists were looking for maybe one, maybe two factors that would act as levers that you could pull that would just change the climate and that would explain how the system worked. Somebody gave me a really useful research book, which was on conceptualizations of the natural world as being often conceptualized as being like your most recent technology. So the book was saying, "If you're thinking about the world mechanistically like an engine, you're looking for a lever, you're looking for one or two factors. Once we get past the Cold War and you're looking at things chao-plexically from a computer perspective, you start seeing the natural world in a completely different way, that would have been unthinkable without those technological changes."

But to start with, in the 19th century, one of the possible strands of thought as to the explanatory process behind ice ages and the one or two factors that might explain the change, was building on this idea that it might be something to do with atmospheric gases. You've got Joseph Fourier who is often credited with having discovered that the make-up of the chemicals in the Earth's atmosphere accounts for its warmth, compared to a bare rock that would be this distance from the sun. (If you read his paper, he doesn't think that he discovered that. He kind of says that as an assumption, as in, "Okay, this is something everyone knows in our discipline." But that's who the idea gets dated to, because that's when it's written down as an assumption that everyone knows in the discipline.) John Tyndall was researching lots of different gases, just routinely

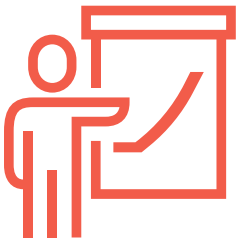
Svante Arrhenius
1896

looking at how they let heat and light through and very unexpectedly discovered that complex molecules will let the light through, but trap the heat. He's credited with having discovered "greenhouse gases", which he didn't know at the time, because that phrase wouldn't be used for nearly a century, but you know, retrospectively, that's the key piece of science that helps us understand that element of the anthropogenic global warming argument. And then we have Svante Arrhenius in his 1896 paper, a Swedish scientist who pulls together the idea of climatic change in ice ages, the idea of atmospheric gases and their ability to warm and trap warmth that heats the planet. And he also brings in this idea that human activities could be changing atmospheric concentrations. And so he is often credited with giving us the idea of global warming, but he's not really pushing the idea of global warming as we would think of it. He's not talking about something to worry about. He's not saying, "This is scary. Look at what we might be doing to the planet." He's saying, "I know we're all terribly worried about ice ages, but really, there's probably quite a good reason why that wouldn't happen again and one of the reasons is that we are churning out lots of carbon dioxide, which will probably mean that we offset any global cooling concerns."

At this point, climate change is not a big terrifying future threat. It's a comfort blanket for those who worry about ice ages. It's also one theory among many and it's not the best one, because obviously if this was a problem, then you'd have oceans absorbing all the CO_2. Nobody takes this massively seriously as a big scientific break-through, it's just one of a range of ideas.

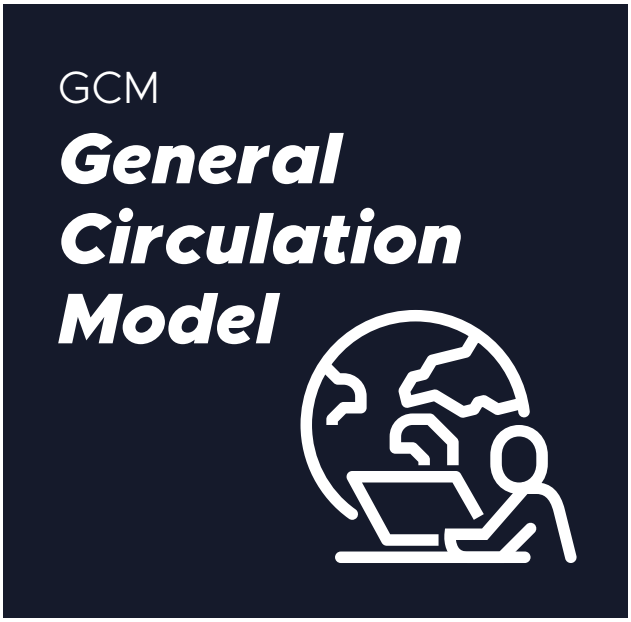
In the first bit of the 20th century things begin to change. You end up with two World Wars that really push geo-science in Europe. If we think back to Lewis Fry Richardson, sat on a hay bale at the front during the First World War, desperately trying to work out how you could do weather forecasting through numerical weather prediction, he's going to have to wait until after the Second World War, when you have computers that can actually do these calculations fast enough. On the other hand, think of those climatologists desperately trying to find probabilistic patterns in their up to date, best they can do, datasets, during the war, because the UK army needed really good information about the weather and the meteorologists kind of said, "Hey, we don't really have the data." The military just said, "Right, we're putting data collection on all of our planes." And suddenly you had data coming in geographically and from different altitudes. You're getting quite a lot of data for that time. And again, this isn't going to really come to fruition until we also have satellites. And then we've got so much information and so much computational capacity that our understanding of weather and climate takes off at that point. But it's war technology and it's war concerns that are pushing meteorology to get to this point. And then as we go into the Cold War era, that relationship between science and the state is still quite close.

While it's not that scientists do what politicians say - scientists *are* meant to go and research their own things in their own way and compete for who has the best ideas and can prove the most - ultimately there's a tacit understanding that at the end of all that, the science will be orientated towards the needs of the government and the state and the betterment of the country, particularly in America- the American way of life and the American Cold War ideal. There's a close relationship between the way science is being conducted and how the state is imagining its future. At this point, the main meaning that climate change has, is more that of a potential weapon than of an environmental concern. It's not a terrifying idea that we might be doing something that's influencing the weather. It's like, "Oh, that's an interesting point. If we're doing this inadvertently, we could work out how to do it 'advertently'. We're still thinking about the climate as a mechanized system with a few levers, we pull the right levers and we can wipe out the Russian harvest. Also, they're probably thinking the same thing, so we really need to get on with this research", because the fear of weather manipulation capacity in the Soviet Union is a big spur to scientific research at this point as well. From this we do actually end up with two research programs specifically geared towards anthropogenic global warming. One of them in oceanography, because there's a realization in 1957 that the oceans probably aren't going to do all that absorbing CO_2 that everybody thought. It's probably not going to happen like that. At which point Charles Keeling starts taking those base layer CO_2 readings in Hawaii (and I think at that the time in an Antarctica station as well) which have given us the Keeling Curve- the saw-tooth graph showing that atmospheric CO_2 is going upwards.



Charles Keeling
1957

But oceanographers weren't really pushing the weather manipulation discourse. They were saying, "This is interesting basic science. We don't want too much interference from the higher ups in the military. We do want that funding, but not too much oversight. So this is basic science and we're not really talking about it becoming weather modification technology in the future." On the other hand, John Von Neumann in meteorology, is starting to think about the potential for developing the computer after the Second World War and thinking about how he can demonstrate the usefulness of the computer as a military technology, as a potential boon for American businesses, but also to the public. And numerical weather prediction is pretty great for that, because everyone wants to know what the weather's going to do. If you want to invade a country, you want to know what the weather's doing. If you're farming, you want to know what the weather is doing. If you're a family going on a picnic, you want to know what the weather is doing.

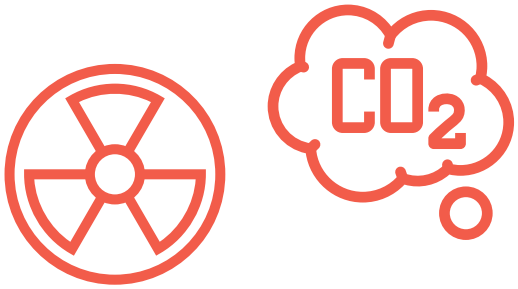


This is a perfect meeting of different discourses for him and his team do it. They manage to get there first, it's not a forecast, it's a hindcast. They can therefore check that the weather did do what their computers said it would have done, based on their initial weather data and their computations of the equations that would predict how weather would develop from those initial parameters. And they also then managed to send a letter to Lewis Fry Richardson, who is still alive saying, "Hey, it worked! We got there." So numerical weather prediction comes into its own. Development of the first general circulation model (GCM) continues, and in 1967, the first test in terms of changing parameters for CO_2 and seeing what that does to the whole model.

Numerical weather prediction computer models take initial readings of where the weather is and then use equations to project forward and, as they project forward, the tiny differences between what you've written in as the temperature (for example, you've cut it off at five decimal places maybe) and the real temperature. Reality doesn't stop at decimal places, it goes on. It's an infinitesimal difference. But over time, within a week, within two weeks, those infinitesimal differences add up to become incomprehensible weather. The models start doing something weird. General circulation models, the ones that we use for climate change research are a different model. They don't start from a realistic, "This is what the weather did on Tuesday in Portugal". They start from, "How do we get this model working so that it's running an earth typed planet. It has the patterns of weather that a planet like the earth has." Once they've got that model set up so it's working like an earth typed planet, then they start to change parameters to see what that does to the overall weather patterns.

So that's the kind of research that is being done in climatology after the Second World War. You can see that the history of this knowledge, that gets us to the point where climate change is comprehensible; imaginable; when there's enough logic being brought together to think, "Yes, this could be an issue. We're going to have research programs on it." This kind of research and how we got to it depends on social concerns, political concerns, geopolitics, various Wars, networks of military, different armies, military working with scientists and scientists taking advantage of funding, envisaging possible futures, etc. Another example of this messiness, is that research into general circulation is massively helped by research into the nuclear bomb. And there are IR scholars who are arguing that the nuclear Test Ban treaty is essentially the first treaty to deal with an atmospheric pollutant and then every other atmospheric pollutant copies that sort of treaty (a Framework Convention structure with rolling Protocols). There's so much path dependence and messiness and entanglement and history in thinking about how we got to the point where we just take climate change seriously, and we haven't even got to the point where it's an environmental problem yet. It's still a kind of, "Ooh, that could be really useful in the cold war" idea.

Hence the next part of my book, which I won't go into detail, because I don't want to talk for hours, looks at how that idea of climate change that was becoming theoretically viable, began to situate with regards to environmental politics. Because when environmental politics emerges in America, it's quite local. It's about air pollution, water pollution, soil pollution. It's not particularly partisan. You're not going to be able to tell by whether somebody is Democrat or a Republican, what they think about environmental issues. That happens over time. And my argument is that the atmospheric scientists are co-producing understandings of the environment at this time, so that it's not just, "How does climate change position within politics and how does environmental politics work?" It's more, "How does climate science shape what we think of as environmental politics? Why did environmental politics take this particular umbrella of issues and say, 'Right, they are environmental', when they could have just



been talking about dirty air, dirty water, dirty soil in the local environment and everyone tries their best to clear it up?

There's something about the global imagination given by a general circulation model that starts to make people think about environmental issues as 'global environmental change'. This is one of the things that I'm particularly interested in the second section of the book. And then in the policy making section, the third section, I start bringing together all these historical threads that I've been trying to understand, to look at why, within the U.S., there are strands of thinking that were just not receptive to environmental messages. There are quite a few that I identify, one of which is around, that 'mutual orientation of state and science' in the Cold War. Meaning that Reagan and his advisors, scientific advisors, all have a paradigm for how scientists should behave and the idea that these new computer modelling scientists aren't doing what they're meant to. The Strategic Defense Initiative general circulation models are being used to show that his nuclear policies won't work. That's not

what scientists are meant to do. They're meant to support the American project. There's a sudden kind of cleavage between the political elite on the right and the scientists, who have had their understanding of their role in society moved on quite a lot by the issues they are researching and the changing times. Whereas the people in power are still thinking of their experiences of the Manhattan project and of when science and state were working very closely together.

There are other strands of insight that, as an English person, I hadn't realized until I read about them, around how the Western States of the USA have always been suspicious of environmental discourse and land management discourse, because it's often been seen as Eastern States making decisions for them without any consultation and where the interests of the Eastern States are hidden under protectionist agendas for natural resources and forced Parkland, state-owned Parkland. So when, in the UK there was a tendency to see climate scepticism as an elite discourse that was being seeded through the populace, I started looking at America and, I was like, there's a massive populace here, absolutely already on board with this for their own historical reasons that make sense for them given their experiences. So again, I don't want to go into massive detail about this section of the book, but this is where I start to try to make sense of anti-environmental discourses as historically situated, as having learned from other issues like long range transboundary air pollution and ozone depletion, as having an architecture of knowledge creation in the think tanks that were starting to be established after the defeat of the right in the supersonic transport debates in the 1960s. Climate change is an issue where it's higher stakes; there's a lot of practice and learning already happened. There's a lot of infrastructure already in place. There are enough people who are already attuned to the kinds of messages that climate sceptics end up using. It has power and I can work out where this power is situated and how it's coming together discursively and technologically, et cetera.

From my look at climate change, I think the thing that strikes me, is the way that the stories we tell ourselves are so shaped by the time and the things that we fear at that time. The story of climate change comes out because people fear ice ages and they start wanting a comforting story, and this is a possible comforting story. In the World Wars, the allies fear their enemy, they fear losing the war, so meteorology gets this massive boost in terms of social significance, political enabling and money. And access to existing military networks that make it really easy to collect data. Post-war fears of Soviet technological capacity are working within American science, but also the understanding of how science should work with politics may be quite important for understanding the fears of Reagan and the political elite on the right, in starting to see environmental science as something hostile and worrying. And in the 1960s and seventies, within environmental science, we start to have fears of our own lifestyle and our own decisions and industrial society and those are pushing how we research and what we research.

So I was in my hotel room a couple of hours ago thinking, "What's my point? What do I want to conclude?" Because I was hoping to have a few days to think about what I wanted to conclude. And I think the main point from my experience was that stories are really important. Somebody said to me, "Oh, you've written the book you wish you could have read when you started your thesis." And I'm kind of like, "Yeah, that's true. I needed to read this and do all this research before I could come anywhere near the UN and understand what was going on." Meaning is situated, Climate change seems pretty straightforward, but actually the iterations it's gone through the different discourses it's drawn on. It means different things globally. It means different things to different people. The situatedness of meaning needed to be carefully delineated for anything that I was studying to really make sense. Tackling complex problems, when it's not just that there's uncertainty in the science of climate change, but it's also uncertainty as a researcher. I had to embrace uncertainty myself, otherwise I wasn't going to do anything useful. I would just be saying, "These climate sceptics, why don't they think what I think?", which isn't going to advance knowledge or understanding of their political power. So yes, it's definitely not what I planned to do when I applied for a PhD, but it's taken me off down some strange paths. And there were theorists already there who were saying, "Yeah, these big, complex, awkward topics, you're not going to be able to study them the way you think you're going to study them. You have to get here and look at them and start to disentangle how they work before you can even pick a discipline." Which is how you end up with a foot in four disciplines. And it's very hard applying for jobs. So I don't know whether this is a, "This is what can happen and where your research can take you!" or whether this is, "This is how bad it can get folks."

Thank you very much for listening.

Family Risk and Uncertainty in the Digital Age

SONIA LIVINGSTONE

London School of Economics and Political Science

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IMAGINING THE FUTURE

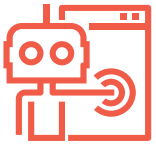
When thinking about this lecture, I decided to bring the theme of risk and uncertainty into the intimate sphere, examining family life in today's highly mediated world. I'll do this by providing a snapshot of my new book, *Parenting for a Digital Future: How hopes and fears about technology shape children's lives*. The concepts "digital" and "future" obviously convey a host of uncertainties; less obviously so do "family" and "parenting." But while we'll focus on the intimate sphere, my argument is hardly limited to that. For people's lived struggles in the digital age are both shaped by and significant for the wider society, its institutions, governance, and public sphere. I'm going to launch right in and then explain my methods midway and then give you a sense of where the book has taken me in my thinking.

Let's begin with the idea of imagining the future, which we - Alicia Blum-Ross and I - asked all the parents that we interviewed about, at some point in our interviews. In one family, Mia Ealy, who was only eight and already "a digital leader" at her school, was excited at the prospect of learning something special at Bluebell Primary School's code club. Her mothers, Rachel and Erin, were determined that Mia's gender would not channel her down what they called a bystander route – they wanted her to be the person who instigates the action, the maker, the doer. Rachel worked part time as an artist and a gardener, which is a creative but hardly lucrative combination. It allowed her a lot of time to volunteer at the school, and to keep an eye on what she called Mia's portfolio of opportunities. Like many of the parents that Alicia and I interviewed for our book, Rachel saw the digital as promising her daughter the individual self-realization that she too was embracing in forging new practices of family, class and gender. Importantly, she saw Mia as having opportunities that she had not experienced herself, having been prohibited in her own youth from pursuing her interest in woodworking, since that was only offered to boys.

But when we followed up, Rachel had little to say about those digital opportunities. And in this too, she was typical of the parents that we interviewed. Digital technologies were really focal in many visions of the future for good and for ill. But parents struggled to make sense of exactly what that might mean for their children. For Rachel, the sense was that digital opportunities would make a positive difference in Mia's future. Like many parents, she really used her own experience as the point of comparison. So the past is tangible, but the future remains an abstraction and can feel very far away and hard to predict.

Daya Thacker, a low income single mother of four echoed the vague and hopeful views of many when she said, "I don't know. I imagine them to... I just want them to be happy and independent and successful." Yet Daya imagined this future for her children unfolding in circumstances much more difficult than she remembered from her own childhood, having grown up in a tight knit Bengali community. Today,

she said, speaking for many parents, "it's society, the fear. When I was growing up, everybody knew each other and now nobody hardly knows each other… They've got closed lives now." This sense of a loss of social support and social connection was echoed by lots of the parents that we interviewed, and it was especially strong among parents who had children with special educational needs and disabilities. For them the future was almost unthinkable. Ali Kader, father of Sana, a 16 year-old on the autism spectrum, said, "I don't think about it much, really, for the future. Because otherwise I get mad. So I better just take it step by step."



> ***"it's perfectly obvious to me that we are headed towards a kind of virtual and robotic cyborg future."***

Imagining the future is simultaneously necessary and impossible for parents. It's necessary because their everyday mundane activities are constantly weighed for their potential to realize parents' hopes and fears for their child decades into the future. If part of the experience of being a parent is to want the child to be and do certain things, then being able to imagine those things, and realize them in practice is really crucial. But imagining the future is also impossible for parents, not only because the future cannot be predicted, especially for those facing particular difficulties, but because the clamor of future predictions in the public sphere from politicians, experts, media gurus, marketers, and science fiction writers is contested and contradictory. Using the term, future talk, Meryl Alper (2019) analyzes the dialogic processes through which societal and political discussions of the future and of technology are constitutive of our personal intimate narratives within the family.

When we asked Lena Houben what her children would need to be prepared for the future, she articulated a science fiction vision of which she was simultaneously anxious and critical, saying, "it's perfectly obvious to me that we are headed towards a kind of virtual and robotic cyborg future." That's what she imagines for her child. Lena's imagined future, and her future talk, shapes her present parenting in distinctly resistant ways. She launched into an impassioned account of teaching her children to cook and to understand where their food came from, not so much to be able to produce a meal but, as she put it, to encourage the handling of physical things as much as possible, to prepare them for the virtual world by making sure they had a concrete world before. But her resistance only went so far because she sought balance – something we analyze in the book. For example, her daughter Miriam was learning to write poetry and Lena encouraged her to blog about this, though that led to a set of difficulties we also explore.

The act of balancing is linked to ambivalence over the meaning of "now," the present moment between the parents' remembered past childhood and the adulthood that they imagine for their child. This might be judged negatively against a nostalgic golden age, or more optimistically in anticipation of a better future against which progress can be measured, as was the case for Rachel. Blogger mother, Melissa Bell was torn between looking backwards and forwards. Looking back, she said, "I want my children to have a Famous Five upbringing, you know, running around in the garden." Lots of parents have this vision. Looking forwards, she said, "technology is the way forward, and jobs wise, you know, it'll give them a head start, and I just I think it'll become the norm."

Many parents are mourning that past childhood of fresh air and creative play and muddy knees, which offers such an evocative counterpoint to a science fiction future. But they're also very pragmatic. They think, if technology is the future, let's get on with it. It's a difficult balancing act that they're trying to undertake, and they do so with ambivalent mixture of resistance and accommodation both to technology and to the competitive culture of individualism, within which that technology is often embedded. Perhaps we heard these kinds of discussions more often among middle class mothers who often seem to bear the personal responsibility of juggling competing values and desires within family, while also tasked with meeting society's normative expectations. Perhaps it's easier, too, to think about some of those visions when you have a garden in which your children can run free and you also have the resources to give them the technological opportunities that they want. Yet, when we did a national survey to accompany our qualitative fieldwork, we found that most parents were ambivalent, saying it's really important for their child's future that they understand how to use technology, but at the same time, society should really worry about what technology is doing to our lives.

RESEARCHING PARENTING IN THE RISK SOCIETY

Scholars of contemporary family life describe the rising anxiety and intensified logics by which parents are trying to bring up their children under conditions of risk, uncertainty and rapid social change. In parallel with worries about family life, there are also warnings of a crisis in childhood. The media tell us that parents respond by becoming "helicopter parents," "Tiger moms," wrapping their children in cotton wool, using technology as a "digital tether." Often, technology is positioned as the answer to their anxieties, although others adopt the opposite strategy, hoping to inoculate their children against danger through philosophies like "free range parenting." Technology enters into these strategies of dealing with the wider crises and uncertainties of family life by affording ways to carefully manage, balance and calibrate everyday life. It also introduces new kinds of visibility, including visibility for parenting: one theme that ran through our fieldwork was the sense that parenting is very much on show and constantly judged. For example, there's a lot of parent shaming in social media, especially

There's a lot of parent shaming in social media.

in online parenting groups. No wonder Frank Furedi (1997) talks about modern parenting as "paranoid," arguing that we have come to think of being at risk as if it's become a permanent condition, dissociated from its root causes.

In an individualized culture, with welfare safety nets being rolled back or privatized, people are tasked with making all kinds of decisions under radical uncertainty and in the face of contradictory expert advice. This contemporary constellation of real and perceived threats coalesces in what Ulrich Beck (1992) has termed "the risk society" in which, by contrast with natural threats, "risk may be defined as a systematic way of dealing with the hazards and insecurities induced and introduced by modernization itself." In the face of these manifold risks, parents are newly responsibilized, to use a horrible term, for their actions and for the consequences that flow from them, and this very responsibilization of parents engenders an intensified sense of insecurity and anxiety. In our book we explore the ways in which parents have come to see technology as both the problem and the solution. As Beck and Beck-Gernsheim (2002) observed, this burden on all of us to calculate and face those unequal costs and difficult outcomes is not an accidental consequence of socioeconomic changes. It is significantly a matter of political ideology. They call this institutionalized individualism, which I think is a helpful term to describe the competitive sink or swim culture in which social support is contracting because it can plan on increasing individual responsibility.

4 MAIN QUESTIONS

In the "Parenting for a Digital Future" project, we asked ourselves four main questions.

How are parents bringing up children in the digital age – or, what are their practices?

What's expected of parents in the digital age – or, what are the discourses around parenting?

What are the hopes and fears crystallized by "the digital future" – or, the imagined risks of parenting?

How does parenting relate to the other kinds of socializing agents around the family, especially the school, but also the community – or, how are parents connected or disconnected from others?

In terms of our methods, the project was focused in London, and we spent time with some 70 families living in the most diverse circumstances that we could identify. Within this, we had a particular bias towards finding families who had, as we thought of it, "voted with their feet" for the digital world. For instance, they had put their children in digital media clubs or video editing clubs or their children had chosen some digital route or interests. We interviewed parent bloggers, some finding this quite lucrative, and some who really thought of themselves as geeks. Indeed, we have a chapter in the book about geeks where they, both the parents and the children, explicitly take on this label and want to be part of a geek culture as their (somewhat) extreme strategy for dealing with many of the uncertainties that they face. Most of our families, however, were far from extraordinary in that regard, though they were hugely diverse. As I mentioned earlier, we also did a nationally representative survey of 2000 parents in Britain, to give ourselves a check on some of the claims that we wanted to make, since it's easy to start saying, based on 70 families, "most families do this and that."

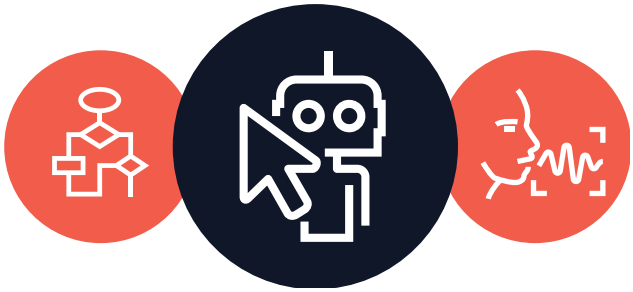
INEQUALITY AND DIVERSITY

One theme which runs through the book and to which we devote one chapter is the question of class and inequality. Having deliberately tried to sample parents for maximum diversity, we were particularly struck by the ways in which a lot of public discussion about parents and parenting homogenizes parents as if they are all the same and, further, is highly classed, with the idea of parenting anxiety seen as a middle class preoccupation. Our research challenged the sense that only the middle classes are worried about parenting, and the idea that these anxieties are somehow unfounded. We sought to demonstrate and explore the diversity of ways in which parents are, more or less, and in different ways according to their circumstances, striving for involvement and vigilance within the family, and ultimately seeking to shape the present precisely to optimize their child's future in a risk society.

Of course, and importantly, we saw lots of ways in which economic and cultural capital helps the middle class parents to face problems more effectively, leaving the poorer parents and the less educated ones to struggle under an individualized burden of risk. Yet, many of the poorer and less educated parents were also investing in technology in all kinds of ways that were hopeful, and effortful, although often unsuccessful and unsupported. So even among the relatively underprivileged parents we saw an open mindedness about digital technology or perhaps empathetic identification with the experience of being a child, contradicting Annette Lareau's (2011) characterization of their parenting as a matter of "natural growth" by contrast with the middle class's "concerted cultivation" of their children.

That meant that they wanted to understand what their child was interested in, what would enable them to support their children, and search for the resources that would help them. So Daya Thacker, who I mentioned before, had no special digital skills. But she loved the way her daughter was interested in finding new ways of doing her hair. Together, they would sit and explore this on YouTube and find ways of learning together. Rachel Ealy was not

particularly digitally skilled either, but she could see that Mia was gaining confidence from being "a digital leader," and she knew to ask questions about creativity and learning so that's what she did. Again, together they went on a journey that included discussions about coding and gameplay and robotics. Other parents, especially a number of migrant parents, found technology very important in sustaining the connections they had with family overseas.



So even parents who understand little about the technology, or have few resources, would know to ask their child, and their child would create the connections, or together through a process of "joint media engagement" (Gee et al, 2017) the family would figure out how to use the technology and, through it, to do some of the things they wanted to do in their lives. We concluded that there is something classed about the very idea that parenting culture and parenting anxieties are only for the middle classes. The middle class parents may be more vocal about their anxieties, but all the parents that we interviewed in one way or another held themselves responsible for fostering their children's agency and future life chances, and they were struggling how to make that investment in the context of the individualization of parenting in a risk society, and in a digital society.

At the same time, we wanted to question some of the more extreme claims about public anxiety because we also found many ways in which families were finding an accommodation and stepping back from some of the crazy claims about anxiety that one can read every day in the media. One way in which we saw them stepping back from that anxiety and finding their own balance was what through what we might call "a parenting philosophy." Let me tell you about Anna Michaels, who became a single mother when she was still a teenager. Having grown up in a conservative Christian West Indian family in South London, Anna both reacted to and reproduced the demands that were placed on her. She described herself with some pride as "a pushy parent" of 13 year-old Derek and 10 year-old Dionne saying, "I'm a single young mom and a gay young mom so I'm under a lot of categories of negativity in society." Although the family struggled for money, she declared that she wanted her children to have the best, but "I don't want them to think that the best is owed to them."

Anna worked hard to counter what she described as the stereotyping of poor families and single parents. By the ways in which she refused the position allotted to her in society, she illustrated both the promise and the demands of trying to overcome her difficult circumstances. She met the uncertainties and tensions of the risk society by focusing on learning, and especially learning through digital technologies.

So Anna fashioned her home as a learning environment. She supported her children's homework by buying all the books, setting them quizzes, explicitly calling herself the teacher at home, and creating a strict daily timetable to enable her children's interests. Dionne danced competitively, Derek did army cadets and Taekwondo, and each choice was made after careful consideration of the pros and cons to steer the children away from what she saw as danger towards a productive future. As a working mother, she worried that if they didn't attend classes, "they would be on the streets, looking after themselves…and there's a lot of gang violence around here." She especially worried about her son: for Derek, a black teenage boy in a poor area of London, the risks were real. So Anna was delighted when he became interested in computers and computer gaming, because this kept him safely at home when he wasn't otherwise at school. And she was full of stories how he took apart her old phone because he loves dissecting stuff and wants to know how things work. This was something she put effort into supporting.

As with many other families, the challenges that Anna faced were multiple. It was within this context that she judged that digital transformations could contribute to her efforts. We saw in hers and many other families how they considered it a productive route to equip the home with a mix of technologies, to encourage her son's geeky experimentation, and try to build a bridge through technology between learning at home and learning at school. In this regard, she and others were doing intuitively what is advocated by the theory of connected learning (Ito et al, 2020), exploring ways that technologies can support learning connections, and how learning in turn could bridge divides and enable people to connect with their wider communities and the resources and support these could offer. Anna's approach, like many, was one of balance rather than of a straight forward embrace of technology. Her enthusiasm was especially tempered when Dionne had a horrible time, as she put it, at school when she was cyberbullied by a classmate. As she reflected ruefully after telling us how angry she'd been about that episode,

"Technology is the future but technology is not reliable. You should be able to read and write, but don't let technology do everything for you, do it for yourself."

you can't change how technology is moving, you have to adapt to it, and you have to have the mentality to adapt to it. So she's embracing a culture of reflexive modernity in which, alongside the risks of insecurity, inequality and alienation, she is looking for the potential for self-definition.

Many contemporary social and technological changes open up hopes, as discussed by policy makers, academics and also the public, namely that uses of the technology can enable new possibilities for social mobility, for flexible working, for reimagined lifestyles, for self-chosen values, and that technology also affords new routes by which these goals can be achieved. So Anna's reflections on her life were about carving out a more open identity for herself and attempting to do this for her children. This is what we mean by a parenting philosophy, the way in which Anna theorizes the resources, the constraints and the challenges she faces in her "project of the self" as a parent. I would add that, although, she had taken on the burden of self-discipline, she'd done it to avoid what was otherwise rife, which is the policing of herself and her children by others in society. That threat of external policing, both literally and metaphorically, is always present. For Anna and some of the other parents we interviewed, in the risk society, parents are always the first in line for blaming and shaming and they are the first themselves to blame themselves. Now we can understand better why she said, "technology is the future but technology is not reliable. You should be able to read and write, but don't let technology do everything for you, do it for yourself."

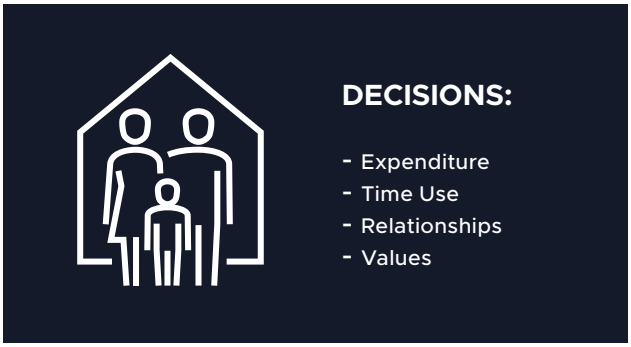
Within the most mundane parenting conversations there is an ever-present threat of judgment, imbuing everyday parenting actions with a sense of consequence, and causing parents to adopt what Ana Villalobos (2014) calls security strategies. In other words, they assume the responsibility for trying to make things better for their children despite the fact that many of the big societal shifts that are undermining their children's security are far beyond their control. Certainly it became very evident in our exploration of diverse family lives that they were living through and struggling with the big tectonic shifts of our societies - globalization, migration, economic insecurity. Yet, we argue, it is technology that is somehow becomes emblematic of both the threat to security and the promised both the threat to security and the promised route to ensuring it.

BIG TECTONIC SHIFTS

Globalization, migration, economic insecurity.

WHY IS THE DIGITAL SO SALIENT?

When we knocked on the front door and asked to interview parents about technology, they were keen to talk to us, which has not always been the case in my field work. This is surely because digital technology is very salient, and troubling, to parents. But why? One reason is fairly mundane. It relates to what Lena Houben called "the tsunami" of digital stuff in the home. This was salient to me too. As a researcher walking into often quite small living rooms, you have to make sure you don't tread on the iPad and trip over the wires, for there is often stuff everywhere. This very volume and diversity of digital stuff necessitates endless decisions, and so becomes top of mind. Parents find themselves reflecting almost every minute: how is their child engaging with technology, and how should they be engaging with it. Through such decisions, parents also find themselves making decisions about expenditure, about time use, about relationships, and about values.



Another reason is that, to meet the many uncertainties and risks that they face, parents are drawn into monitoring the media landscape for news of the latest opportunity or problem or advice, and this heightens their awareness of their digital responsibilities. What they find is a dominant culture of speculation which explicitly hails parents, calling on them to make sure that they have given their child the maximum opportunities to learn, to become a coder, and so on. At the same time, and contradictorily, they are told to limit their children's engagement with technology, especially to limit their screen time. In this way our society sets a series of tasks for parents in late modernity. These charge them with the moral responsibility to parent well, constantly ask them if they're meeting the standards of good parenting, and offer an explosion of resources around "digital parenting" in particular. This in itself is fueled by burgeoning market of experts, self-help books, apps, tools, and so on; they may sometimes help but they also further responsibilize parents and, even, commodify parenting.

Meanwhile, parents can't really look back to their own childhood to guide them, and nor can they turn to their own parents. They told us that when they get stuck about food or sleep or homework, they could talk to their parents or other family members. But when they get stuck about when the child should have a smartphone or is an iPad okay for a three year-old, who knows the answer? What should be acquired, what can be used and how it should be used, what's good, what's bad? Technology tests them; they are at the edge of their expertise, and their trusted circle of support may fail them. Parents are acutely aware that their

everyday decisions have consequences for their child's future. And the digital we suggest has become the terrain in which they act. It is worth noting that these were the most emotional interviews I've ever done in my life. We had so many interviews in which people cried; it wasn't the digital that generated those emotions but what they were telling us about, and the struggles they revealed, though the telling.

Habiba Bekele, a low income single mother said, "I want all of them have their own future. They decide. My daughter, she says she wants to be a doctor, my son, he said he wants to be a teacher... So that's their hope, that's how you want them to make their goal. So better children, better students, better to the future." What does she do? She gives them the technologies to help them study and to help them choose for themselves. And that to parents is often precisely the thing that they didn't have when they were starting out. They didn't have that freedom and that sense of possibilities to choose for themselves.

She gives them the technologies to help them study and to help them choose for themselves.

Thus, and significantly, mention of digital technology seems to catalyze the hopes and fears that parents have for their children now and in the future. This is especially the case for the present generation of parents, who are perhaps the last whose own childhoods were relatively technology light, and they anticipate their children's adulthood will be technologically intense. Cameron, a middle class father of two told us, "I think there will be jobs around now that there won't be around in 20 years... I want to see [my children] embrace technology and work in something that is always developing and changing and you're always required. You're always needed." The rhetoric which we hear from politicians and economists about how jobs of the future haven't been invented yet is very top of the mind for many parents. A mother of three, Ariam, said, "I do recognize how important technology is now, you know, more than ever... I believe in human progress and how far we've come. And, you know, I came here [from Eritrea] for a better life, and I'm absolutely intent to take advantage of it. I think life has changed for the best. There's a lot of negative stuff about technology, but I think the positives outweigh the negatives." Ariam, like many, focused on technology because it symbolizes what it was that she migrated for, what a better life looks like, and what she herself can do to enroll her children in that life.

This raises a fourth reason, perhaps the most significant. Think what it might mean for someone to move from Eritrea to London and create her family life there. And note how, through her talk about digital technology, Ariam finds a way of talking about the transformation that she's made. The way in which she talks about technology is weighted with all kinds of emotional significance that has much deeper roots. We heard something very similar, although in a completely different vein, from the parents of children with special educational needs and disabilities where, again, their talk about technology and what it could bring was weighted with their anxieties and frustrations about the failure of the system, the society, to support their child. Again, in talking about technology they told us about the deeper challenges they face, the values they strive to live by, and the future they hope for. The digital offers a safe way of expressing anxieties and seeking support. In our society it seems safer to worry about technologies than to talk about, and ask for help regarding the consequences of migration or the sense of loss that you've left your culture behind, or how you feel about your marital breakdown. Everyone is ready to talk about screen time or what age to get a mobile phone.

So the digital is salient because it symbolizes parents' hopes and fears for their child, and because it acts as a lightning rod for their deeper problems, seeming (and sometimes actually) to offer a solution, or at least a workaround, to all kinds of challenges that parents face - whether to do with migration, social mobility, economic insecurity, family tensions, disability. Not only do parents focus their hopes and fears on the digital dimension of their child's activities, interests and future potential – because this is salient, discussed in the media, new to today's generation, full of promise of a better life, but navigating one's way around digital technology seems to open the way to addressing all those other challenges. Using technology to retain contact with distant family and one's culture of origin. Gaining digital expertise to enable social mobility or guarantee a good job. Sharing media pleasures to manage relationships under pressure. Finding online support or assistive technologies for children with disabilities. It is from with this understanding that I now view parents' frustration with a child lost in screen, deaf to being called to dinner, throwing a tantrum when told to stop a video game. For it is not only the child's tantrum but also the parent's that is noteworthy – for they feel the limit of their own power, not merely to control their child in the here-and-now but to bring about their child's future, often precisely through the technology that frustrates them.

But of course, parents feel that they are responsible for digital technologies. They don't feel responsible for the economic insecurity they face or the structural changes that are happening in their country but they do feel they made that decision: they bought that iPad, they said yes to this computer game that is too old for their child. Perhaps the fact of having made decisions they feel responsible for generates or heightens some of the anxieties that they feel. On the other hand, the technology does offer some steps. So okay, you want your child to learn how to become a coder. There is a coding club around the corner, you can enroll them. You can

find out what technology to buy, you can download the app. There's a series of steps that the digital world maps out for parents which give them a sense that they can control and secure a future in this domain, if not necessarily in others.

WHAT DID WE LEARN BY LISTENING TO PARENTS?

From listening to parents, we propose three genres of parenting to trace the ways in which parents variously embrace technology, sometimes resist it, but very often try to find a balance with technology that fits their philosophy and fits their values. This is one of many ways in which, in our book, we challenge the idea that "parents" are a homogenous group, along with the idea that they are "digital immigrants" who know nothing about technology. But we also wanted to challenge the idea that, because they talk about the digital so much, that is therefore the problem facing them, and preoccupying them. Hence we unpack the ways in which they're using the digital to address some of the more profound problems that they're facing around financial insecurity, family difficulty, and so forth.

Listening to parents reveals some of the struggles of the risk society: parents are caught in a pincer movement in which they are simultaneously burdened with more responsibilities, and yet tasked with respecting the agency of their child. And so they are faced with the endless process of negotiation in what Anthony Giddens (1991) called the modern democratic family. Nowadays, and by contrast with many parents' remembered childhoods, we don't dictate to our children, imposing our will upon them "because I told you so." But we try to listen to everyone's views even if they are very young. And this, too, is negotiated through those endless, seemingly mundane arguments about what to watch, how long for, and when.

We end the book with some recommendations to the agencies that shape parents' lives, as well as those of their children, remembering our initial question about the connections parents are part of, and having heard their sense of being unsupported, unheard. These agencies are, most importantly, schools, welfare organizations, digital providers, the mass media, regulators, and commerce. Thus we try to represent parents to agencies with the power to make a difference for so often, these agencies make assumptions about parents in their absence, even complaining that parents make difficulties for their own work, but too rarely do they actually listen to parents. Even though parents, research is clear, are the biggest influence on their children's life chances. Moreover, they are people in their own right. In relation to the digital world, our book tries to give them a voice.

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Curated Lives: Smartphones as Tools of Control, Anticipation and Avoidance

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This paper stems from looking at mobile phones and the role they play in our lives, focusing on how we use them as tools to connect and disconnect throughout our life stages. So trying to understand when we want to be connected, and when we do not want to be connected and why. In addition, trying to understand also how this relationship with mobile phones plays out throughout our lives, and throughout different settings in terms of cultural and geographical settings, probing smartphones, as tools of control, anticipation and avoidance.

I would like start this presentation by quoting a dialogue from the Steven Spielberg's movie "Minority Report". A dialogue that takes place amongst officers of the Precrime unit and Danny Witwer, a Department of Justice agent sent to observe and evaluate the Precrime process.

For those not familiar with this work, Minority Report is a 2002 American cyberpunk action thriller film loosely based on the 1956 short story "The Minority Report" by Philip K. Dick. It is set primarily in Washington, D.C., in the year 2054, where PreCrime, a specialized police department, apprehends criminals based on foreknowledge provided by two men and a woman called "precogs".

The dialogue goes:

WITWER: Look, let's not kid ourselves, we are arresting individuals who've broken no law.

JAD: But they will.

FLETCHER: The commission of the crime itself is absolute metaphysics. The Precogs see the future. And they're never wrong.

WITWER: But it's not the future if you stop it. Isn't that a fundamental paradox?

ANDERTON: Yes, it is. You're talking about pre-determination, which happens all the time.

The film's central theme is the question of free will versus determinism, but also deals with the role media plays in an information-saturated environment and many of its predictions have now become a reality, such as personalized ads, voice controlled homes, gesture-based computing and Big Data Policing.

This paper will argue that smartphones play a major role in a society that craves control and safety, and that they could be regarded as tools of "premediation" following Grusin's proposal (Grusin, 2010). The paper will address three questions: How does the mobile phone embodies "premediation"? Which features translate this nature? Moreover, what are the unintended consequences of this uses.

CONTROL, ANTICIPATION AND AVOIDANCE

In a context where we have already remediated the past, where we are constantly remediating the present, we now turn to the future. The goal is now to always be prepared, to avoid trauma or shock.

"Premediation then differs from the double logic of remediation in that it represents not a desire for immediacy but rather a fear of immediacy, of the kind of extreme moment of immediacy or transparency that 9/11 produced". (Grusin,

2004). In premediation the aim is to provide an affective experience of what might happen, to shield ourselves from anything that is actually uncomfortable, so we adopt several protocols of avoidance, anticipation and control. I will contend that mobile phone embodies this need for pre-mediation. In addition, I want to bring you some examples that illustrate this premediation feature, from fiction and everyday life.

The first episode of season three of "Black Mirror: Nose-dive", portrays a society where you get a rating. So every interaction that you play out in society gets rated. You are rated by how you shop, why you shop, how you behave. Byung-chul Han speaks of a transparency society where he says that, "The society of transparency is not a society of trust but a society of control". "Nosedive" this is the story of a girl who really wants to upgrade her rating to 4.5 because she wants to buy a house with a discount, and she only gets the discount if she has 4.5. The main character does everything to actually get that rating but as the name of the episode hints, it does not go well. Every daily activity is closely planned for the picture or for the rating. When she walks into a coffee shop and posts a picture perfect moment, we can see the the coffee is awful, but the rating is great. So she gets happy, not because the coffee was good, but because she got a very good rating. Being a fictional example, I think we all could easily relate, or see this hap-pening throughout our interactions. This is especially true of the way we now curate our travel experiences. A report from hotels.com states that almost a third of people that travel would not enjoy their holiday without their phones. Therefore, even if the experience were good, if they did not have their mobile phone with them they would not enjoy themselves, much like in "Nosedive". CheapCaribbean.com sells a holiday package called "Vacation Envy" that pairs travelers with social media experts so that you can provide a picture perfect holiday. So you get taught how to take pictures of yourself, and the scenario is laid out so that you can send home the pictures of the perfect holiday: "We helped them frame their pictures, taught them how to edit them in Instagram, what filters to put on, we gave them free hair and makeup, and showed them how to pick the best lighting so they actually had a really brag worthy vacation, which is what a lot of people are really looking for," Mike Lowery, the chief marketing officer at CheapCaribbean.com

When you cannot go there, you can Instagram yourself, opening new business opportunities. Now companies are beginning to capitalize on the pressure to post awe-in-ducing photos on social media as well. Among the most successful is "Krome Photos", a photo editing website that uses artificial intelligence to pair people with professional photo editors who can take your images and transform them to make it look like you're anywhere in the world. The cost of edits range between $3 and $12 and most take between 12 or 24 hours. "Anything is possible", the company's website says. "In the old days our car or our house represented who we were," said Eduardo Llach, the company's chief executive and founder who compared his employment model to Uber. "Now, your online per-sona is everything and people are realizing that photos give you the ability to create whoever you want to be

Figure 1 | Rumquatquatur audaeria cuptatquatem necerum iuntion empo-riatquod endi tem veribus ciisit qui doluptas a sim velia sim laces quia que modi ut denimost, omnit omnihit aut volento que repudi alit et esecaerem quam laccaeptur?

All our interactions with the world involve our thoughts, our body capabilities, but also our history, our context, our social and cultural understanding that contextualizes and provides clues to deal with all that captures our attention: "Technics is the symbiosis of artefact and user within a human action" (Ihde, 2002, p. 508). For Don Ihde in each technology, we witness the clash of utopian and dystopian views. If on one hand we long for the transformation of our capabilities, on the other we want a natural experience, total transparency. A synthesis that is impossible to reach because, as Ihde claims, technologies are not neutral.

The actual or material technology always carries with it only a partial our quasi-transparency, which is the price for the extension of magnification that technologies give. In extending bodily capacities, the technology also transforms them. In that sense, all technologies in use are non-neutral. (Ihde, 2002, p. 509). Technological artifacts, such as the mobile phone, mediate our sensorial experi-ence of reality, and by doing it, they transform what we perceive. This ability to transform is designated by Ihde as "intentionality", meaning that technologies play an active role in the relationship people establish with the world around them. However, these intentionalities are not fixed properties of the artifacts; they take shape in the human-technology relation. In the context of different relations, technologies can have distinct identities. Ihde calls this phenomenon – multistability: the same technology can have different stabilities according to the way it fits its usage context. Human beings, their technologies and the surrounding world form an interdependent structural whole.

There is also a deeper desire that can arise from the experience of embodiment relations. It is the double desire that, on one side, is a wish for total transparency, total embodiment, for the technology to truly 'become me'. The other side is the desire to have the power, the transformation that the technology makes available. (...) The desire is, at best, contradictory. I want the transfor-mation that the technology allows, but I want it in such a way that I am basically unaware of its presence. P. 509

The same contradictory logic is noted by Bolter & Grusin: we seek to "simultaneously proliferate and to erase mediation, to eliminate all signs of mediation in the very act of multiplying them".

The mobile phone embodies this double logic. It is a heavy contributor to the hypermediated world we live in, but at the same time, it perfectly translates the denial of the mediated character of digital technology

THE REMEDIAL NATURE OF THE MOBILE PHONE

Our lives are increasingly performed within a mobile connected context with high penetration rates all over the world. The main novelty of this context is the acquired ability to reach a person and not a place (Feldmann, 2005). Mobile phones have conquered a large amount of space in our daily lives and without them; we tend to feel lost, disconnected, and anxious; translating a strong emotional connection.

The mobile phone surely owes its massive adoption to its untethered nature, satisfying one of human's most obvious need – to communicate on the move. It also remediates a wide range of former media:

> ***"The mobile phone's multifunctionality, as well as that of other ICTs testifies to the desire for reunification that modern society expresses in the face of its opposing tendency to divide, fragment and pulverize".***

"The mobile phone's multifunctionality, as well as that of other ICTs testifies to the desire for reunification that modern society expresses in the face of its opposing tendency to divide, fragment and pulverize". (Arnold, 2003, p. 153)

Simultaneously we seek the disappearance of the medium. We get angry when we do not get proper reception, or when the battery goes down and we are not able to make the phone call we wanted and we make it an extension of us – our virtual presence. The mobile phone is conceived as a visible prosthetics of the body in the McLuhan sense of extension. The mobile phone is a multifunctional and multidimensional artefact that induces profound changes in our context: new uses of time, new ways of interacting with others and the end of space barriers between the professional and private, work and play, the past, the present and the future.

The mobile phone has led to what Hayles (1999) characterizes as the "denaturalization" of space. Mobile technologies annul natural characteristics by allowing a unique, individual experience of a specific space.

The pre-electronic locality was characterized by its physical and experiential boundedness. Situations were defined by where and when they took place and by who was physically present - as well as by where and when they were not taking place and by who was not physically at particular events. Now such boundedness requires some effort: Turn off the mobile phones, PDAs, and laptops; banish radio and television. Schools and churches continue this struggle to make "a space apart" (Meyrowitz, 2005, p. 28).

McLuhan (2002-1964), regarding the telephone had already stated that it was "an irresistible intruder in time and space" and described the change in human perception introduced by electricity. The effects of digital communication networks amplified this phenomenon. In the case of the mobile telephone, its ring seems to supersede any other activity with people feeling compelled to act upon it regardless of their activities or surroundings.

Location is a form of mental positioning and thus the usual question we all make when on our mobile phones – "Where are you?", Ferraris (2005) observes how we changed from asking "Who is it?" when answering the telephone to "Where are you?" with mobile calls given we have lost our geographical reference to a house, "we no longer ring a location and attempt to reach a person, but ring a person and attempt to locate them" (Light, 2009). We also say: "I will be on my mobile phone", that is the place where we can be found and thus suggesting what Sherry Turkle describes as a "tethered self" (2008). The importance of location also becomes visible in the success of location-based services (LBS) and Apps such as Waze, or google maps.

Mobile technologies have privatized the public sphere. With mobile technologies we reconfigurate our public space, we build walls where they do not physically exist but we also tear them down. Feldmann (2005) has noted the hybridizing of public and private space as one of the main characteristics of the mobile communication system. Today privacy means to be in control of the information flow and the mobile phone provides that control.

The mobile phone has become our permanent connection to information and our social network. It is constantly on and with us, becoming a kind of place where we can be found (Lasen, 2002). We have ceased to organize our life in space compartments. We are available wherever we are and we can even resuscitate time, as the one we spend in transportation or in waiting lines. We live an interaction dynamic where uses surpass context. The bus can now be a classroom and the classroom a playground.

In this quest to control time and space, the mobile phone is used to obtain a sense of security, to coordinate daily

activities and to keep us at reach independently of our time reference and space coordinates. In an increasingly mobile society, the mobile phone has become a place for many of us - the place where we can be found, and the place where we can hide.

The mobile phone allows us to live in a constant movie trailer context. We can seduce, prepare, avoid, and create lower or higher expectations, and thus curate our lives. This is the general nature of the mobile phone but some features, as text messaging, or social media Apps, translate it better than others do.

The mobile phone is also used to obtain a sense of security and provides freedom of movement by also ensuring we always feel supported: "mobile communication is not about mobility but about autonomy. The possibility to reach any one at any time anywhere provides this safe autonomy pattern that characterizes the daily life of millions" (Manuel Castells, 2008: 448).

This autonomy provided by mobility, this ability to move around across different spaces closely relates to power relationships (Cresswell, 2006; Urry, 2000, 2007). Different groups have very different experiences of mobility that are regulated by relationships of power regarding space: "some are more in charge of it than others; some initiate flows and movements; some are more on the receiving end of it than others; some are effectively imprisoned by it" (1993, p. 63).

The device allows its users to extend to outer spaces a function that was valued so much in the landline telephone – keeping in touch with those that are emotionally important in what Klára Sándor calls "mental safety in your pocket" (Sándor, 2005a).

The embodiment characteristics of the mobile phone device, its nature of "perpetual contact" also gives way to the user's own disembodiment that takes its most radical form in text messages where not even the traces of the body conveyed by the voice are present. Much like the telephone, the mobile phone offers many (women, racial discriminated groups) new opportunities for disembodiment that enable them to occupy spaces that are otherwise scary or hostile to them or to be "communicatively present while being physically absent" (Wajcman, Bittman, & Brown, 2008). This also enables to manage difficult relationships and avoid hostility as conveyed by one of the women interviewed for my research on women's uses of the mobile phone (Ganito, 2016) that found the mobile phone text message service very useful for managing the relationship with her recent ex-husband:

> ***"When I dated my now ex-husband, we did not have a mobile phone so I never used it to date but, now that we are divorced and there is conflict, I use e-mail and text messages to talk to him because it is very hard to talk face-to-face. It helps a lot because I end up not getting as nervous as I would if we were physically together. I do not have to see his reactions to what I am saying. It helps to avoid stress and anxiety"***
> *Carmen, 40 years old, recently divorced, mother of two, sole caregiver.*

In this research on women and mobile phones security and control proved to be two of the main reasons women either decided to buy a mobile phone or had one given to them. Mobile phones become shields or technological bodyguards.

We are creating new actors, the "absent-present" (Gergen, 2002) and "new social events" (Caron & Caronia, 2007). Mobile phones serve as shields or technological bodyguards.

Mobile phones serve as shields or technological bodyguards.

In the middle of a room full of strangers in a depressing or simply dull situation, we can (virtually) be with those whom we are in a close relationship. We can instantly share our experience with them, we can ask them for help in solving a problem, we can get some comfort from them – or we can simply escape from the situation we are physically in to a mentally safer virtual environment (Sándor, 2005b, pp. 20-21).

Resorting to mobile phones, we establish cocoons that are "micro-places built through private, individually controlled infrastructures, temporarily appropriating public space for personal use" (Mizuko Ito, et al., 2008, p. 74).

In their study of the hybridization of home and workspaces, Wajcman et al propose the concept of "connected presence" to explain these social practices. This concept of "connected presence" or "families without borders" was also well expressed by many of the women I interviewed (Ganito, 2016):

The mobile phone is always with me. I never turn it off. I used to do so but since my mother became sick and I have always left it on. And even after she died, I kept on doing so because I am afraid someone might need me. And my father is becoming old as well and I feel more reassured this way. I once spent a day without it and it was hard. It is an anguish not to be able to provide for my kid at a distance. I would be anxious about not being able to speak to my son (Cecília, 46 years old, divorced, mother of a pre-adolescent son, sole caregiver).

We are living in a culture of "perpetual contact" where the mobile phone invades even the smallest and most sacred places of our lives, our churches and our classrooms, our beds, when placed under the pillow by a teenage girl so that no message gets missed, and our office bathrooms so that no phone call gets left unanswered.

The need to be always in touch has also enhanced the embodiment of mobile phones through wearable devices. They are carried closer to our bodies; they become an extension of our senses, a prosthetic device for our voice, our eyes and our ears. And, within this process, they are the object of embodiment and disembodiment practices.

As embodied objects, they form part of power relationships interrelated with the presence or invisibility of certain places such as our streets, our homes and our offices.

One of the most noted reasons for wanting and needing this constant availability to others, and of others, is an emergency. This represented one of the most commonly referred justification in the studies on the use of the mobile phone: (M. Castells, et al., 2004; Chayko, 2008; J. Katz & Aakhus, 2002; Ling, 2004). The resistance arises out of the perceived notion regarding the loss of privacy: This perception leads many to engage in creative forms of avoidance and also justifies the preference for asynchronous forms of communication, especially text messages or Apps such as WhatsApp. Users are opting for asynchronous forms of conversation or tools that enable them to display status information that allows for a better management of privacy and availability. People now coordinate important calls in advance through e-mail, text messages or chat and ensuring not only that those calls become more effective but also enabling control over social interactions.

UNINTENDED USES AND CONSTANT REFUSALS

Figure 2 | **One of the first movie appearances ofthe videophone in Fritz Lang's Metropolis (1927).**

If we look at media evolution we soon realize that many of the current uses were completely unexpected and sometimes it is the most unexpected of them that dictate the success of a technology. One vivid example, in the scope of the mobile phone, is the massive success of text messaging. Text message was never on mobile providers marketing plans. The service was intended to allow operators to inform all their own customers about things such as problems with the network, necessary updates. But soon users, especially the younger, more prone to experimenting and with lower budgets, found that it could be used to convey messages to other users for free. The first text message was used in December 1992 but it took it more than seven years to take off as a commercial service because many companies did not charge for it as they thought there was no market in text for a device they regarded as being mainly for voice.

Today, text messaging is one of the most successful features, besides voice. We can argue that it owes its success first of all to its non-intrusive nature. As we never know where we are going to find the ones we call, a text message ensures minimum disturbance: "the silence of text is probably its biggest social asset" (P. Levinson, 2004, p. 112).

It is also a better way of conveying specific or complex information and to control it. With text we can decide when to answer and have time to think through what to answer. Voice is impulse and text is to ponder. Finally, text allows the user to control the length of the interaction and the context. In text there is no background noise and no specific tone, so it allows for a higher degree of privacy. These affordances of text were well explained by users in a study of mobile gossip (Fox, 2001) where participants reported using text instead of voice because they were shy, lazy or felt had nothing special to say: "for example one participant always send text messages to his mother, as he knows that phoning her would tie him into a long conversation". Or, as others reported:

Texting is less stressful as one has time to think of witty and articulate things to say (mobile gossip).

You can set someone up with a text message – create the anticipation of what you are going to say, before you meet up with them (mobile gossip).

In the scope of McLuhan's tetrad of media effects (1964) texting would be in the quadrant of reversal. McLuhan said that, when pushed to extremes and as a reaction to its unintended consequences, the medium reverses to a previous form. In the face of total access, we voluntary constrain our freedom of communication, at least the oral one. And we could say that the constant introduction of features is what pushed the mobile phone to its limits.

Contrary to text messages, that was mainly an accident, an unintended use; the concept of video calls has been around for a long time. The first movie reference is from Fritz Lang's Metropolis (1927), but long before that we have multiple references to video telephony. And since then, popular culture has hundreds of references to the eternal promise of distance communication.

The first demonstration of a two-way videophone dates from 1930 and was conducted by Bell and AT&T. Since then phone companies have tried to push the technology to the market, despite early signs that the consumers where not too much interested in it. Bell's own market research, dating from the late 1950s revealed that people do not always want to be seen as they chat on the phone. It would be as intrusive as having to answer the door on your robe. The lack of control over presentation has lead people away from massive adoption. Nevertheless, video conferencing has been quite successful in professional contexts where indeed you control your performance.

Video calls are considered highly intrusive and have never gone pass the toy phase of technology. You could try it for a couple of times or use it in exceptional circumstances but you do not accept it in your daily routine as an unplanned activity:

The camera in the phone performs at the extreme, outer limit of how the cell phone can invade our privacy – it is clearly a use of the cell phone that has nothing to do with what the cell phone is intrinsically about. It is, instead, in its worst examples, a perversion of the cell phone and its purposes. In contrast, texting in many ways epitomizes what the cell phone was always intended to do: allows us to converse whenever we want, which, in the case of texting, now includes conversing in such a way that no one around us need know we are conversing (Paul Levinson, 2006).

Although camera phones are hugely successful, most of the uses are for reporting (asynchronous) and not live conversations. With live calls, the phone can no longer be used as a shield, a gatekeeper and thus would lose its usefulness as a tool of "premediation".

As premediation features proliferate our devices, which in turn are increasingly embodied through wearables and ambient technologies, we must ponder on the challenges those uses bring: technostress, breach of privacy, diminished free will, especially in vulnerable groups such as the elderly were under the promise of safety we witnessing a system of bio surveillance. Or with children and teenagers with the rise of control parenting practices to the extreme of what is now popularly known as helicopter parenting.

CONCLUDING REMARKS

In the scope of Bolter and Grusin theory of Remediation, each new media refashions prior media forms, in a double logic by which, we simultaneously thrive to proliferate the world with media, increasingly fragmenting our background and mediating our experience, through the enhancement of our senses; and to create media technologies that are transparent, that create an illusion of complete embodiment. We favor the media that evolve towards getting closer to our natural human experience, but at the same time we keep alive the dream of an ideal communication context, to transcend our bodily constrains.

The mobile phone, not only embeds the double logic of remediation, but has also proven to be a fantastic tool of premediation, enabling us to shield against the unplanned future. In its evolution process some features have proven more successful in satisfying this need than others. Although video calls seem to fulfill the dreams of an ideal communication landscape, they do not get wide acceptance and are kept as an entertaining or niche feature. On the contrary, text messaging, or social media,that at first glance could seem a step back in the evolution process is one of the most successful services provided for the mobile phone. As for video calls, they seem condemned to science fiction movies. They seem to be the eternal postponed future of communication.

We articulate between our "immersed selves" and our "connected selves" in a precarious balance. To which Grusin argues that we have added the concern with the premediation of the future. In a world of constant change and high-perceived risk, we crave media ubiquity to be prepared.

We anticipate every step of our future experience. Take the given example of travel where premediation has reached its height. The majority of us no longer leaves for a trip without a travel guide, we can access real time webcams or google maps to map our territory; we entail long distance conversations with locals through our social networks; we are able to pre-choose a flight seat chosen based on recommendations, we have seen all the pictures and videos we can of the hotel we are staying or the sights we are seeing. In addition, we depart fully equipped with our mobile Internet access and our GPS so that we never have to stop to look for directions, choose a restaurant or an activity. We have erased the room for surprise, for the unexpected, in trying to prevent the possibility of a traumatic future.

We curate for every aspect of our lives: the past, the present and the future, we let go of our freedom in the name of comfort and safety, how far are we willing to go, as individuals, and as communities? I do not have an answer and that answer will probably take many meanings and shapes, but I do know that it is important to keep asking questions, to develop and instill a critical inquiry into our students and peers. That is what we can do: to keep on questioning, to keep debating. I believe in the co-construction of technology, that it uses will be shaped by our actions and in the words of Abraham Lincoln: "The best way to predict the future is to create it".

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Science and Expertise under Fire: Political Control, Online Harassment and Freedom of Expression

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In the last decade, restrictions on the freedom of inquiry and the public expression of scientific researchers have become prominent topics of global debate. Recent changes in politics, such as the rise of right-wing populist parties and changes in the media landscape, have also fuelled this phenomenon throughout the world.

These issues, often connected with the increasing public criticism against expertise, are sometimes discussed in the context of fake news and the so-called post-truth era. I find the concept of post-truth rather ambivalent and problematic, so instead I contextualise these issues within the concept of authoritarian populism as was briefly discussed by Barbie Zelizer (2019) in the last Winter School.

Before going to authoritarian populism, let me briefly describe some recent trends related to academic freedom and the freedom of expression of scientific experts. Scholars at Risk (SAR) is an international organisation that monitors violations of academic freedom and freedom of expression around the world. According to its recent report,

(A)round the world, attacks on scholars, students, staff, and their institutions occur with alarming frequency. These attacks are carried out by both state and non-state actors, in open and closed societies, using a range of methods. Ultimately, these attacks not only harm the individuals and institutions directly targeted; they undermine entire higher education systems and shrink everyone's space to think, question, and share ideas freely and safely. (SAR, 2018, p. 3)

Scholars at Risk are mainly concerned with the most severe violations against scientists and experts, such as arrests and wrongful imprisonment, violent attacks, travel restrictions etc. Many of these violations take place in authoritarian countries like Afghanistan, Turkey, Sudan and China, but in the last 10–20 years, there have also been problems in democratic societies, such as the United States, Canada, Hungary and the Czech Republic (Väliverronen, 2020).

Figure 1 | International Scholars at Risk network publishes an annual report Free to Think

Columbia University hosts a website called the Silencing Science Tracker that gathers data from 'action that has the effect of restricting or prohibiting scientific research, education, or discussion, or the publication or use of scientific information' (Columbia Law School, 2019). The website contains data on government censorship, the self-censorship of scientists, research cuts, restricted publications and the misrepresentation or disregard of scientific research in policymaking.

The Silencing Science Tracker focuses mainly on environmental research. This is not surprising, since there are strong political and economic interests around environmental research and the application of research data putting environmental researchers under pressure. There may be straightforward use of political power by the government or lobbying by energy companies or think tanks. Types of suppression include defamation, false accusations, lawsuits and unjustified claims of scientific misconduct (Kuehn, 2004).

Figure 2 | Sabine Center for Climate Change Law at Columbia University publishes Silencing Science Tracker.

The presidency of George W. Bush (2001-2009) was an era when environmental research was particularly under attack (Cole, 2005; 2017). For example, the well-known climate scientist James Hansen accused his employer, NASA, of violating his freedom of expression and of censorship. According to Hansen, his e-mail was monitored, his writings were required to be pre-screened and his public appearances were managed (see e.g., Rich & Merrick, 2007).

In Canada, during Stephen Harper's government (2006–2015), environmental researchers faced similar problems. The government no longer wanted to commit itself to the Kyoto climate objectives and sought to promote Canadian industry by streamlining environmental legislation. The focus of the National Research Council's funding was transferred from basic research to applied research that served to develop industry and new innovations (Amend & Barney, 2016). At the same time, the freedom of expression of those working in state research institutions was restricted. In 2007, research institutes received new communication guidelines requiring researchers to ask for permission from the leadership before they could contact the media or publicise their research. This diminished the freedom of expression of the researchers (Magnuson-Ford & Gibbs, 2014).

In addition to its internal censorship, in recent years the Chinese government has also influenced the censorship of foreign scientific publications. In the fall of 2017, it was revealed that Cambridge University Press granted the Chinese government's demand to censor and remove 315 articles from the database of its journal China Quarterly. China Quarterly is one of the most respected international publications in the field. The censored articles dealt with topics sensitive to China, such as Taiwan independence, the status of Hong Kong, the situation in Tibet, the role of the Dalai Lama as leader of Tibet and the 1989 events in Tiananmen Square (Airaksinen, 2020).

The censorship of the China Quarterly caused a storm of widespread protests outside China. More than 1,200 researchers signed a petition against censorship, and many researchers stated that they would no longer publish their articles in China Quarterly. After these protests, the publisher cancelled the further removal of articles from the web archives, and the censored articles were returned.

At the same time, another major scientific publisher, Springer Nature, also decided to remove more than 1,000 articles from its Chinese database. The censored articles dealt with topics similar to those of the papers threatened with removal from the China Quarterly. According to the publisher, China would have shut down the entire SpringerLink site in the country if the politically sensitive articles had not been removed from the database. Springer Nature justified its decision on the grounds that it was merely adapting its publications to local laws. Scholars worldwide have criticised this decision and organised boycotts, such as refusing to peer review articles submitted to Springer or Palgrave Macmillan publications (Airaksinen, 2020).

In Europe, researchers had difficulties in the 2010s, especially in Hungary but occasionally in other Central Eastern European countries. In Hungary, the Central European University (CEU) has become a symbol of scientific freedom. The George Soros-funded university in Budapest has long been under the scrutiny of Prime Minister Viktor Orbán. In 2017, a new university law came into force in Hungary, specifically against the CEU. Since then, the university has tried to negotiate its position, but its operating conditions have further deteriorated. In December 2018, the university handed over its degree-leading education to Vienna, Austria.

In the summer of 2019, the government significantly reduced the independence of the Hungarian Academy

of Sciences by assigning to it a new administrative level. By appointing people of their choice to the new science administration, the prime minister and government were able to influence research funding and priorities.

Czech President Miloš Zeman has used his power to block the appointment of professors, often for political reasons. While the president of the Czech Republic has had the power to confirm the appointments of professors for many decades, past presidents have not used their power to block appointments. The largest university in the Czech Republic, in 2019 the internationally acclaimed Charles University, sued the president for abuse of power and violation of academic freedom. The council of rectors of the country has supported the university in this matter. University management justified the decision to sue the president on the grounds that it is not up to the president to decide who is eligible to become a professor.

THE RISE OF AUTHORITARIAN POPULISM

The term *authoritarian populism* was first coined by Stuart Hall in 1979. With the concept, he aimed to explain and understand the emergence and success of Margaret Thatcher and Ronald Reagan in the late 1970s and early 1980s. According to Hall, Thatcher in particular was able to mobilise popular votes among the working class with the rhetoric and ideology that utilised 'moral panics', zero-tolerance policing and increased immigration control. Thatcher succeeded in gaining political hegemony by representing a moral leadership with her attacks against the 'corporatist state' and welfare programmes.

More recently, the term authoritarian populism was picked up by Pippa Norris and Ronald Inglehart in their book *Cultural Backlash: Trump, Brexit, and Authoritarian Populism* (2019). Norris and Inglehart do not refer to Hall and the origins of authoritarian populism, perhaps because they use the term in a somewhat different way: Norris and Inglehart refer more broadly to right-wing populist parties and leaders throughout the world who have gained popularity with their anti-immigration and anti-liberal policies and nativist ideologies. They argue that

Authoritarian Populism favors policies where the state actively intervenes to restrict non-traditional lifestyles, typically by limiting same sex marriage, LGBTQ rights and gender equality, access to contraception and abortion, and affirmative action or quotas – unless, in some cases, these types of liberal policies are framed as a defense of national cultures against attacks by 'others.' Finally, in the public sphere, since liberal democracy has been delegitimized, authoritarian populists favor strong governance preserving order and security against perceived threat… even at the expense of democratic norms protecting judicial independence, freedom of the media, human rights and civil liberties. (Norris & Inglehart 2019, p. 9)

The book is based on international social value surveys from the 1970s and the argument Inglehart made famous some time ago on the silent revolution. Norris and Inglehart briefly discuss the violations against press freedom and freedom of expression in relation to authoritarian populism, but they do not address academic freedom as such. However, I think that the rise of authoritarian populism is a relevant context through which to understand the recent threats to academic freedom and freedom of expression. In countries such as Turkey, Hungary and Poland, the limitations imposed by authoritarian populist governments on freedom of the press and freedom of expression go hand in hand with restrictions to academic freedom. The same can be said for the attacks on the mainstream media, environmental science and academic experts in the United States.

When Donald Trump was elected president of the United States in 2016, similar worries arose among environmental researchers as those that emerged during the era of George W. Bush (2001–2009). In the spring of 2017, the March for Science gathered an estimated one million people around the world in 600 cities (Ross et al., 2018). The event was organised mainly due to the concern of American environmental scientists over the undermining by Trump's administration of environmental research in order to promote the agenda of traditional industries.

Figure 3 | March for Science in Helsinki, Finland, March 2017. University of Helsinki archives.

Norris and Inglehart do not explicitly discuss the relation between authoritarian populism and trust in science, but recent studies show that in the United States, the cultural authority of science has lessened among conservatives. For instance, Gordon Gauchat (2012) explored public trust in science from 1974 to 2010 and concluded that 'conservatives clearly experienced group-specific declines in trust in science over the period'. Gauchat associates this public distrust in science with two cultural shifts, with the first shift occurring during the post-Reagan era of 1980 with the emergence of the new right. The second shift occurred after the Bush era with the suppression of environmental sciences. According to Gauchat, science has increasingly become politically contested and ideologically connected with government regulation, which contributes to the politicisation of science in the public sphere.

ACADEMIC FREEDOM IN FINLAND

Let me now discuss academic freedom and researchers' freedom of expression in Finland.

The principle of academic freedom is enshrined in Finland's Constitution, which states that 'freedom of science, art and higher education is safeguarded' and is and is reflected in the autonomy of universities. Academic freedom includes the ability for researchers to determine the topics, methods and forms of publication of their research.

This applies not only to universities, but also to all other educational and research institutions. Academic freedom also includes the right of citizens to use research results.

However, over the last ten years, the debate on the freedom of science and the freedom of expression of researchers has emerged from time to time in Finland. Researchers' criticism of the narrowing of scientific freedom was clarified particularly well in the preparation of the new University Act.

The new University Act, which came into force in 2010, promised more freedom of science as well as financial and administrative autonomy for universities. Despite this, criticism of the narrowing of scientific freedom and autonomy has only increased. This was because the University Act made the university administration more hierarchical in accordance with the new public management ideology. Universities are now seen as competing units: To succeed, they must constantly step up their operations, sharpen their profile and demonstrate their effectiveness through various evaluations and indicators.

In the European comparison of academic freedom made in 2007, Finland ranked in the top position of 23 countries. In a comparison published in 2017, Finland had fallen to the European middle caste. The new university law that came into force in 2010 was identified as the main reason for Finland's descent (Karran et al., 2017).

2007

Finland ranked in the top position

The University Act of 2010, and subsequent reforms, forced universities to align with the new public management ideology. In the management of universities, there has been a shift to hierarchical practices instead of collegial ones. While in the past, quality assurance and control of operations were based on trust and internal evaluation, today they are increasingly 'external and mistrust-based' (Keränen, 2013, p. 68)

FREEDOM OF SCIENCE

+

FREEDOM OF EXPRESSION

Like in many other countries, market-driven elements have been implemented into Finnish universities and higher education institutions (Aarrevaara et al., 2009; Tuunainen & Knuuttila, 2009), and the development of a national innovation system has been encouraged. Universities and state research institutes are regarded as nodes within innovation networks (Ylijoki & Ursin, 2013). Thus, academic capitalism and the commodification of academic research (e.g., Hackett, 1990; Radder, 2010; Birch, 2020) have shaped academic organisations and academic work. In particular, the introduction of the Universities Act in 2010 strengthened the rise of new public management in Finnish universities. This has since encouraged the adoption of top-down quasi-entrepreneurial policies in management and communication activities at state research institutes (Karvonen, 2011, p. 173).

The critique against university politics intensified in 2015 when a new centre-right government took power in Finland. Following the parliamentary election of 2015, a coalition government consisting of Finland's three largest centre-right parties – the Centre Party, the National Coalition and the Finns Party – was formed. This marked the first time that the right-wing populist Finns Party had participated in a Finnish government. A controversial measure adopted by the centre-right government was to reduce public spending on education and research. This was something of a departure from the successful Finnish education system of which the country is so proud. These cuts involved merging educational units, closing down small disciplines and cutting financial aid to universities, polytechnics and the Academy of Finland. Because of this, it is not surprising that the government became unpopular in the world of Finnish academia. Discontent with the government caused public demonstrations by academics and a one-day strike at the University of Helsinki in 2018.

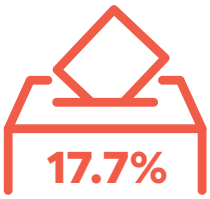
Critique of the government by academics was also fuelled by some reckless public statements made by cabinet members. First, the treasury minister and leader of the National Coalition, Alexander Stubb, made a joke about the academics who had criticised the cuts to education and research: 'If the professor once had three reasons to be a professor – June, July and August – then this is no longer the case'. After being subject to intense criticism from academics, Stubb apologised for his remark.

The most infamous gibe against academics in this regard came from Prime Minister Sipilä during a TV talk show: 'There are now too many of them [critics] in Finland to tell you what should not be done in this situation. There are all sorts of docents who say that this and this must not be

done'. This caused widespread displeasure among academics, and the phrase was turned into a meme that was widely disseminated in public discourse. In 2016, the Finnish Association of Science Editors and Journalists gave its annual Science Communication Award to 'all sorts of docents'.[1]

Thus, from 2015–2019, the centre-right government was highly unpopular among Finnish academics. A reason for this mistrust, aside from the curtailment of academic freedom, was the increasing political influence of the Finns Party, who had cultivated anti-immigration and anti-intellectual sentiment in Finland. Numerous academics have blamed the leaders of the Finns Party for encouraging racism and hate speech.

The Finns Party was founded in 1995. In the 2015 election, the party received 17.7 percent of the votes, making them the parliament's second-largest party. The roots of the party lie in Finnish agrarian populism, which has distinct anti-elitist and conservative tones. While the Finnish Rural Party and the Finns Party prior to 2010 occupied a centre-left political position, in the last ten years, the party has moved to the right and possesses numerous ideological characteristics that are similar to other radical-right parties in Europe (Jungar, 2016). Since the party left government in 2017, it has been the biggest or second biggest party in opinion polls. The leading figures of the Finns Party and some of its supporters are particularly active in social media, challenging established political parties, national institutions, mainstream media and academics (e.g., Hatakka, 2017; Ylä-Anttila, 2018). An important tool in this development was the website and discussion platform Hommaforum, established in 2008 by Jussi Halla-aho, the current leader of the Finns Party. According to Hatakka (2017, 2023) this online forum has significantly contributed to the 'normalization of far-right populism in the public sphere'.



Making them the parliament's second-largest party.

In spring 2015, the Public Committee of Scientific Information in Finland decided to conduct a survey of Finnish researchers regarding the feedback they received in their public role. The survey was conducted as an online questionnaire in 2015 and renewed in 2017. Based on these surveys, outlined below are some of the experiences of Finnish researchers related to the freedom of expression with a focus on researchers' responses related to populist politics that undermine science and the emergence of online hate aimed at researchers who communicate their expertise in public arenas. In many responses, this latter development was interpreted as a potential cause of self-censorship among scientists.

SUPPRESSION OF ACADEMIC FREEDOM AND FREEDOM OF EXPRESSION

Some typical ways of controlling and suppressing academic freedom and the freedom of expression of researchers are political and economic control, organisational control in state research institutes and 'control from below', which refers to aggressive feedback and hate mail from activist groups or ordinary people intended to intimidate (Väliverronen & Saikkonen, 2020).

Political and economic control

Organisational control (in state research institutes)

Control from below (aggressive feedback, trolling, 'hate speech')

Political and organisational control

The economic and political control of research manifests in several ways, which in turn affects how these issues limit researchers' freedom of inquiry and expression. In science and technology studies, the close interplay between companies, businesses and universities is defined by the concept of the entrepreneurial university (Etzkowitz, 2002). The entrepreneurial university transforms universities and research so that research and development seamlessly work together.

Political and economic control can also indirectly limit freedom of expression and the publication of research. Sometimes politicians and government officials scrutinise and attempt to adjust the public spread of research data and results so that they can fulfil predetermined policy goals. In the surveys and interviews, some researchers felt that economic and political efforts were made to direct funding to fit pre-established goals.

The freedom of expression for researchers in Finland is relatively good, at least for those working in universities. However, those working in state research institutes have reported occasional problems with the leadership of the institutes. For those working in state research institutions, freedom of expression has historically been narrower than it has for university researchers. Finnish state research institutes are owned and run by ministries, and their primary responsibilities are to output research into specific topics, produce knowledge and support decision-making.

For instance, in 2010, a number of researchers working in the Technological Research Centre VTT accused the leadership of the research institute of silencing its researchers. VTT is a state research institute operating under the mandate of the Ministry of Employment and the Economy. One researcher working in VTT received a warning from his employer after

[1] Finnish Association of Science Editors and Journalists: Science communication award to all sorts of docents" http://www.tiedetoimittajat.fi/tiedetoimittaja/tiedeviestintapalkinto-kaiken-maailman-dosenteille/ (Accessed 7 July 2019)

criticising nuclear power research just before the parliamentary nuclear vote. Another researcher was forbidden to send an opinion piece dealing with the use of peat in energy production to a daily paper.[2] After this case, it was argued that VTT had adopted a centralized, quasi-entrepreneurial policy in its operations and communications (Karvonen, 2011).

Some survey respondents felt that the researchers' opinions and speeches were excessively controlled by certain research institutes. These actions are justified by the institutes' efforts to retain customers or so that they can appear politically correct toward leading politicians and administrators. In interviews, environmental researchers working in state research institutes further elaborated upon their experiences in public communication. Some of them felt that their organisations subjected them to scrutiny and suppression when their public commentaries were perceived to be incongruous with certain preferred policies or political or economic agendas. Some respondents highlighted that, at certain institutes, researchers are restricted from speaking freely with the media and are instructed to respond in a guided manner or recycle expert opinions through their communications staff (Väliverronen & Saikkonen, 2020).

Organisational control does not merely affect freedom of expression through individual and concrete constraints. It also encourages an atmosphere of control that promotes self-censorship and can prevent open communication between researchers and the public. As research institutes are guided by centralised research policies and streamlined expert communication, individual researchers remain subordinate to the control of an organisation's leadership or communications staff (see e.g., Borchert & Nielsen, 2014). These practices can lead to self-censorship by researchers.

Control from below: aggressive feedback and online hate

Perhaps the most urgent concern related to the freedom of expression in our surveys was about the aggressive feedback experienced by scientists conducting research in immigration, multiculturalism and racism.

The silencing of writers and journalists in different countries has been widely publicised, but violations of the freedom of expression of researchers have been largely neglected, even though the problem has existed for a long time. The writer Sirpa Kähkönen, chairman of the Finnish branch of PEN International, stated in *Helsingin Sanomat* (2016) that 'Fear makes researchers and intellectuals start to limit their public appearances and they do not want to speak publicly about their own research'.[3]

With the rise of social media, we have witnessed a somewhat novel phenomenon – namely, aggressive feedback from lay communities aimed at scientists. This is happening, for instance, in the areas of climate change research and vaccinations. In the humanities and social sciences, researchers of racism, multiculturalism and immigration receive aggressive public criticism more often than others do.

This form of control and suppression can be defined as 'control from the below' and is often encouraged by authoritarian populist parties and leaders. Threats, stigmatisation and public shaming stifle freedom of expression and often lead researchers to self-censor, avoid sensitive topics or withdraw from public debate (Kempner, 2008; Lewandowsky et al., 2016). Public shaming and harassment are typically directed at sensitive and highly politicised research topics, and negative feedback about some research topics can affect the willingness of researchers to engage in public debate.

However, it should also be noted that aggressive feedback that appears to come from ordinary citizens or anonymous writers can actually originate from partially crowd-sourced political campaigns against individual researchers. An interesting realisation that came out in our study was the use of unfounded scientific misconduct claims by activist groups, which can also be used to influence public debate about certain topics, such as immigration, multiculturalism or issues of sex and gender. As a practice, this reflects how the legitimate tools of regulation within science have become weaponised (Lewandowsky & Bishop, 2016). Other sensitive topics that were mentioned frequently in the surveys included food and nutrition, vaccinations and environmental issues, such as climate change, the protection of wolves and reindeer herding.

Online hate against researchers is typically linked with populist politics. By criticising and directing negative commentary toward researchers, politicians can portray themselves as adopting a critical view of researchers as an "elite group" in society. This can foster a more general belief that researchers' views should be ridiculed or commented on aggressively. The populist gibes made by politicians and the aggressive feedback aimed at researchers can therefore be interlinked at a societal level.

PROBLEMS WITH PROMOTIONAL DISCOURSES OF SCIENCE: THE EROSION OF SCIENCE AS A 'PUBLIC GOOD'

The freedom of expression of researchers is not only suppressed by populist activists and discourses: as the examples given here of political and organisational control

[2] In 2011, the Parliamentary Ombudsman took the matter for investigation and commented on the violation of the freedom of expression by researchers. According to the Ombudsman, 'freedom of expression is also a matter for the official and the employee of a state institution'. The Ombudsman pointed out that VTT researchers have 'freedom of science and research protected by the Constitution'.

[3] Self-censorship fueled by hate speech is now the greatest threat to freedom of expression in Europe, says Sirpa Kähkönen, Director of the Finnish PEN Club, Helsingin Sanomat 23. January 2016. tion'.

show, there are also other, more subtle, forms of power that influence the public communication of science. New promotional practices for managing visibility are not purely instrumental to science or science communication: they are also part of the marketisation of research and the higher education system in general (Väliverronen, 2021).

The concept of promotional culture provides a wider perspective to science–media relations. The term promotional culture was first introduced by Andrew Wernick (1991) in the early 1990s. Wernick's book included a chapter on the rise of "the promotional university", in which he analysed the ways in which universities had been drawn into promotional logic, especially in student and staff recruitment and academic publishing.

Later, Aeron Davis (2013) extended the argument by demonstrating the ways in which promotional practices, not just advertising, shape society, organisations and individuals. He argued that society and its institutions have become more promotionally oriented and that individuals and organisations have grown to accommodate promotional discourse as a normal part of work and daily practices. The increasing market orientation of universities and research organisations has been discussed and analysed by many scholars (e.g., Banet-Weiser, 2013; Cronin, 2016; Hearn, 2010, 2015; Williams & Gajevic, 2014).

Sociologist Graig Calhoun (2006, 2009) analysed the role of universities as public institutions and producers of 'public good'. Calhoun (2006) summed up the transformation of universities in the early 2000s as a tension between "excellence" and "accessibility". He argued that both excellence and accessibility are, in many ways, ideological concepts that are often spoken of as aspirations without further specification. Excellence in the language of higher education has become synonymous with quality. When it comes to universities and research, it has become customary to use the terms "top university", "top research" or "top researcher". These terms emerged from the ideology of competition and the proliferation of rankings and ratings.

For Calhoun, the accessibility of a university refers specifically to two objectives. The first is the drive to disseminate scientific knowledge as widely as possible so that the benefits of universities and research can be shared across society. The second objective refers to elite universities' efforts to become more open so that students from lower socio-economic backgrounds can also enter.

There is a tension between these two goals, and many of the practices adopted by the academic world actually work against accessibility. The paywalls of commercial publishers and the reluctance of researchers to speak or write to anyone other than their colleagues limits the transparency and accessibility of research.

Cronin (2016) studied promotional practices in UK universities and argued that managing media visibility has become an important part of the new 'reputational capital' of universities, drawing from Bourdieu's (1986) symbolic capital, which is a representational form based on recognition and prestige that aims to secure a privileged position within the field. Core elements of reputational capital are media stories about research and universities and various metrics – not only research metrics such as the H-index but also "softer" metrics of media coverage introduced after research impact gained more prominence in research evaluations. Universities adopt practices that are typical to market actors, thus changing the idea of university and research as a "public good".

Promotional practices and streamlined communication practices may also reduce academic freedom and the freedom of expression of researchers in public arenas. It seems that state research institutes are increasingly adopting quasi-entrepreneurial practices in science communication as one organisation and one voice, which limits the freedom of individual researchers to speak up. The leaderships of state research institutes adopt and implement more centralised communication policies for fear of losing important customers if individual researchers make public commentaries that are not 'politically correct' (Väliverronen & Saikkonen, 2020).

Recent studies have shown that universities, where researchers have traditionally enjoyed more freedom, are not immune to this development. New practices of branding and reputation management have introduced more streamlined corporate communication practices to universities (Hearn, 2015; Cronin, 2016; Davies & Horst, 2016), which poses a threat to academic freedom and freedom of expression. The adoption of the corporative style in science communication makes communication a strategic activity, where "every member of the organisation should internalise the house strategy so that all staff communicate the same basic message in harmony as a choir" (Karvonen, 2011, p. 173). Thus, promotional practices are not simply external or instrumental but also introduce ideological and cultural shifts to science communication practices and to the public role of science.

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Migration and Technologies in Contexts of Uncertainty

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Chinese University of Hong Kong

Thank you very much for inviting me and giving me the opportunity to talk to you today. My talk centers on the topic of migration and technologies in spaces of impermanence, transit spaces in particular. Eventually, this talk is about uncertainty, the main theme of the Winter School. The talk is also a snapshot of a larger research project, already published papers (e.g., Witteborn, 2019, 2020), and papers in progress, which examine transit as a space of practices, including technology and data practices.

As a communication and migration researcher, I've been working with migrants and forced migrants since the year 2000 on three continents. I started in the United States where I looked at the (re)creation of Arab American identities before and after 9/11. I have worked in Hong Kong and Germany on questions of technology practices and transnational and forced migration and have started exploring culturally grounded notions of information and data privacy. There were 79.5 million forcibly displaced people globally in 2019, according to the UNHCR (https://www.unhcr.org/figures-at-a-glance.html), the majority of which were internally displaced persons (45.7 million), followed by refugees (26 million), and asylum seekers (4.2 million). And there are other migrants, such as poor labor migrants, who circulate in transit spaces with limited political and legal rights, such as the right to become a permanent resident. Transit is a lived reality of many migrants, and it is increasingly structured by technology; a point I will further expand on in the talk. Transit is composed of social, economic, technological, legal, and political practices (compare Xiang & Lindquist, 2014), which in turn create spaces, in which people and things are calibrated to be moved upon demand (Brewer & Yükseker, 2005; Collyer et al., 2012).

In the following, I identify practices and actors creating transit space[4], based on Xiang and Lindquist's (2014) discussion of migration infrastructure. The example I use is Hong Kong where I live and work. In particular, I show how asylum seekers and migrant domestic workers use technology in romantic relationships on the geographical and social fringes of society without being able to emplace themselves; always living in the temporality of anticipated geographical, social, and personal change which can be indefinitely deferred.

HONG KONG AS A CASE

Hong Kong is a space of transit. For people and things, this has been a place and space of passing, from colonial masters making their imprint on the social structure, language, and people, eventually handing over the territory to the PRC, Vietnamese refugees arriving after the Vietnam War in the 1970s, many to be resettled in the U.S., Australia, and Europe (Chan & Loveridge, 1987), and skilled migrants from Mainland China and other countries making short and long-term use of the business-friendly environment of Hong Kong SAR. Goods are passed daily through the 6th largest container port in the world (World Shipping Council, 2018). Hong Kong Special Administrative Region sits on the axis of South-South and South-North migrations and is an important place to understand the movement of people and objects. Although (and maybe because) this wealthy city is a city of refugees - with an estimate of up to one million Mainland Chinese fleeing across the border from the 1950s onwards due to famine, persecution, and the Cultural Revolution (Chen, 2010) - Hong Kong has not signed the Geneva Refugee Convention from

[4] I use *space* in the singular and plural here. The legal, economic, social, humanitarian, and technology actors and practices making up transit space can produce variants of this space.

1951. Until 2014, claims were processed by the UNHCR. Since then, the Unified Screening Mechanism has been introduced, a regulatory mechanism through which the Immigration Department selects affirmative non-refoulement cases, with refugee recognition and resettlement still being processed by the UNHCR. People seeking asylum come from South and Southeast Asia, African nations, and fewer from the Middle East or North Africa, depending on the political situation. But despite being a city with a pronounced refugee history, the percentage of people gaining refugee status is below one percent; one of the lowest in the world (Justice Center Hong Kong, n.d., https://www.justicecentre.org.hk).

If a claim is rejected by the Immigration Department, the person can turn to the Torture Claims Appeals Board, the Court of Appeal and Final Appeal. Even if a refugee claim is approved, the person might still have to wait for years to be resettled. Registered refugees can apply for a work permit with the Immigration Department. Typical jobs are in the hospitality or cleaning industry (bars, kitchens, hotels). The majority of non-refoulement claimants, however, do not have work permits and are dependent on social welfare support for housing, utilities, transport, and food coupons.

The data presented in this talk were collected through grant-funded research on transit space and communication from 2016 to 2017 and pilot studies leading up to the approval of the grant. The corpus is based on a selective sample of personal interviews with asylum seekers and CAT claimants from Pakistan. The corpus also includes participant observations in private homes of the asylum seekers. The interviewees were predominantly male. The interviews were conducted in English, Cantonese, and Urdu as those were the main languages the interviewees were comfortable with. I can provide more information on methodology during our discussion.

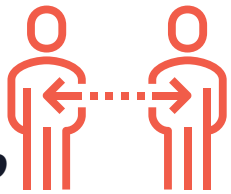
Within the given time, I will give you a snapshot on how asylum seekers built romantic relationships through technology in the transit space of Hong Kong. I hope to demonstrate how mobile technologies in particular enable connectivity and intimate relationality between migrants on the fringes of a geographical and social space. Transit space is impermanent space for those moving in it, thickened by legal, economic, social, and political practices. And yet, people emplace themselves and leave their traces, making creative use of the opportunities transit space offers but also bearing the burden of living in a state and space of flux.

TRANSIT INFRASTRUCTURE AND SPACES

Transit spaces are composed of regulatory (the law), economic (smugglers, traffickers, informal economy), humanitarian (e.g., UNHCR), social network (displaced migrants, diasporas), and technological actors and practices; borrowing the dimensions of migration infrastructure from Xiang and Lindquist (2014). Transit agents and practices bounce the migrant back and forth between immigration offices, the UNHCR, NGOs, and diasporic networks, anonymizing her in the process through imposition of asylum and refugee categories, decoupling the human from subjectivities important to her or him. Periods of rush, such as going to collect the monthly allowance, taking English classes with local NGOs, or joining church or mosque services, are replaced by periods of dragging slowness, meeting friends in air-conditioned malls or just lying on the bed, before being called by a social worker to confirm that a negative asylum decision has been made, starting the cycle anew.

Infrastructure communicates something about society, its politics, economics, and histories. It has a poetic function (Jakobson, 1985; Larkin, 2013). This poetics tells us whether a city wants to be seen as smart, as globally connected, or as producing modern citizens, among other things (Von Schnitzler, 2008; Schaub, 2012). The poetic function of transit infrastructure and space is impermanence. Impermanence becomes the political anchor to "produce governable mobile subjects from ungovernable flows" (Panagiotidis & Tsianos, 2007, p. 82). The law keeps the asylum seeker in check (e.g., no right to work, minimum social welfare support), while humanitarian agents like NGOs, religious institutions, and pro bono actors attempt to making life liveable in the transit space of Hong Kong, providing advice on health and the law, conducting skills classes, organizing sports activities, and creating spaces for religious communion. Legal and political restrictions bloat migrants with notions of too much – poverty and boredom, physical and psychological challenges, and uncertainty. Legal conditions for asylum seekers (e.g., being resettled as a recognized refugee and not having the right to stay) have grown out of the historical conditions of Hong Kong, as explained before, and a collective memory of poverty and survival in overcrowded spaces. This history and a resulting legal culture keep migrants marginalized migrants in the agony of biographical and sociocultural richness and the forceful silencing of this richness through categorial impositions (compare Fanon, 1967). Examples for these categories are *the refugee* or *the maid,* as the commonly used English term for migrant domestic workers in Hong Kong.

This history and a resulting legal culture keep marginalized migrants.



While impermanence contains the notion of non-place, it metacommunicates generative potential. Asylum seekers, CAT claimants, and the few recognized refugees in the larger corpus of the study de-categorized themselves as *asylum seeker* and positioned themselves on social media and in city life as artists or musicians (unpaid), volunteers, or romantic partners to escape rigid ascriptions and scripts. The people slipped out of imposed categories and gestured towards new ways of subjectification, thereby highlighting their

needs, such as the need to be mobile, the need to work, and the need for intimacy. Migrant domestic workers were one group asylum seekers interacted with to satisfy the need for intimacy and aspirational mobility (Witteborn, 2019).

Migrant domestic workers in Hong Kong are predominantly women from the Philippines and Indonesia, followed by Sri Lanka, Thailand, Bangladesh, Madagascar, and Cambodia (Association of Hong Kong Agencies for Migrant Workers Limited, 2017). While women are married with family in the home countries, there are also many single young women. Their social status in the city is relatively low as is the status of asylum seekers. In Hong Kong, the minimum allowable wage for migrant domestic workers is HKD 4630 per month (as of 2019). Employers have to provide accommodation, free food, and free return passage upon termination of contract (Government of Hong Kong, n.d.). There were 352.000 migrant domestic workers in Hong Kong in 2016 (called Foreign Domestic Helpers[5] in the census cited), comprising 9.3% of the workforce and 11% of the local households, according to the latest available census data (https://www.legco.gov.hk/research-publications/english/1617rb04-foreign-domestic-helpers-and-evolving-care-duties-in-hong-kong-20170720-e.pdf). Domestic workers' duties are childcare, cleaning, cooking, grocery shopping, and taking care of the elderly. Although the wage is 2-3 times higher than in the Philippines or Indonesia, and although the wage contributes to the remittance flow back to the countries of birth, the income relative to working hours and unpaid overtime has been regularly criticized. A study by the Research Centre on Migration and Mobility at Chinese University of Hong Kong (https://www.cpr.cuhk.edu.hk/en/press_detail) found that almost 62% of the sample of 2000 women said that they worked between 13-16 hours a day. Only 42 percent had their own room. The others slept in childrens' bedrooms, on balconies, bathrooms, and in kitchens. Twenty-five percent of the women had a university education. Physical and verbal violence, bonded labor, shortage of food, and lack of private spaces have been topics discussed by the media, and are repeatedly addressed by local Hong Kong NGOs and activist organizations lobbying for better working conditions. Migrant domestic workers are made invisible as a person by being assigned a serving class status, which is reflected in the term *maid*. Like the domestic workers, asylum seekers experience marginalization, according to interviewees in this study, with locals changing seats on buses and the subway, police asking for papers in the streets, and the media mentioning asylum seekers in contexts of petty crime and illegal immigration.

DIGITAL RELATING ON THE FRINGES

Social networks act as catalysts for diasporic clustering, for economic opportunity, and as anchors for local sociality. Asylum seekers linked with other migrants on the socio-economic fringes, entering romantic relationships that were dictated by impermanence. The mobile phone became an important circuit to navigate this impermanence and the associated uncertainty about the daily life of the couples and making a home in Hong Kong for the time being. Moreover, mobile technologies enabled bursts of intimate energy but also sociocultural instability through a reversal of gender roles and challenged cultural expectations. Here are some examples.

> ***"I am no man here and have to beg from my girlfriend. My father and brothers would be ashamed"***

Asylum seekers tended to meet domestic workers in the parks of Hong Kong on Sundays. Due to a lack of physical space, the women have to head out on their day off and gather in public spaces: in parks, under bridges, flyovers, and on beaches. During rainy or cold weather, the women can be seen huddled under blankets in corners of bridges and under protective roofs, sitting on cardboards, playing games, sleeping, eating, and chatting. Bilal[6] had met Rachel in one of those locations. Several months into the relationship, Rachel had given Bilal a monthly allowance to top up his SIM card (compare Witteborn, 2019). He had brought the mobile phone from Pakistan where he had to leave for political reasons, as he put it. But the financial support of Bilal soured the relationship after several months, with Bilal hearing more frequently from Rachel that her friends received financial support from boyfriends. This message hurt Bilal. He started to feel "bad," as he expressed it. "I am no man here and have to beg from my girlfriend. My father and brothers would be ashamed," he said. Moreover, Rachel retreated, did not answer her phone when he called and started seeing more of her girlfriends on her only day off. Bilal felt he was losing her.

He started to accept odd jobs, such as on e-waste sites in the neighborhood. He wanted to feel independent, buy some small gifts for his girlfriend, and maybe even move out of the dilapidated house he had to share with other asylum seekers. The opportunity became known to him by word-of-mouth, through locals as well as diasporic networks. Dangerous work was awaiting him, taking apart and sorting plastics and metals, while being paid low wages. This observation is similar to Vecchio's (2016) research on asylum seekers and the informal economy in Hong Kong.

As a background context, I need to mention that Hong Kong has developed into a main receiving place for electronic waste (e-waste) after China restricted those imports.

[6] I use the name *migrant domestic* workers as the people are more than *helpers* and as the term *foreign* contributes to binary ascriptions of cultural, racial, and ethnic belonging. Many local NGOs as well as transnational migrant organizations use the term *migrant domestic worker.*

[7] All names changed.

E-waste in East and Southeast Asia had risen substantially by 2015 (63%), reaching 12.3 million metric tons (Bhattacharya, January 27, 2017). Forty percent of containers coming to the port of Hong Kong are said to carry scrap materials, e-waste included. What's more, by 2015 Hong Kong had generated around 21 kilos of e-waste per person which was a higher per capita waste than China at the time. Of the 70.000 tons produced per annum in Hong Kong itself, 80% was redistributed to places in Africa or Southeast Asia, where it fed local informal businesses (Standaert, August 26, 2017). With China having decided to reject more e-waste being imported into the country and with Guangdong province closing down its toxic dumping grounds which provided work for the poor, Hong Kong had become a main e-waste receiver in the region at the time of the research.

ELECTRONIC WASTE

70.000 tons produced per annum in Hong Kong

Dozens of iron-gated recycling sites are located in the New Territories of Hong Kong, close to the Chinese border, on land zoned for agriculture, which means in close proximity to organic and fish farms. Until 2017, the sector had been largely unregulated and plastics burnt without regulation, including plastics from monitors, printers, computers, and washing machines. By the end of 2018, Hong Kong's Waste Electrical and Electronic Equipment Treatment and Recycling Facility in Tuen Mun was to end those unregulated practices, with recyclers needing a license for their work and to operate on land zoned for industrial use (Standaert, August 26, 2017 https://www.scmp.com/week-asia/society/article/2108339/welcome-hong-kong-worlds-dumping-ground-electronic-waste).

Some people seeking asylum lived in villages close to the old recycling sites due to the cheap rent. This was a rural part of Hong Kong, known for its modest household income as well as junkyards dotting the roads. Old village houses with tin roofs and walls stained by black mold were guarded by stray dogs. Abandoned lots gave way to high grass with white cranes wading in the lush greenery; the Shenzhen skyline glittering in the distance. Men like Bilal tended to share the old village houses with other asylum seekers, which meant a small corridor and a basic cooking facility, a room for each person, and a shared shower and toilet. The rooms contained a bed, table, chairs, and some posters on the walls. The mobile phones laying on the beds or tables were predominantly Chinese brands. Digital technologies were important for the migrants. So Bilal bought Rachel a nice cover for her phone from the money he had saved and himself more data. Now, he could communicate frequently with her through video chat and live-streams.

Overall, asylum seekers had to sit idly or organize illegal, dangerous work in the informal sector as they were not allowed to work. Their girlfriends were reachable only via their phone and mainly through texting during their long working hours. The digital device bridged temporal and experiential asynchronies and enabled the couples to participate in each other's lives through regular textual updates. While asylum seekers would spend their most productive years without meaningful tasks and in waiting, domestic workers were under pressure to cope with the long hours and heavy physical work as well as higher physical mobility than their partners, accompanying people they worked for in the city but also for travel abroad. These differences in daily experiences are exemplary of transit where body and mind, daily rhythms, and mobility in social spaces are out of equilibrium. The digital device became the tool through which an equilibrium could be achieved – if only momentarily - through intimate communicative acts, such as encouragement, making jokes, sending emojis, and pictures of people and places (compare Witteborn, 2019). But the digital device also became a symbol for sticky gender roles which were revised in the transit space of Hong Kong. Finances, cultural expectations, and temporalities clashed. The women had more financial and social capital than the men, while the men could not be expected to make a stable living as someone being in the process of seeking asylum. The women had only two weeks to find a new job, in case the previous one was terminated. For both, transit and a life in impermanence were a socio-economic and political reality and made it difficult to emplace themselves.

Men in the process of seeking asylum also met women on dating apps (compare Witteborn, 2019, 2020). Hamid lived in the rural parts of Hong Kong and was a young man from Pakistan seeking asylum in Hong Kong. During a visit, he showed me his Facebook page and a picture of his girlfriend Surya on a hiking trail. After their first contact on a dating app, they met on a Sunday in a park together with friends. While dating apps are a popular medium for finding a partner in other demographics, for asylum seekers interviewed in this study, they were key. In embodied life, the men's presence in parks on Sundays could give cues about their political status in Hong Kong as well as their economic situation. South Asian middle class residents would cluster in different parts of Hong Kong with their families. Hence, contacting women on dating apps with a curated profile increased the chances of meeting them in person.

Like many others, Surya worked a 12-hour day and often only got off at 10pm as she had to make dinner and clean for a family of four. Like Rachel, Surya had given Hamid a mobile phone which she had bought in a second-hand mall. The couple used the phone for WhatsApp texting and a

few video calls, with Facebook being another important platform for documenting the relationship. "The phone is my home. I show my liking for her (chuckling), we eat together, and tell each other about our days," Hamid said. Watching turned into monitoring. Surya texted Hamid several times during the day, asking about his whereabouts. She wanted it to be a serious relationship and became suspicious when Hamid did not answer. Hamid, on the other hand, became annoyed with the texts, answering late in the evening, with Surya already worrying about him having been hurt on the busy roads or having bad news from immigration.

Couples like Hamid and Surya would sit together on Sundays, chatting about their weekly experiences, including Hamid telling Surya how he had been stopped by police, how he had to walk as the transport money had run out or how he spent the day in bed as he was too bored or tired to get up. But sad they did not want to be on their only day together, giving even more power to the system that kept them in loops of uncertainty and in limbo. So the couple chose to go on picnics in parks, sitting with others on the lawn and under flyovers, spreading out a plastic sheet on which to put the food and drinks. They also went hiking or to the beaches, watching from the shore as neither person knew how to swim. The couples understood that they would never get permanent citizenship in Hong Kong (Community Legal Information Centre Hong Kong, 2017). The persons' lives were defined by impermanence; the feeling of never being at home, never emplaced. And yet, this position produced excess: the excess of intimacy, feeling attached to and admired by someone, a position being diligently portrayed on Facebook by posting pictures. For both people, this excess was a stimulant to get through daily work life or daily boredom.

But transit and its legal and political practices also made excess dangerous and affected lives in dramatic ways. Like Rachel, Surya was afraid of pregnancy. Hamid told me during an interview that Surya's friend, an Indonesian domestic worker, had become pregnant by an asylum seeker and had to make the decision to give away her newborn for adoption. Her family did not know as she was afraid of bringing shame to them and not being able to marry. Moral laws were strict in her village. Hence, the pregnant woman had deleted all pictures of herself on Facebook so that the family back home would not see any changes in her physique. Even more, the boyfriend had been reluctant to commit to the pregnancy and baby, being afraid of making the legal and mental burden of transit life hereditary. The conditions of transit hit the couple with full force, turning intimate into destructive excess, eventually leading to a break-up and the dispersal of three lives.

The examples drive home an important point. The infrastructure that keeps asylum seekers in transit creates spaces of encounter, especially between those who are marginalized. Many of the men in this study felt emasculated and yet could revert into more traditional gender roles through dangerous work in the informal economy at the price of possible detention. Excess of human life met on the fringes of the city and created human bonds between cultural and economic Others. Social networks remained provisional and yet appealing in their amorphous nature, producing moments of intimate emplacement as well as intense isolation.

IMPLICATIONS

Transit infrastructure sorts, categorizes, and clears the forced migrant while selectively including the person into a precarious labor force and social relations at the fringes of society (see Mezzadra & Neilson, 2013). Transit infrastructure and impermanence are disruptive on many levels. The supposedly governable subject becomes ungovernable through actors and practices active in transit infrastructure (compare Panagiotidis & Tsianos, 2007), including the local economy, which uses migrants as cheap labor. This sector, however, provides the means through which people in transit can earn some money to support family, pepare for future resettlement, and emplace themselves in intimate relationships. At the same time, those relationships are in danger of being destroyed by transit infrastructural practices, and the impermanence and uncertainty thus produced. Moreover, technology can act as an enabler of social networking but is also linked to surveillance. The displaced are data producers on social media platforms and elsewhere, and those data can be used by legal entities for case processing (Brekke & Balke Staver, 2019; Witteborn, 2020).

But transit and impermanence also have generative potential. The migrant is an actor who uses the unexpected opportunities produced by transit infrastructure to make life and a living. Mobile devices and digital technologies as well as social networks enabled a sense of connectivity and normalcy for the people introduced in this talk. Interpersonal and intergroup power relations were challenged and changed. Migrant domestic workers reversed their being at the bottom of the socioeconomic hierarchy in Hong Kong in romantic relationships with asylum seekers. Male forced migrants had to negotiate cultural role expectations. In brief, transit infrastructure and the spaces it produces is a frame to understand the intricate tensions between a subject who desires physical, digital, and social mobility and the local and global structures that make this mobility an intermittent, unpredictable, and fractured process. Thank you for your attention.

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Threat to Democracy: The Appeal of Authoritarianism in an Age of Uncertainty

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THE IMMORTAL DICTATOR

I am honored and grateful for this opportunity to speak with you about my research on the cognitive foundations of dictatorship and democracy. The questions that guide this research arose out of my personal experiences when I went back to Iran in early 1979, following my studies in England. The Shah's dictatorship had collapsed and we had a historic opportunity to move toward a more open, just, and less corrupt society. But within a year this opportunity had slipped away. So the question for me as a psychologist is, why did we lose the opportunity to move towards democracy in Iran?

But, of course this question is not only about Iran. What are the psychological factors that have prevented the growth of 'actualized' or fully developed democracies around the world? Why are authoritarian regimes and leaders on the rise, including in the West?

The most obvious path to overcome dictatorship is revolution. But why have revolutions failed to move us to truly open societies? If we go back to the French Revolution, if we go back to the 1917 Russian Revolution, if we go to the Arab Spring, we find that repeatedly revolutions tend to displace one dictator and put into place another dictator. In Iran, we replaced a dictator Shah with a dictator Supreme Leader.

Now, when I talk like this, my American friends say, "Well, what about the American Revolution?" And I have to remind them that in Athens 2,500 years ago, they had a democracy where free men, not slaves and not women, could vote. Your American Revolution over 2000 years later gave the vote to free men, not women, not slaves. So the American Revolution did not bring democracy. It was not until the 20th century that women gained the right to vote. And it wasn't until the 1960s that minorities could actually cast votes in America. And still in America in the most important elections, barely 50% vote, and a lot of that is because of voter suppression. There are authoritarian forces at play in the United States that work hard to make sure that obstacles are places in front of low-income voters. So, democracies have been very slow in developing and even in the most advanced countries, we don't have full democracies yet.

In order to better understand the failure of revolutions, I distinguish between two types. **Type One Revolutions** are common and involve only within-system change. For example, the Shah is overthrown and Khomeini comes to power. That is, dictatorship remains, but the kind of dictator in place changes. That's within system change. **Type Two Revolutions** involve not only a change of regime but also a change between systems. For example, you get a collapse of a dictatorship and a democracy rises. But Type Two revolutions are rare in history. You could argue, for example, that the South African change from Apartheid to democracy was Type Two Revolution, but there are very few of these.

THE ROLE OF 'POLITICAL PLASTICITY'

In most cases, revolutions bring about type one change. And the question is why? Why is there a mismatch between the aspirations of revolutions and the actual changes that are brought about? Why does that happen? I argue that it is because of limitations in what I call *political plasticity.* Now, we have all heard of brain plasticity. That is the malleability of cognitive processes, the malleability of neural networks, how fast and how much the brain can change, how much cognitive processes can change. But I am more

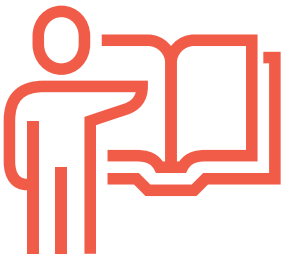
interested in the far broader process of political plasticity, the extent to which we can bring about change in cognitions and actions in the political arena, how fast and how much can people change politically. Reductionist approaches to studying brain processes will not explain political plasticity.

I argue there are certain rigidities in political plasticity, cognitions and actions that we cannot change quickly at all. For example, every major society has a leader and most leaders are male. In the United States, we've never had a female in the White House. Now that is a rigidity, not only in leadership but more broadly in leader-follower relations. There are other rigidities. For example, you will know that in terms of technology, we now have the capability of involving the masses in decision making. We could involve hundreds of millions of people in decision making. Why do we not do that? Well, that is a rigidity because the type of leadership we continue to have is centralized, mostly male, mostly authoritarian. And I would argue these are evolutionary developed rigidities, part of political plasticity and they are slow to change. We can aspire to change them, but we have to keep in mind that we need sustained programs to bring about change in political plasticity.

Leadership is a rigidity that is of the highest importance in the political sphere. All major societies have leaders; we cannot envisage major societies without leaders. But beyond this rigidity, there is also rigidity in gender and style of leadership. In the vast majority of cases the top political leaders have been male and authoritarian. In essence, a key rigidity in political plasticity is the immortal dictator. If we look around the world, dictatorship is still very much alive. Historically the norm has been dictatorship and recent trends suggest a return to this form of leadership. Democracy is a recent phenomenon, and if I had to bet, I'm not sure I would bet that democracy is going to win out at the end of the 21st century. There is a clear and present danger of rising authoritarianism.

So these are certain psychological rigidities within societies. Notice I'm not saying they're inside our minds. These are part of the structures that we pass down from generation to generation. They are certainly reflective of our neural networks, but they're not determined by them. In relation to this, it is important to distinguish between **two types of hard wiring**: hard wiring inside individuals and hard wiring outside individuals, in the larger society. For example, the built environment shapes behavior and is part of hard-wiring outside individuals. All our research focus has so far been on hard wiring inside individuals, but political plasticity is limited by hard wiring outside individuals.

Now in explaining the immortal dictator, one of the most influential explanations has been from Erich Fromm who wrote a book, Escape from Freedom, that was quite influential around the world. It has been translated into many different languages and also been quite influential in the mass media. His basic thesis is that modern life has involved the fragmentation of traditional communities, the fragmentation of traditional families. This has raised anxiety within people. Individualism and dislocation has raised anxieties. Fromm's argument is that these anxieties lead people to want to escape from freedom and to seek shelter under the protection of a dictator, an authoritarian father figure. This is a very Freudian approach.



Erich Fromm
1941

DETACHED FREEDOM AND ATTACHED FREEDOM

Now I happen to disagree with Fromm's line of thinking, and I'm going to try to explain why and present a different argument. When we consider freedom in the modern world, we have to distinguish between two types of freedom. One is **detached freedom**, the traditional conception of freedom and liberalism in the Western world. Detached freedom involves individualism in the traditional American style. It is decision making by yourself. It is you as an individual having freedom to move and to make decisions. You as an individual aspiring to progress.

But there is another kind of freedom and that is **attached freedom**, based on group identity. It is based on the idea that your group makes progress and you as part of it also make progress. You gain glory through your group. Attached freedom is where Hitler declares that the Third Reich will last a thousand years and the German people are proud to go along with that. Attached freedom is where Khomeini says Islam is the greatest religion and the greatest culture and Islam provides you with freedom. That's attached freedom where you subsume your individual self within the group, your individual identity within the collective.

The authoritarians of the 21st century are using attached freedom. When Trump says that America will become great again if you trust in him, that is attached freedom. That is Americans saying, "We want to be part of that great America again." And when they have a rally with Trump and shout, "America will become great again through Trump," that is what they mean by freedom. This is a very different type of freedom, it is freedom through being subsumed in the 'great' nation.

So the strongman launches his appeal through celebrating the sacred group. The sacred group can be based on

religion. It can be based on nationalism. It is a group for which individuals are willing to sacrifice. It is a group for which they feel glory through that leader, and the strongman promises the great future **through him**. It's only through him. We can see the nation as a sacred group at work in 21st century United States, India, Brazil, Turkey, and other relatively open societies where authoritarianism is raising its head.

Of course, the strongman also has the tactic of focusing on threats and uncertainty. And I want to talk a little bit about the research I have been doing with my students on threat and uncertainty. We set up experiments where we create threats for people and examine the consequences of perceived threats. For example, we present participants with scenarios in which there are terrorist attacks, and we measure changes in support for civil liberties. And what we are finding is that when people feel threatened, their support for civil liberties drops. When people feel they are under attack, they are less concerned about human rights. And our experiments are showing this systematically, but the authoritarian leader knows this intuitively.

That is exactly why you will find that the successful authoritarian leaders, all of them emphasize external threats. Some of them also include internal threats. That is why they talk about the imminent attacks on 'us' and the threats from the inside, the aliens, the gangs, the rapists, the criminals coming across the border. Now, this can be in reference to the southern border of the United States. It can be borders in Iran. Wherever it is, what you will find is the authoritarian leader intuitively knows he should focus on threats, because of this basic rule in psychology. External threat leads to internal cohesion and support for strongman leadership. What we are showing experimentally, the strongmen intuitively know. This is part of the personality of the immortal dictators, potential and actual.

Role of the Media

Now, this is where the media comes in particularly. What we find is that the media has played a very important role in heightening the threat of 'the other.' This is not just the official media. It is also the internet and all the outlets we have. I spend some time each week listening to right-wing radio shows in America and reading extremist material. A constant theme of all the right-wing nationalists is, "we are being invaded, we're being attacked, your home is under threat." This heightened threat is part of the reason why we have generally lower support for the rights of minorities in the United States right now, why there have been attacks on minorities increasingly, and why we get this constant support for strong authoritarian leadership in America.

Threats can be virtual as well as actual. So we have invasions of different types coming, attacking people and we know psychologically the kinds of people who are mobilized by this. After the Second World War, psychologists asked themselves, "How could this have happened? How could the Holocaust have happened?" And they launched research to find out what kinds of personalities are more likely to support dictatorial leadership.

That research led to the authoritarian personality studies. That has continued since the 1950s and we have a pretty

Threats can be virtual as well as actual. So we have invasions of different types coming.

good profile of the authoritarian type who will support strongman leadership. These authoritarian personalities have low tolerance for ambiguity. They are categorical thinkers. They are ethnocentric. They are dogmatic. They tend to be Machiavellian. Machiavellianism is a measure derived from Niccolo Machiavelli's Prince. It's a psychological trait. High Machiavellian's are people who see threats and who want to be very aggressive against dissimilar others. So their attitude is, "I know you're different from me. I know you're out to get me and I'm going to get you first."

We have a pretty good profile of the authoritarian personality, and we know that authoritarians are the most likely to back strongman leadership. We know this experimentally. For example, in Milgram's brilliant studies on obedience to authority, he measured authoritarianism and demonstrated that high authoritarians are more likely to administer high shocks to others. So, we know that these authoritarians are more likely to support aggressive action against others and to obediently follow strongman leaders.

I was listening recently to interviews with white supremacists who were talking about how they have got their guns ready if Trump loses the election. They are ready. And this readiness comes from a perceived threat that "our culture is under threat." The threat is particularly around what I have called **cultural carriers**, means by which cultures propagate their values. For example, the United States national flag, *Old Glory*, is a cultural carrier.

I did a study years ago where we interviewed Southerners about the Confederate flag in the United States. Some of you may know that for some Americans the Confederate flag is a symbol of Southern traditions and pride, but for some other people it is a symbol of slavery and racism. We asked people, "Why do you fly this flag in front of your house? You know it's going to upset some people." And they said, "well, it's just a piece of cloth, but if you try to pull it down, I will defend it." It's just a piece of cloth, but it's a cultural carrier.

I interviewed Islamic fundamentalists about hijab and I would be talking to a man saying, "Why do you insist that your wife or daughter wear this thing on their head? It's just a piece of cloth. What does it mean?" And their response was, "It's just a piece of cloth to you, but you try pulling it off my daughter's head and I will defend it!" Cultural carriers are of great value to people because they enforce their criteria, their way of life, their values, and the strongman leader uses this to propagate certain lifestyles.

OTHER FACTORS THREATENING DEMOCRACY

There are some other factors that are also important in weakening democracy in the 21st century. One is what I have called *illiberal education*, designed to close rather than open minds, not just in the West but also in non-Western countries. For example, unfortunately in many Islamic countries right now, fundamentalist education is on the rise. Fundamentalist education where it is uncritical reading and memorizing of religious scripture. In the West, there's been a decline in civic education, and of course this is where the media could help a lot, decline in civic education where young people are not being taught civics at all.

If you look at research on who votes in elections and what they know. I have been engaged in debates in the US as to whether voting should be a right or a duty. In some democracies voting is a duty. If you don't vote, you get fined. Now in the US when I raised this question, many people say, "Well, no, we don't want ignorant people voting. It's going to be a right or a privilege. It can't be a duty." And I point out to them that actually if you look at the research, some of the people who don't vote are much more knowledgeable than the ones who do. I believe voting it should be a duty. And again it comes back to basic ideas about democracy and the role of the media.

Politics as show business is another factor that has been influencing declines in democracy. Somehow we had this merging of politics and show business, so it has become very difficult to identify the division between them. This trend is clearly evident in Trump and U.S. politics.

Another final point I want to make about the decline of democracy is the role of bureaucracies. Now, we don't often attend to bureaucracy in relation to democracy, but I have become convinced that bureaucracies are a big factor in the decline of democracy. By bureaucracy, I mean the influence of unelected officials who have power over people's lives. We can see part of this in the backlash against the European union in the UK. When you look at interviews with people where they're talking about Brussels and not wanting to have these people in Brussels make decisions for them. I think we need more focus on bureaucracies, and the media again has a very important role here.

Finally, I have been talking negatively about decline in open societies, so I am going to move to the positive side and mention some of the remedies to our situation - because we don't want you to get more depressed, right? What kinds of solutions can we find here? Well, I am optimistic, partly because I believe that psychologically people have the potential to both desire and achieve greater freedoms. This is part of our plasticity. For example, although human societies need leaders, we have the potential to want and demand and enforce our decision makers to be responsible to us.

Human beings have the capacity to live in democracies, but to reach that stage, we need to develop in certain directions psychologically. Let me give you an example of what I mean. We all think, okay, there has been a revolution, and now people can vote, and this is going to bring about changes. Well, after the revolution in Iran, I did some studies of what happened in voting booths and what happened in voting stations. It turns out that voting, which we take to be a simple act is quite complex, and you have to learn how to participate in a free election, how to communicate and exchange ideas. Also, participating in open discussions and free expression of ideas – these all have to be learned. This is the case even in universities, where you would think this would be very advanced. What I found is that in some countries when you want to have a discussion and exchange, it becomes quite difficult. Why? Because from childhood, those individuals have been taught to listen and not talk back.

In the long term, I am optimistic that we do have the political plasticity necessary to move towards democracies, but in the short term we have huge challenges because there are a number of threats that are being highlighted around the world, including mass migration, including perceived 'invasions' – whether of people or viruses or other dangers. And the consequence of these perceived threats is to lead people to drop their support for civil liberties. We have shown this experimentally. We know that the strongman dictators intuitively work with this tactic. Our faith must be in deeper education and better information, to open minds and open borders.

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Does Journalism Have a Future?

VICTOR PICKARD

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As you can see from the title, my talk this evening is about the uncertain future of journalism. I'll try to make this not *too* depressing, though it certainly will be to some degree. This happens to be my first official talk based on my brand new book. Its title is also an open-ended question: *Democracy Without Journalism?* (Pickard, 2020). The book focuses on the American media system primarily—that's my main case study— but this is certainly not to assume that the US model is an ideal that should be emulated. Quite the contrary, I'm arguing that it's a cautionary tale of what democratic societies should *not* do.

Therefore, we can look to the US and glean many lessons, especially because the American journalism crisis is increasingly a *global* journalism crisis. It will become clear that there are certain characteristics of the American media system that made the crisis hit earlier and harder in the US, but increasingly we're seeing similar problems around the world.

So, many lessons are to be learned and the stakes couldn't be higher. Journalism is central to many of the challenges facing us today. Whether we're talking about climate change or growing inequality or the future of democracy, a reliable information system is essential. And because of that, there's been increasing concern about the health of our information systems. But all too rarely do we contemplate the *structural* roots of things like misinformation. In the US, we hear a lot about Russian interference in our elections, there's concern about growing distrust in our news media, growing polarization and partisanship, but there's less focus on the systemic characteristics of our communication infrastructures that enable and amplify things like misinformation. Over time, policy decisions and indecisions have degraded our media environment and created an entire misinformation ecosystem.

Just briefly, I'll mention three broad policy failures that I think have enabled what I call the misinformation society. One is the rise of unregulated information monopolies—you might call it the "Facebook problem." Another problem is "regulatory capture of the American policy apparatus, especially the Federal Communications Commission (FCC), which is the main regulatory body that oversees much of the American media system. The FCC now essentially performs customer service for the industries that it purportedly regulates. This has led to policy failures such as media mergers and the loss of net neutrality (I have another recent book out that focuses on the net neutrality problem; see Pickard & Berman, 2019). The third and final failure is a lack of financial support for reliable journalism.

In the following, I'm going to focus mostly on this last piece. I'll also rant a little bit about Facebook and some other structural problems. But there's an implicit argument that runs through all of this criticism, which is that a "systemic market failure" lies at the heart of many of these media problems, especially the journalism crisis. I'll return to this point later, but unregulated commercialism produces media monopolies, low quality information, and it helped produce Donald Trump.

I promise not to spend too much time discussing Trump. We've all heard enough I'm sure, but his election exposed core structural pathologies in American information systems and is drawing increased public attention to the role of journalism in society. After Trump's election, several meta-narratives emerged that largely defined discourses around journalism.

The first narrative is that professional journalism enabled Trump's ascendance. This critique especially pertained to television news coverage, but also print news outlets. Trump's commercial appeal led news organizations to give him far more attention than the other candidates. News media indulged in false equivalence, sensationalized and trivialized the elections with horse race coverage and an obsession with personalities instead of offering critical analysis of candidates' policy positions. Typical news coverage constantly reported on who's up? Who's down? What are the polls telling us now? What outrageous thing did one candidate say about another? One study by the Shorenstein Center found almost a complete absence of policy related news in campaign coverage—not just in our cable television news coverage, but also in our elite print news such as the *New York Times*. Another study showed that Trump received three times as much news coverage as Hillary Clinton and 16 times more than Bernie Sanders.

These are all grounds for concern, but much of this criticism focuses on the symptoms instead of core structural causes.

Indeed, Trump's election was symptomatic of deeper structural problems. He's not the cause of all of our problems, although sometimes it seems that way. We especially need to look at the underlying economic imperatives, namely the constant chase for ratings in advertising revenue. Covering Trump was money in the bank for commercial news outlets. The now-disgraced CEO of CBS, Les Moonves, infamously said about the Trump campaign, "It may not be good for America, but it's damn good for CBS." This direct quote speaks volumes as to what's wrong with the American media system.

The second narrative, in tension with the first, is a new found appreciation for the fourth estate. Many people increasingly see news institutions as our last line of defense against everything from fake news to fascism. For many, as Trump attacks the press—calling them the "enemy of the people" and the like—public sympathies naturally redound to news organizations. One result was what some called a "Trump bump". Right after the election, there was a sudden spike in subscriptions for publications across the country. Unfortunately, this was a very short lived boost and all but the largest newspapers have now gone back into the red.

This leads us to the third and more long standing narrative: Despite our desperate need for public service journalism—types of news that our democracy requires like local coverage, international reporting, policy-related reporting, investigative reporting—it's precisely these kinds of journalism that are rapidly disappearing. This is especially true regarding the newspaper industry, which even in its beleaguer state is still the main source of original reporting in the US.

We really shouldn't just be talking about the future of newspapers.

One point I should make crystal clear—it needs to be put in neon lights—is that we really shouldn't just be talking about the future of newspapers. But it just so happens that they're the institutions that are essentially the last bastion for actual journalism. There are some exceptions—for example, people always mention NPR and a few other outlets. But for the most part, it really is just the newspaper industry. Yet when we're talking about the future of journalism, it's not about saving the newspapers, it's about saving journalism. So this concern isn't coming from nostalgia for getting ink-stained fingers from reading through papers. It's not about shoring up the old models and rehabilitating some lost golden age. It's about looking to the future and imagining something completely new.

So, in the following, after covering some political and historical context, I'm going to discuss how we can sustain this kind of public service journalism so that we can make sure that there is a future for it. I'm approaching these questions through a political economic lens. That doesn't just mean I'm fixating on business models. Too often the first thing people

think of when they hear "political economy" is questions about ownership. But it's really more about the big picture, it's about the normative role of media in a democratic society, and it's about looking at how media figure within larger political relationships.

Therefore, I ask questions such as: What are the structures that enable or constrain journalism? How does journalism figure within broader power structures? And how can it better serve democracy. Given the various crises that are facing the US and indeed the world today, I think it's a good time to also imagine an entirely different kind of journalism. In other words, this crisis is also an *opportunity*.

Let's step back for some broad context and look at what I refer to as "American media exceptionalism". I don't want to over-generalize what is pretty particular to the US case. Although commercial media around the world share many attributes, the US media system is in a category of its own.

In many sectors it's dominated by a handful of corporations. Referring to them as oligopolies is probably overly generous; in many cases, they're actually duopolies or monopolies and they tend to be only lightly regulated by public interest protections. There have been exceptions, but, for example, we no longer have this thing called the Fairness Doctrine. Some people may have heard of this rule. It mandated that broadcasters cover important issues from multiple perspectives in a balanced manner. We got rid of that in 1987. So we are left with a predominantly commercial media system with only weak public alternatives.

Many countries around the world might face one or two of these problems, but very rarely will they have a perfect trifecta of monopolistic media, little regulatory oversight, and a relatively weak public media system. What this means is that in the US you have a dangerous experiment of being overly reliant on an extremely commercialized media system. And just to drive home this last point, a comparative analysis shows how little the US allocates towards its public media system.

Per person per year we pay in the US at the federal level about $1.40, so the about the price of a coffee. If you throw in state and local subsidies, you get up to about $3.40—maybe the price of a cappuccino that we pay per year. You compare that to Japan where it's about $50 a year. Britain, it's about $100 a year, and in the Nordic countries, you may get up to as much as $200 per year. So the US is a global outlier for how little we pay for our public media system.

Why does this matter? Without a strong public media system, there's really no safety net for when the market fails to support journalism. And it's also getting even worse. The Trump administration has tried to phase out what little

federal funding it still receives. Even Sesame Street, which was one of the most popular programs, has been essentially privatized. It's been leased off to HBO, an expensive elite medium that many cannot afford. This is sadly ironic because that's precisely the opposite of what public television was supposed to do, it was founded to provide educational fair to children in low-income households.

So instead of trying to fund this public media infrastructure, we're continuing to starve it. The BBC might provide a start contrast to what we're doing in the states (I'm sometimes accused of romanticizing the BBC, although when I hear about the problems that the Brits have with the BBC, I kind of wish those were our problems in the US). While there's much that we could criticize the BBC for, a positive thing that they are trying to do is to support local journalism by allocating reporters to various publications around the country (there has been some criticism about aiding commercial publications in this way, which is a legitimate concern). Generally speaking, I see this as a textbook case of how a public media system should operate, where it identifies market failures and allocates resources there.

In the US most commercial media organizations—whether they're cable news, broadcast news, online news—all rely on revenues from delivering eyes and ears to advertisers. Even with newspapers it's long been an 80/20 split with about 80% of their revenues coming from advertising and 20% coming from subscriptions and other sources. This is beginning to change. For example, the *New York Times* now gets less than 40% of their revenue from advertising. Still, compared to newspaper industries around the world, this is much different. The American newspaper industry has been much more reliant on advertising revenue and that's one of the main reasons why they were more prone to such a severe crisis.

These structural factors—an over-reliance on advertising, few policies that can correct against commercial excesses, and virtually no public safety net—all combined to create a news media system in the US that's subjugated to unmitigated commercial pressures. This leads to specific vulnerabilities and biases and it created the perfect conditions for a structural journalism crisis. Lazy narratives depict the internet as the main cause that killed journalism. I certainly try to complicate that in my work. I think you could argue that commercial journalism has *always* been prone to crisis, especially in the US.

The internet certainly exacerbated that crisis, but there is a deeper cause. I think we can describe it very quickly: The journalism crisis in a nutshell is that readers and advertisers have migrated to the web where digital advertising revenue pays pennies to the dollar of traditional print advertising. And much of that revenue that is being generated is going to two players, the big bad duopoly of Google and Facebook. They are taking as much as 85% of every new digital advertising dollar. Ultimately this means that the 150-year old revenue model dependent on advertising is irreparably broken and it's never coming back. But because this economic relationship has been around for so long, it's often assumed to be the natural order of things and alternatives typically fall beyond our imagination.

With the collapse of the ad revenue model, fewer revenues mean fewer journalists. The number of news workers have declined by over half since the early 2,000s. Newspapers are declaring bankruptcy, closing down, reducing home deliveries or going online only. My hometown paper, the *Pittsburgh Post Gazette,* is now down to about two days per week home delivery and they've made it clear that they plan on entirely phasing it out. This radical shrinkage in news capacity is especially worrying because it's always hard to pinpoint exactly what's not being covered with such fewer journalists on the ground.

"This accelerating decline suggests the industry may be past its point of no return."

To give one example, the Post-Gazette won a Pulitzer prize just over a year ago for covering the horrific synagogue shootings. Many of those journalists who covered that story are no longer working at the paper; they've been laid off. So even the level of reporting that newspapers were able to do as recently as one or two years ago is no longer possible. In 2016, the Pew Research Center concluded at the end of their annual report, and I'm quoting here, "This accelerating decline suggests the industry may be past its point of no return." This was several years ago. For Pew to say that certainly speaks volumes. They will always bend over backwards to find some kind of silver lining but here they're basically throwing in the towel and saying we're basically at this point where there's no recovery in sight. If this were true, you'd think we'd have a national conversation about this because it's a serious social problem. But thus far, there's been little such discussion and virtually no public policy response.

Meanwhile, as news organizations continue to cut costs and chase ever-diminishing ad revenue, a number of pathologies rise to the fore as surface-level manifestations of deeper structural problems. One is what's referred to as "native advertising", also sometimes called branded or sponsored content. Struggling news organizations are increasingly relying on this deceptive form of advertising, which blurs the distinction between advertising content and news content. Often there might be small print that says, "This story is sponsored by such and such corporation." However, study after study shows that readers overwhelmingly tend to be deceived by this tactic. They don't understand that they're reading content that's been paid for by a corporation. Leading news organizations have placed so much emphasis on the strategy that increasingly they have in-house advertising shops where they can coordinate their news products with

their advertising campaigns. Needless to say, this is deeply problematic. It's a dramatic change from having a distinct barrier between news and business operations that journalists were very proud of having, sometimes referred to as the church/state divide.

But advertising that relies on behavioral tracking and can be even more ethically problematic. Tim Libert and I conducted a study a few years ago showing that news organizations are among the worst culprits for exposing readers to third party advertisers and data brokers online (Libert & Pickard, 2015). We found an average of 19. The *New York Times*, which is one of the worst violators, on a good day might subject readers to 44 third parties without them being aware of it. Many of these were innocuous data analytics programs, but there's almost no oversight, and some are not so innocuous. Such pernicious forms of invasive and deceptive advertising deserve far more attention. For several years now, it seems like instead of advertising-supported journalism, increasingly we're seeing journalism-supported advertising. Yet these attempts to capture fleeting ad revenues seem increasingly futile.

NEW YORK TIMES

Subject readers to 44 third parties without them being aware of it.

Another growing problem stemming from the journalism crisis is increasing casualization and precarity of news labor. So not only fewer jobs, but lower paid jobs, fewer benefits, and greater reliance on freelancers and stringers (hopefully I'm not depressing you too much yet!).

There's also a loss of particular kinds of public service journalism, and again, the kinds of journalism that we typically think democracies require. We're seeing the rise of what are referred to as "news deserts", especially at the state and local level where entire regions and issues are going uncovered. These deserts and news divides disproportionately affect communities of color, lower socioeconomic neighborhoods, and rural areas, all made worse by hundreds of newspapers closing in the last 15 years.

And why does this matter? It's somewhat intuitive—we've always learned in school that democracy requires a free and functional press—but now that we have these natural experiments where newspapers are closing, we're able to see what happens to these communities when they lose their local newspaper. And we're finding that communities that lack access to reliable local news are less informed about politics, less civically engaged, less likely to vote. Without local journalists, there's less accountability, and a rise of corruption and mismanagement in local governments. In addition, communities become more polarized as they rely more on national news instead of local news. Thus, what we learned in school is indeed correct and we now have the empirical evidence to show this is actually happening.

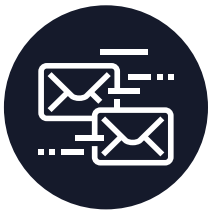
So this all underscores the urgency that we must find an alternative to the advertising revenue model, something we addressed in another cheerfully titled book, *Will the Last Reporter Please Turn Out the Lights*. This came out way back in 2011 when Bob McChesney and I did an edited collection where we talked to a lot of the leading scholars and analysts and critics who were focused on what was then at an early stage of the journalism crisis (McChesney & Pickard, 2011). It really started in 2008-2009 with the financial crisis. We were trying to figure out what is the nature of this crisis and what can be done about it. I don't think it speaks to how prescient everyone was being, but rather I think it's more just a sad statement on how few alternatives actually exist that many of the models that were being discussed then are the same ones that are being discussed now.

One of the first ones was this idea of a paywall model, which sounds fairly intuitive. If advertisers are no longer paying for journalism, then why don't we pay for it? Why shouldn't readers pay for it? On the surface, this seems eminently fair, but unfortunately, the data shows that this model cannot sustain all but the largest news organizations. It might sustain large newspapers like the *New York Times*, *Wall Street Journal*, and *Washington Post.* And the paywall model could perhaps support the occasional niche outlet—especially if you have a dedicated membership—but even those tend to be narrowly focused. For the overwhelming majority of newspapers, however, a paywall is simply not going to support them.

The second model—loosely categorized under citizen journalism, social media, and crowdsourcing—has is faded a bit. It has receded with many of the other utopian aspirations for what the internet will supposedly do for us. But if you think back to 2008-2009, even as late as perhaps 2014, a lot of people thought that we no longer needed media institutions and professionals. The thinking went that since we all were now essentially journalists, and we all had devices and

access to Twitter and social media, we didn't really need journalists anymore. That argument fortunately has faded a little bit, but it does come roaring back at times.

The third model sounds great, sometimes referred to as the "benevolent billionaire model," which of course begs the observation that not all billionaires are benevolent. For example, we can look to Sheldon Adelson who bought the largest newspaper in Nevada and turned that into his right-wing mouthpiece. But there certainly are some exciting exemplars and I think where they exist, we should celebrate them. We might consider *ProPublica*, or the *Intercept*, or the *Texas Tribune*. Many of these are supported by either foundations or rich benefactors and various philanthropies. But this is not a systemic fix. Every calculation shows there's simply not enough money in the charitable world to support all newspapers, all news outlets, or any semblance of the journalism that a democracy needs. This model might be able to save a paper here and there. For example, we have an interesting new model in Philadelphia with the Lenfest Foundation owning the local papers. Such a model might be able to create a few new outlets, but it's certainly not a systemic fix. So this leads us to the model that's least discussed and is often written off as a political nonstarter: public media subsidies.



PUBLIC MEDIA SUBSIDIES

For many Americans when they hear the phrase "media subsidies", they drop into a fetal position. They think it's just inherently anti-American. However, if you look at our history, media subsidies are as American as apple pie, going back to our postal system, which was essentially a newspaper delivery infrastructure—a kind of internet of the 1800s. And even the internet itself was largely created based on massive public subsidies. Many democratic countries around the world have press subsidies, and they're not sliding into totalitarianism. In fact, they're often positively correlated with maintaining very strong democracies.

So why is the idea of subsidizing media so inherently fraught in the US? A recurring argument in my work is that how we think about our news media is historically contingent. Before we can expand the debate about the future of journalism, we must know its history and see where America's libertarianism comes from—this abiding trust in the market and fear of affirmative media policy. Where does it come from?

To answer this question, I'm going to take a quick detour into history. This is drawing from my earlier book, *America's Battle for Media Democracy*, where I tried to flesh out the historical and ideological roots of the American media system (Pickard, 2015). As I dug deeper into the archives, I found that many roads lead back to the 1940s when there was a cluster of policy battles. It was a critical juncture when social movements, media institutions, and regulators struggled over defining journalism's democratic role. At that time, there was actually a rare progressive bloc at the FCC. They tried to carve out space within the commercial broadcast system for more public oriented news media. They tried to cut down on excessive advertising and they tried to break up media monopolies. I won't leave you in suspense—they weren't successful for the most part, but they were able to achieve certain public interest protections like the fairness doctrine that I mentioned earlier.

The 1940s also saw a surge in media criticism. Many of the critiques sound familiar to us today, including concerns about propaganda, excessive advertising, racist news coverage, media concentration, loss of local journalism. Within this context there was a growing concern about the role of media in a democratic society. This concern gave rise to the formation of the Commission on Freedom of the Press, better known as the Hutchins Commission, which assembled the leading American intellectuals at the time, who were tasked with defining freedom of the press and professional norms for journalists. It must be noted that they were all white men, mostly upper-class academics who taught at Ivy League schools. Ruth Inglis authored two of their six major reports, but she was not treated as a full-fledged commissioner and was instead seen more as like a staff researcher or a coordinator.

Few people know this—I only know this because I slogged through thousands of unpublished proceedings—but the Commission initially considered some pretty radical reforms. They entertained notions like subsidizing new startups and communities that only had one newspaper. They talked about forming community press councils, treating the press as a utility or a common carrier. But out of fear of sounding like socialists (keep in mind that this is when an anticommunist hysteria was beginning to take root in the US), they gradually fell back on calls for self-regulation and for uncontroversial things like demanding that the press cover important issues of the day. Nonetheless, they were still viciously red-baited even for these very innocuous suggestions for reform. Yet over time these proposals became doctrinal for journalism schools, with generations of journalists becoming trained according to core tenets of the social responsibility model for the press.

Four Theories of the Press

1956

A foundational text, the 1956 *Four Theories of the Press*, drew from the Hutchins Commission teachings to argue that postwar American journalism had evolved from an earlier libertarian phase to now embrace a social responsibility model of the press. I argue that it reality this shift was just a rebranding of the earlier libertarian model plus a concession that, as long as the press paid a little more attention to society and recognized it had some responsibilities, all was OK and we now had an entirely new democratized model of the press. My book concludes that these policy battles in the

40s resulted in a social contract between the state, the public, and media institutions. I call this the "postwar settlement for American media", which is defined by self-regulation, industry-defined social responsibility, and a negative understanding of the first amendment.

The First Amendment is something that we're very proud of in the States. It essentially codifies our freedom of the press and freedom of speech, but the way that it often gets interpreted is a very libertarian doctrine. Drawing from the Isaiah Berlin's articulation of negative liberties, we can see that the First amendment focuses on *freedom from*—especially freedom from government interference—as opposed to the public's positive *freedom for*, or *freedom to* a diverse media system. This prevailing libertarian framework helps keep intact a commercial media system with little public or governmental oversight. And it largely remains the dominant paradigm for American media policy today. Therefore, I think you need to know this history to understand that the American media system didn't have to evolve this way, it wasn't inevitable or natural, and it could still be different. Our media system is something that we can reimagine and hopefully reinvent (you can start to sense a little bit of optimism creeping in here!).

It essentially codifies our freedom of the press and freedom of speech.

I refer to this ideological arrangement that I've been describing as "corporate libertarianism" and it's based on this idea that government has little legitimate role in intervening in media markets. But this is a libertarian fantasy, the government is always involved in media markets. The question is *how* should the government be involved?

This brings me to a theme in my current book where I'm trying to find out why there hasn't been a policy response to the journalism crisis and how this libertarianism prevents government intervention. Part of this is what I refer to as a "market ontology of journalism" where this market fundamentalism has seeped into our master categories with how we think and talk about journalism. There are several basic tropes connected to this ideological formation.

One trope is the idea that the state of journalism should be understood in terms of supply and demand—that journalism should be treated as a simple commodity, a widget, that's bought and sold on the market, not as a vital public service. The implication is that if journalism isn't profitable for publishers and media owners, then we should just let it wither away. Now imagine if this same logic were applied to academic work. If our peer review journal articles didn't get enough likes or clicks or shares, we would have to change our focus or even worse, we'd lose our jobs. Or imagine if this were applied to public education and students didn't

want to take civics classes, then we would just stop teaching that in school. So in other words, supply and demand in the unfettered free market do not always reflect accurate assessments of social value. Besides, in many cases, there's actually still high demand for news media, it's just not profitable.

The second trope is the idea that the institutional collapse of journalism is something beyond our control, something that happens to us, as if it were a natural disaster or an act of God. For analysts like Clay Shirky, it's a kind of "creative destruction". We're living in a revolutionary moment, things get broken, and we just have to wait for something new to organically emerge. Here we could play another thought exercise. Imagine if an alien force invaded the United States and started shutting down newsrooms and force-marching journalists onto the street. There would be an open rebellion. We would likely see that even conservatives who hate the media would see that as a violation of a core American freedom. But when the market does essentially the exact same thing, we just kind of shrug. There's a kind of sociology of resignation that comes into play and we don't see it as a political choice or that we have agency to change things.

Now, this brings us to a third trope, the idea that market forces and new technologies will combine to guide us out of this predicament. Paradoxically, even though the economics of the internet have exacerbated the journalism crisis, these same forces are often seen to be journalism's soul saviors. There's less of this utopianism now but again it keeps coming back. A year or two ago, I kept hearing about how blockchain and cryptocurrencies were going to save journalism. I never fully understood how that was supposed to work, but suffice it to say it hasn't worked, I don't think it's ever going to. Obviously new technologies can help, but they need to be guided by sound public policy. Another important caveat is that there's still good commercial journalism. Indeed, professional norms and other culture factors can go some way toward ensuring that reliable journalism persists. But it's not enough to save us; putting our faith entirely in the market to provide the news media that our democracy requires has always been and is especially now a dangerous proposal.

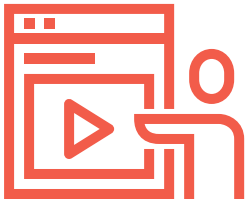
The challenge, therefore, is to try to extricate public service journalism from the market before the market drives it entirely into the ground before it's too late. We're already seeing a kind of late stage destruction happening where hedge funds and private equity firms are buying up struggling newspapers and selling them off for parts. In some cases they are literally selling off the parking lot, the buildings, real estate, all the assets, even the equipment and the printing press. These firms are sometimes referred to as a

"vulture capitalists", and I think it's a very apt term for them.

Fortunately, there are some political economic rationales—we might think of them as antidotes to market fundamentalism—that can allow us to argue for non-market support and for necessary policy interventions. We just don't hear about them very often, but they mostly comes out of mainstream neoclassical economics. One key idea is that journalism is a public good, that it's not just a simple commodity. The technical definition of a public good is that it's non-rivalrous, so one person's consumption doesn't interfere with another person's consumption. They're also non-excludable, which means it's difficult to prevent free riders. This is one of the reasons why paywalls tend not to work, especially in a digital media landscape.

Furthermore, many public goods—artificial light, clean air, parks, even knowledge—tremendous positive externalities. So they're not just a public good, but they are especially *good for the public*. Society requires these goods, but individuals typically undervalue or are unable or unwilling to pay for them and this leads to their underproduction and market failure.

Now, "market failure" is often treated as this rare event in capitalist markets. It's assumed to be something that, if and when it happens, we can just simply tweak the markets a little bit and they'll go back to their self-correcting status quo. However, I argue that that, especially with media markets, there's always market failure at work. I refer to this as "systemic market failure". Little tweaks will not solve such a deeply structural problem; it is endemic and will not go simply go away. Democratic societies have to always manage them, and always try to find ways to buffer journalism from commercial pressures.



TRADITIONAL COMMERCIAL MODEL

One vulnerability with the traditional commercial model was that news was a kind of byproduct. The transaction was always between media owners and advertisers and they were delivering audiences to those advertisers. Advertisers were using media organizations to reach these audiences and the news that was produced was a kind of positive externality. Advertisers never really cared whether we had a foreign bureau set up in Baghdad or whether there was good news coverage of the local school board meeting. Such public service journalism that emerged from this transaction was socially beneficial, but when advertisers no longer had to rely on that relationship, they jumped ship for a more profitable arrangement.

Assuming that advertising itself was a kind of subsidy, how can we save journalism from systemic market failure? Now I'm getting into the final stretch to address the "what is to be done" question. There are five general approaches toward either removing journalism from the commercial market entirely or buffering it from market forces. One is, as I've already hinted at earlier, establishing "public options". This means creating noncommercial media ranging from a well-funded public media system to municipal broadband networks. Increasingly we need to pay attention to the underlying infrastructure that make journalism viable. We need to not just think of journalism as a set of practices and content, but that is also includes material infrastructures such as broadband access that are vitally necessary.

The second strategy I've hinted to as well, which is to break up or, better yet, prevent monopolies from ever occurring. When that fails, a third strategy is to try to regulate monopolies and apply strong public interest regulations. So these three strategies—replace with public alternatives, break-up, or regulate—are all at a more top-down policy level, but the fourth and fifth strategies are more of a bottom up approach, respectively, enabling worker control and enabling community control.

What can we do at the community level? One is to enable worker control by unionizing newsrooms, facilitating employee-owned institutions, and making sure that newsrooms look like the communities that they serve. It's also important to keep in mind that whenever I'm arguing for a new public media system, it's not just to prop up NPR and PBS. Rather, it's to entirely re-invent from the bottom up and democratize our news outlets to make sure that they are based on democratic decision making and that communities themselves are involved in news production. I think that's absolutely key.

Regarding community governance of newsrooms, although it always sounds ridiculously utopian when I argue that we should create a new public media system in the United States, we could be doing things like leveraging already existing public infrastructures. This would include using post offices and public libraries to create spaces where this local news media production can happen. One real world exemplar where this is happening is the Urbana-Champagne Independent Media Center, which actually bought the downtown post office in Urbana, Illinois in the middle of the corn fields and turned that into a community news media center. I always think of that as an example of something that we could do, especially considering how there's a boxy post office building in every little community across the United States.

Now, Trump is trying to privatize that system right now as we speak. But that's an example of a public space that we could be better utilized. I always think of the late Erik Olin Wright's notion about "real utopias", about these kernels of alternative worlds that we have in our everyday lives such as libraries. When you think about libraries, they are so radical. And that's something that we could be using towards, again, local media production.

We're seeing other experiments take root across the country where newspapers are transitioning into nonprofit status. You see this at the *Salt Lake Tribune*, which happened recently, and I think many more of these experiments will emerge in the near future. As for trying to generate a large public media fund for journalism, there are many different ways we could do this. One that I often trot out is this idea that Facebook and Google, who are doing so much to destroy journalism right now, should be paying money into a public media tax fund.

Speaking of Facebook, even though it is not the cause of the journalism crisis, it and other monopolies are certainly exacerbating the crisis. This rising monopoly problem in the United States has also fomented a growing anti-monopoly movement, which gives me some hope. I rant about Facebook in other writings (See, for example, Pickard, 2020b).

For now, suffice it to say, that despite all of this doom and gloom, I'm weirdly hopeful. I think that many of our media systems' long existing structural problems are now in full view, people are paying attention, they're being critical, and long-held assumptions about whether government is allowed to reign in monopolies or intervene in media markets are beginning to shift. Younger people are not as in thrall to the market and I think there is good reason to hope that we'll begin looking for real structural alternatives to the commercialism that's misguided so much of our media for so long. We're seeing interesting experiments take root across the country, not only in the US but around the world. We'll see many more of those in the years to come. And on that positive note, I think I'll end right there.

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Communicating Risk and Uncertainty via the Media

JAMES PAINTER

University of Oxford

So as the kind introduction made clear, I'm going to concentrate on climate change. I thought it was extremely helpful that the last thing that the previous speaker, Victor Pickard said was that 'the planet is burning'. He gave some very useful contextualization of why reporting the complexity and uncertainty around climate change faces some huge structural obstacles - I will go into some of them but not all of them.

As it's the last talk of a very detailed and brain-hurting week, I'm not going to go too much into theory. I'm going to base the talk on the practice of journalism and a lot of empirical work we have done. But if people want to know about theory and ask questions about that, then I'm very happy to do so.

It's sort of a *tour d'horizon* where we're at with climate change reporting and the complexity of it. The first is the changing media context, which is very much what Victor was talking about, although, of course he was focusing on the USA. And at the moment, myself and a colleague at the University of Zurich, Professor Mike Schäfer, are trying to do a mapping of what we know and what we don't know about climate journalism, not just in the USA where actually we know quite a lot, but in many other countries where we know much less, but you could argue we need to know a lot more given the urgency of the climate crisis.

The second thing I will do relatively quickly is mention a book I wrote back in 2013 on communicating risk and uncertainty around climate change in the media. And I just want to pick out some of the results of that study to share them with you, because I think they're still relevant to any discussion today.

Thirdly, I'm going to just talk about this really complex area about how uncertainty reporting in science communication lands on audiences. How do audiences around the world, in the US particularly where we have a lot of information, respond to uncertainty framing around climate change?

Finally, I hope I'll do something which will be of interest to all of you. I'm going to take three very topical examples of issues around climate change that are very much in the media right now. So the first is extreme event attribution and extreme weather events. Look at the bush fires right now in Australia and the levels of polarization around that issue of what is the relationship between those bush fires and climate change - how the media cover it, or don't cover that link, is crucially important. It's also true of the USA, to a lesser extent it's true of the UK. Where climate change is contested, the role that the media play in reporting the complexity of that link is absolutely crucial.

The next case study is the 'deadline narrative'. I think you've probably all seen it in the news. This idea that we've got 12 years to act before the end of the planet - everybody familiar with that? It's in a lot of the slogans in the school strikes. It's in a lot of the Extinction Rebellion narratives in the UK. This idea, "Oh my God, we've got 12 years to act, or we're going to fall off a cliff if we don't."

Then again, there's a lot of uncertainty around that and it makes a really interesting case study about how the media report it. And then if we've got time, I'm going to give you the results of some work that we're doing on lab grown meat - that is growing meat alternatives in a laboratory – which some people could say could save the world.

So I'm going to have to start with the 'Bible' of what's going on in the media around the world. I think Victor mentioned the Pew reports. Of course they map the changes to the media in the USA. But this is the Reuters Institute Digital News Report. If you don't know them, they're free downloads. I don't write them, therefore I'm allowed to promote them! It's 38 countries, 75,000 people surveyed, and it gives you a snapshot every year of what's happening to media landscapes in terms of changing platforms, changing levels of trust, and new technological innovations like podcasts, amongst many other things.

It also gives you country breakdowns including Portugal, about which major media organizations are trusted and

used. Everybody familiar with it? Yes. Lots of nods. I won't say more. So the intellectual challenge to a certain extent is drawing on what Victor said and drawing on what we do at the Reuters Institute, and to ask how these changing media landscapes in different countries affect particular research questions and particular practical problems.

COUNTRIES
38

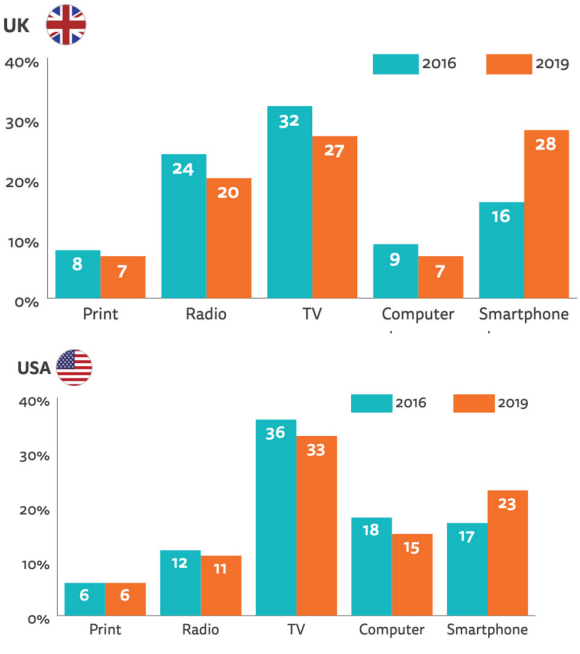
PEOPLE
75,000

We're trying to situate much of the research we do within the context of these changing media landscapes, and within the changing worlds of climate journalism. I've just chosen five examples of how I think it impacts on climate journalism, but I could have chosen many others. Again, the intellectual challenge is thinking how does this work out? And indeed is it the best prism through which to see these changing practitioner questions?

So the five major trends are i) changing platform use, ii) lack of trust in the media, iii) the drop in the number of specialist correspondents, iv) the pluralisation of sources and v) the digitalisation of science communication. So for example, changing platform use - we all know about the boom in social media, but how does that change the way we consume and understand news about science and climate change?

The lack of trust - many people have already referred to it. I think the third aspect (decline in specialist correspondents) Victor referred to in the US but it's also true of many other countries. It's absolutely crucial - if you're going to try and represent complex and uncertain scientific concepts and there are not enough specialist correspondents to do it, we're in trouble.

PROPORTION THAT USED EACH FOR CONTACT WITH NEWS (2016 AND 2019) – UK AND USA

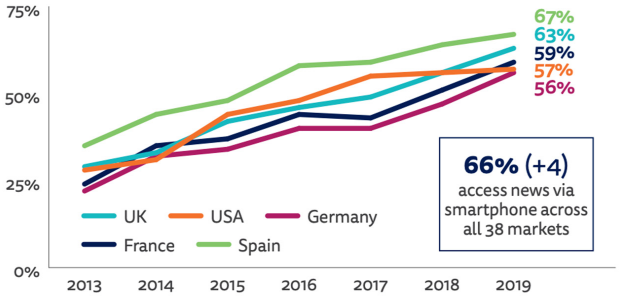


Fourthly, the pluralization of sources. I'll explain what I mean by that. And then fifthly, the digitalization of science communication. Many of these will be familiar to you, but firstly here's the changing platform use. This is the UK for first contact with the news from 2016 to 2019, print declining over that period, but smartphone going rapidly up and television basically holding its own.

In the US smartphone is also going up, print low usage, television roughly the same as the US, radio less so. And radio is still very, very popular in the UK, partly because of the ubiquity of the BBC. Why show this chart? If it's the case that more and more of our first contact with the news is through the smartphone, what does that mean for the reporting of complex issues?

Again, there'll be many people in this room who will know much more about how users use a smartphone - that we look at headlines, we look at photos far more. We don't necessarily click through to the original article. And so what does that mean when you come to climate change and the complexity of climate change?

PROPORTION THAT USED A SMARTPHONE FOR NEWS IN THE LAST WEEK (2013-19) – SELECTED MARKETS



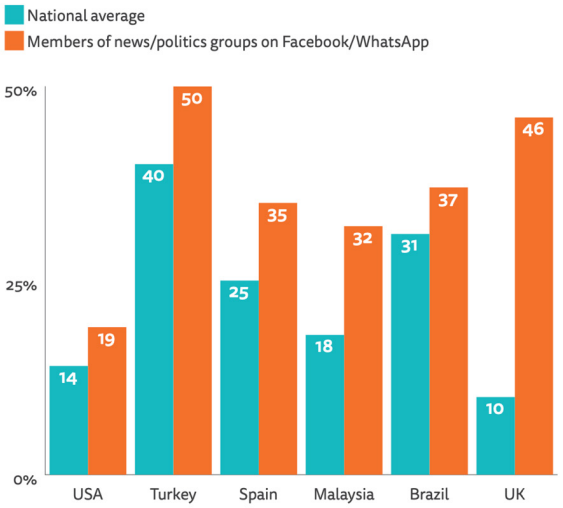
This is just a quick one, which I'm sure you will have all seen, or at least know the weekly smartphone usage. Of course there are big country differences according to cultural tradition, state of legislation and other factors. But the basic trend is 66% of people across all countries accessing news via the smartphone first. We're becoming more and more dependent on mobile.

So this was I think from 2017. 46% of us use their smart phones for news in bed. The figure I've got is that over half of us looking at the smart phone within four minutes of waking up. Look at that figure, 46% use their smart phones in bed. It's worth asking what on earth are the other 54% doing? 32% access news via their smart phone in the bathroom and the toilet.

And then lastly 42% of us access news via smartphones on public transport. It's a bit of fun. I know, but there's a very serious point behind it. Again, if you've got complex scientific issues and you're using your smartphone, is that the best way for really understanding what's going on?

This is trust in social media - again you'll probably be all familiar with it, but I like this chart because the blue shows the national average of trust in the news from social media most of the time, very low figures, higher in some countries. Why is it the case that it is very low in the UK? But then the proportion that trusts members of news or political groups on Facebook and WhatsApp is actually quite high in some countries.

PROPORTION THAT TRUSTS MOST NEWS FROM SOCIAL MEDIA MOST OF THE TIME – SELECTED MARKETS

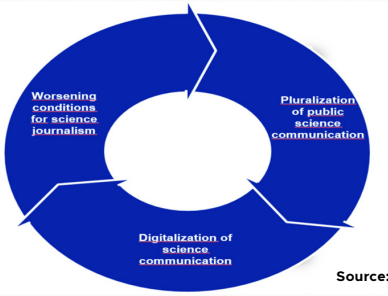


Q12_2019_FB/WA. Facebook/WhatsApp allows you to set up, join, and participate in groups, where you can discuss news or related topics with like-minded people. Which, if any, of the following have you used in the past month on Facebook/WhatsApp itself? **Q6_2018_2.** Please indicate your level of agreement with the following statements: I think I can trust news in social media most of the time. *Base: Total sample/member of news/politics groups on Facebook or WhatsApp: UK = 2023/125, USA = 2012/197, Spain = 2005/243, Brazil = 2013/477, Turkey = 2074/549, Malaysia = 2101/380.*

There is a really important nuance to this trust figures. 42% of our 38 countries went down for trust in news overall. The difference is high. You trust the news you use more than trust news in general, but it's going down. And then look at the figure for trust, news and social, and trust, news and search. So again, the question is if you do not trust the information that you're getting via social media, but you're using social media a lot, what do you trust when it comes to climate change and other issues for your information?

There are quite strong regional variations in the proportion which trusts most news most of the time. So Finland and Portugal get a very high figure. In France trust went down after the yellow vest protests and so did it in Brazil after the elections. What we try and do is map that against trust in news in general, and then trust in news about climate change. And it comes up pretty much that there is a correlation. So that's really important for when you're doing science communication.

I'm doing, as I said, some work with a colleague called Professor Mike Schäfer at the University of Zurich. And we're trying to think through what these big changes mean for science communication in general, not just climate change. And Mike devised this as a simplification into three areas: worsening conditions for science journalism, pluralization of public science communication, and then digitalization. And I think it's quite a helpful prism through which to see how these big macro changes impact on the practice of science journalism, the practice of science communication and how audiences receive information.



Source: Schäfer, 2017

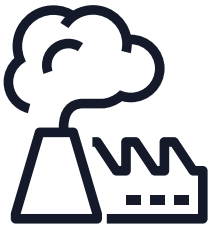
2017

Over half of us looking at the smart phone within four minutes of waking up.

So this is very much what Victor was talking about. The decline of the specialist beats, where apart from foreign news reporting perhaps and local news, science reporting in many countries is really on the decline and that's really, really worrying.

I won't go through the various manifestations of that. But why it is important in the science field is because science and environment journalists play a crucial role as mediators between environment knowledge and the general public requiring specialist knowledge to capture aspects of the science, including uncertainty and complexity. If you haven't got those journalist mediators who are explaining the news and the complexity of the science around it, then it is worrying.

Traditional legacy media are still important for science and climate change communication.



However, I should stress, it is a very mixed picture. In the US lots of specialist beats are being lost, but in the UK not so many. The BBC is actually expanding the number of environment science correspondents covering climate change at the moment. And it's true of some other countries. So what's true of the US is not necessarily true of every country.

Pluralization of voices is really important. So everybody can have their voice now because of the changing media sphere. They can have their own agendas, and of course that means when you come to skeptics and denialists, it's much easier for them to bypass the media and to have their own roles. And finally digitalization. One thing that we're looking at is you can create your own choice of information and media more easily.

You can have more opportunities to engage in mediated science and climate change communication through social media. There's a whole problem, which I won't go into, of echo chambers and only receiving information that you agree with. And another problem is that you as a consumer receive so much information, you don't know what to do with it. And what's happened to the journalist's role? To what extent has it changed from being a mediator of information, to actually being a scout, or a navigator, and what's it doing to the changing nature of journalism?

But despite all these changes, traditional legacy media are still important for science and climate change communication. There's quite a lot of research suggesting this. A lot of the climate change related content shared and debated in online and social media still comes from traditional news media sources, and again we need to know more about that.

And even though there is a decline in trust as we've mentioned down to 42%, at least the figures from the Reuters Institute do show that some of the legacy media titles actually do quite well. So the BBC, despite everything, is actually holding up quite well in terms of trust and usage, and it's very interesting to speculate whether the new right wing government in the UK can do anything to reduce its importance.

Okay. That's a summary of the 'big picture' changes today. I can't say I've got answers, but at least it's what we should be thinking about. And the reason why climate change is a very good case study to think about risk and uncertainty, is that there are certain things we know about climate change, and I apologize if there are experts in the room, but in very crude terms, i) we know it's happening. ii) We know we are the problem. And iii) we know on the whole the impacts will be very nasty, and iv) we know that there's something we can do about it. But we also know that there are huge amounts of uncertainties, particularly about future impacts. For example, we don't know the ranges around sea level rise where they might occur, when they might occur, and with what intensity they might occur.

There's a tremendous amount, I would say, of uncertainty about when the impacts are going to kick in, with what degree of severity. So that's a problem both for policy terms and communication terms. So I think it makes a really good case study of what are the challenges of communicating the uncertainties around a scientific issue like climate change.

So one of the ways there's a lot of presence of uncertainty in the media is of course the presence of climate denialism in its various shapes and forms. And the argument was for a long time that one of the reasons why there was so much denialism from a journalistic point of view, at least a journalistic norm point of view, was what they call false balance.

So for quite a long time, US journalists and UK journalists to a lesser extent felt that for every mainstream scientist you quoted, you needed to put in at denialist for the sake of balance. There's a lot of evidence and research that it is changing. And climate denialism is much less common in legacy media. It's very common of course in Fox News and other right-wing channels. But I think the general term trend is that it's changing.

I also think that it's confined to a number of key countries. It's an absolutely fascinating question. Why is it that climate denialism is so ubiquitous in the US, UK and Australia? Now in Brazil with President Bolsonaro, but in many other countries it isn't. What are the drivers of that and how is it changing?

However, the more common narrative, or frame that many people don't talk about is the one I've alluded to. There's an awful lot of uncertainty around climate change in conflicting claims between scientists in the models. There's a lot of uncertainty and the timing and scale and location of impacts. There's the common use of language we call modal verbs like 'may', 'might' and 'could'. In the reports by the IPCC, the Intergovernmental Panel on Climate Change, there's a lot on ranges of likelihood and confidence in those likelihoods. And this is a book that we wrote back in 2013, when we were trying to look at two things really. How dominant were uncertainty frames in the media, in the reporting of IPCC reports, particularly the first type of uncertainties. And what were the differences between countries?

And there was quite a lot of interest at the time in whether reframing these uncertainties as risk management was actually a helpful way of looking at it, hence reporting risk and uncertainty. In the book Climate Change in the Media, published in 2013, one of the key findings was that uncertainty was present in around something like 80% of the articles we looked at, and we were looking at legacy media in five different countries.

A lot of disaster, doom and gloom reporting was present. And there's a whole debate about whether risk frames are helpful for generating personal engagement whereas fear and guilt don't tend to be good motivators of personal behavior change, not just in climate change, but in one's life, apparently I'm told by social psychologists.

As I mentioned uncertainty was the second most common frame present in 80% of all the articles. There is more recent research suggesting that these uncertainty frames are much reduced in the media, but I still think it's a real challenge for journalists to think about, and scientists. How are they going to communicate these uncertainties around climate science? These are the obstacles.

Obstacles for journalists

General: Journalists often neglect the tentativeness of scientific evidence, omit qualifying information such as limitations of the research, and strive for clear-cut facts. (Post and Meier, 2016)

Climate change:

- Difficult to explain complexities and uncertainties in the face of restricted space
- The demands for compelling headlines avoiding uncertainties
- The public's lack of understanding that uncertainty is part and parcel of scientific inquiry
- Lack of familiarity with concepts
- Aversion to numbers?
- Very difficult for television (but not for infographics). (Painter, 2013).

In general, if you look at the top statement, there's a lot of research done by the researcher Senja Post and others saying that journalists in general do find scientific uncertainty difficult to deal with, and they omit qualifying information such as limitations of the research and they strive for clear cut facts. This is for science communication in general, not just climate change.

This is probably an overall generalization. There are lots of very good science journalists who don't do that, but on the whole, this is the tendency that they found. So what's the problem with climate change?

You need a lot of space to explain complexities and uncertainties. That's a real problem, particularly for television news. The average amount of time you get for a slot on a news bulletin, anyone want to guess? It's one and a half minutes, right? It's probably the same for most countries and it's going down. How are they going to explain complexity and uncertainty in one and a half minutes for television?

The next problem is the headline. How do you have a compelling headline around uncertainty or a range? For example, the IPCC says that sea level rise will be somewhere between 30 centimeters and 90 centimeters by the end of the century. It's not very compelling or is it?

And again, do correct me if I'm wrong or if I'm overgeneralizing, but on the whole, the public don't generally understand scientific uncertainty.

Quite a helpful way of thinking about it is the difference between public understand of 'school science' such as gravity or the movement of planets. That's what they understand. They don't understand 'research science' so well, which is about reducing uncertainty, which motivates most of the work that you do in this room and most of the work that climate scientists do too - they are interested in uncertainty because that's what drives their understanding.

Aversion to numbers - I think in the UK, at least, most journalists still have a background in arts, and not in science or maths. So the degree of scientific literacy and numerical literacy is quite low. And so they don't really like numbers, and some of them think their audiences don't like numbers either.

So if you're trying to put a probability on a prediction around climate change, you may feel that your audience is not going to understand it. This may be an exaggeration and simplification. But there is a problem. And then the complexities I mentioned earlier, it's very difficult for television. Unless, and this is another big debate, you think infographics is the way forward.

It's also very challenging for climate scientists. I'm just going to break the lecture up for two minutes just to watch a clip of a very articulate climate scientist, a British woman called Tamsin Edwards, who's written a lot about why uncertainty is so difficult. It's got a great title, "How To Love Uncertainty in Climate Science".

Tamsin Edwards:

> ***"The second problem is that scientists in any area of cutting edge research will disagree with each other. If the media or public don't expect that it can cause confusion, and, worse still, because climate science is politicized, these disagreements are often sold as proof of unreliable science, an argument to ignore scientists until it's all sorted out. For example, some scientists predict global average sea level rise under the highest greenhouse gas emissions scenario will likely be 20 to 30 inches by the end of the century. Other scientists predict it will very likely be 3 to 5 feet, or possibly over 6 feet. That's quite a difference. And the reason for it, is that the two groups think about the problem in two different ways. The first use methods based in physics, and the second in statistics. And I think that's an interesting story to tell, because we don't yet know the best approach. We might like to think of science as a neat, orderly book of facts, but it's not. It's like searching for the right path in a fog, and it takes time to find out which is the right one. The third problem is that scientific uncertainty allows people to spin our results. We had a press conference for project I was in called ice2sea, which made predictions of global average sea level rise using these physics-based methods. Some journalists reported our results as sea level rise to be less severe than feared, because they compared our results to those higher statistical studies. Others reported the same press conference as risk from rising sea levels worse than feared, because they chose to compare our results to the previous report of the Intergovernmental Panel on Climate Change which, like us, used the physics methods, but didn't tally every possible part of a future sea level rise. A third website went for The End of London as we know it. It's no wonder the public are confused. Each media outlet tells the story it wants to tell. But I think we scientists haven't always helped. We haven't always sold the idea of uncertainty as, not only inevitable, but even exciting, and we've sometimes over-simplified our communication."***

Tamsin Edwards

How To Love Uncertainty in Climate Science

On the basis of the book study that I alluded to, we were very interested in the issue of whether it might actually be helpful to use the concept of risk and risk management in countering uncertainties.

The problem being that at least in the UK context, the skeptics were arguing at the time, well, we don't actually know enough about the impacts. We don't know enough about

the causes, and therefore we should not take action. So if you frame it as risk management, it may help. Many sectors of society including business, governments to a certain extent, the military, the health sector, they are constantly framing uncertainty within the concept of risk management.

Unfortunately the IPCC used that whole concept of risk management in their AR5 report. And it got virtually no traction within the media. And so it's a big discussion. What is the problem that the media have with risk management? Why is it that many people are, and many sectors are familiar with risk management, and yet the media don't use that concept much - with one exception.

"How confident are you in that prediction?"

How many of you read the *Financial Times*? Whenever they frame climate change, often they frame it as risk. Now why do you think that is? Because their audiences understand that that actually is what a lot of climate change policy making is about. And Martin Wolf, who is a veteran commentator for the *Financial Times* on many issues, is a very strong believer in taking action on climate change.

In the distribution of possible outcomes in other worlds, we take out house insurance for a low probability, high impact possibility, don't we? It's very unlikely that our house is going to burn down, but we take out insurance. Likewise with climate change there are some very nasty what they call 'tail risks'.

In other words, low probability but very high impact risks. So if the whole of the Greenland ice sheet melts, we are... Excuse me. If the Amazon really goes into die back very soon, we are also... Okay. So that's why it's really interesting. Framing this as a risk management would be immensely helpful, but it is not used by the media.

But one of the aspects which is really interesting is how does scientific uncertainty around climate change land on audiences? Do they understand it? How do they react, how do they take action, what is their emotional engagement? There's a vast amount of literature out there.On the whole, the big picture is that uncertainty does not help either in motivating people to take action. It's sort of anecdotal I know, and you all will frown and say, "Oh my God, you've got to have far more evidence than that."

But in one study they showed examples of newspaper stories to a UK select group, where the science was not certain. They showed climate scientists being quoted, but who were not really sure about something - sea level rise for example, could be 30, centimeters could be 90.

And you'd be amazed how many of the ordinary public's audience was, "How's that possible? You're scientists, you receive public money, you should know. And if you don't know, why should we do anything?" So there's a real problem in this issue around uncertainty, and risk framing. I won't go into all of it, but I think the key point is point number three, a focus on uncertainty in news coverage can potentially reduce the public support they give into climate action, because of the unclear outcome of such actions.

Again, there is lots of work around how uncertainty specifically in the climate change sphere operates. If people feel that the third point is quite interesting. It's a gateway issue. So if people feel that there's uncertainty around climate change, it has a big impact over whether they engage, if they think that there's uncertainty about one aspect of the science, it's called uncertainty transfer often they'll think, "Oh well there's uncertainty in other aspects too."

And of course the reality is that we know a lot about some things, but we don't know so much about others. The IPCC publish quite sophisticated metrics for portraying their results through two prisms. The first is they put a likelihood assessment on their statements. So, for example, they will say it is 'very likely' that the world will warm by 1.5 degrees by 2030 if we don't take action to drastically reduce our greenhouse gas emissions.

'Very likely'. Okay. They mean by very likely, 90% certain. When these researchers, Budescu et al., did their study, they found that for many people in different societies, not just UK and US, they understood by very likely something notably less. Any guesses? 65%. So why is that important? Because the public will understand, "Well actually you're only 65% certain, not 90% certain that this is going to happen, right?"

And the second metric is confidence levels. When you make a statement, how confident are you that in the past you've been right about that statement? Again, journalists really struggle with this. Again, I don't know if this crosses cultures, but in the UK we've had a number of instances where the Met Office predicted hurricanes, or failed to predict hurricanes, which of course can have catastrophic effects if you don't prepare for them.

And so we did some work with journalists, trying to think through what sort of questions do you want to ask that will get better public understanding about the likelihood of extreme weather events. So the first question is, how much do people understand a weather forecast when you say it is 70% likely that this will happen? And there's a big discussion about whether that's helpful or not.

It's called deterministic or probabilistic accounting. But the next really important question is, why don't the journalists ask someone at the Met Office more questions along the lines of "How confident are you in that prediction?" In other

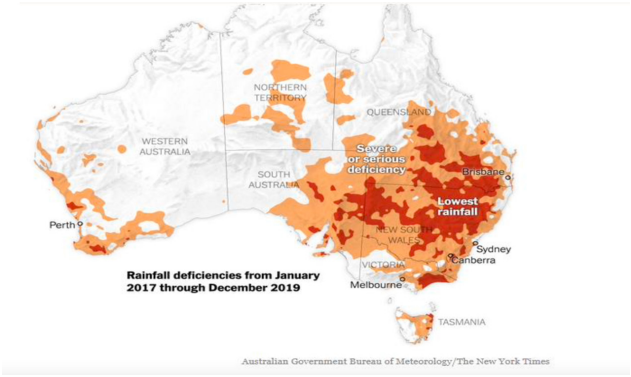
words, “The last time you made a prediction like that, were you right?” And that often doesn’t get asked. And I think it would be really helpful if it does.

There’s a lot of work and it’s very nuanced on how uncertainty narratives around climate change land with different audiences. And again, very crudely expressed, there’s a huge amount of research now out of Yale and many other universities around Europe, suggesting that the dominant way that we interpret new information or even old information about climate change is through our value systems, and not through processing knowledge.

In other words, values such as what we think about the environment, what we care about the future, our political leanings ‘trump’... And I’m sorry to use that word, ‘trump’ information every time, or lack of information. Again, a big discussion, but I find it endlessly fascinating to think about how audiences receive this.

I’m now going to give you three cases where and why is this so important to get this uncertainty reporting right and the communication of uncertainty. So we couldn’t get a more topical and relevant example of extreme events. And I’ll explain to you what I mean. Then I mentioned it earlier, deadline narratives, this idea that we’ve got 12 years before the end of the world, and then lab grown meat.

So let’s take the bush fires. This is a chart giving the rainfall deficiencies in Australia from January 2017 through to December 2019, and of course they map fairly neatly onto where some of the worst bush fires have been. So this is a really hot topic. Not only is it probably the worst bush fires ever seen in Australia’s history by some metrics, not by all.



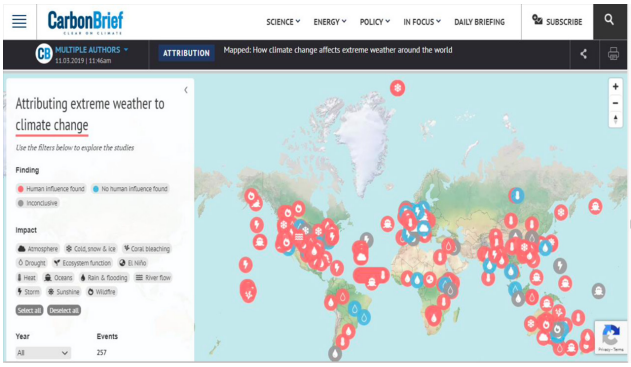
Australian Government Bureau of Meteorology/The New York Times

Secondly, it become highly political, as I’m sure you’re all aware, because the current prime minister, Scott Morrison, has tried to downplay the link with climate change. Why? Because his party is close to coal interests and mining interests, and it would look very difficult for him. He could be in a very difficult position if he were to come out saying, “Yes, this is driven by, or linked to, climate change.”

And there’s some interesting work coming out already from Australia around how the media do or don’t talk about the link. However, it is complicated. The link between bush fires and climate change is complex. The key point... I would ask you to remember this. The right question to ask about extreme weather events, which include heat waves, droughts, hurricane is not, ‘was this individual weather event caused by climate change?’

The right question is, ‘was it made more intense or more likely as a result of climate change?’ Scientists cannot answer the first question accurately. They can answer the second question very accurately. Okay. I know it’s a simple point, but still many journalists make that mistake.

And this is a map of the various studies that have been made by climate modelers, it’s called Extreme Event Attribution, EEA. Scientists have published more than 230 peer-reviewed studies looking at weather events around the world, from Hurricane Katrina to Russia’s 2010 heatwave.



Typically, they assess not whether climate change was the cause of specific weather events, but how much more/less likely or more/less severe a specific weather event became as a result of human-induced climate change.

These the red marks are all the studies that have been made where human influence has been found of extreme weather events. Can you see it?

Okay, so red here, human influence found, blue, no human influence found, or inconclusive. So there’s something like 230 studies looking at 260 individual extreme weather events. They found that in 68% of those studies, the extreme events had been made either more intense, or more likely as a result of anthropogenic forcing. And the most common by far was heat waves.

The reason being it’s much easier to track heat waves and run models around heat waves than rainfall events, or even drought which is a combination of a heat wave and lack of rainfall.

This is a concrete example. I don't know how many of you remember the Russian heat wave in 2010. It caused a lot of destruction, a lot of fires, loss of life, a huge amount of economic damage. This was what *Time* magazine reported, saying the Russian heat wave was not linked to climate change. In contrast, this is what Wired was saying, that the same heat wave was statistically linked to climate change. And the point here was that the different academic research studies were measuring different things.

The first one was measuring the intensity of the heat wave. How intense was it? Which was mostly driven by internal natural causes. The second one was measuring how much more likely was it? Complicated isn't it? But we need to get this right. And this is the Guardian article, which got it right. Climate change increased the likelihood of the heatwave, but it didn't increase the intensity of the heat wave.

Climate change

This article is more than 7 years old

Climate change increased likelihood of Russian 2010 heatwave – study

Although the heatwave was made three times more likely, the size of the event was within natural limits, say scientists

Alok Jha, *science correspondent*

Tue 21 Feb 2012 07.00 GMT

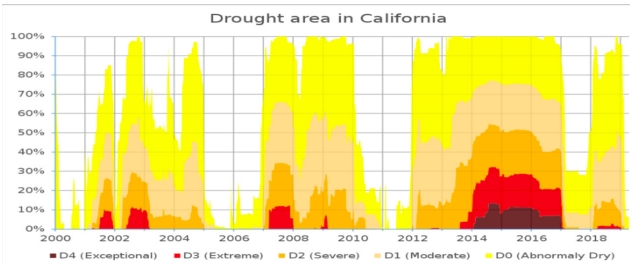
A Russian man watches a forest fire burn in Beloomut. Photograph: Andrey Smirnov/AFP/Getty Images

The extreme Russian heatwave of 2010 was made three times more likely

So these studies measure different things. But if you're a reader, you're thinking, "Well, did it, or didn't it cause the heat wave?" Wrong question. Did it make it more intense or did it make it more likely? So the link is complex. Again, you can talk about trends or you can talk about individual specific events.

This event has been made more or less likely, or intense as a result of climate change, or there can be no link at all. But journalists really struggled with this. And so do science communicators, and so do the general public. So we really need to think about how to report this complexity and uncertainty accurately.

This was another study done by one of my students at Oxford on the drought in California. As we know, there have been lots of droughts between 2000 and 2018. She looked at 2014, 2015 and there been 11 different studies of the links between the California drought and climate change. Five of them said there was a link, six of them said they wasn't a link.



So if you're a journalist in the US, how would you report this? And what she also found was that there was a lot of uncertainty that the reporters picked up on. So one

was lack of consensus. That means the scientists partly disagreed. Another was what we call the expansion of the problem domain. In other words, if only we had more tools and more scientific methods, we could solve this. But there were different types of uncertainty types.

But I think the key thing, is that yes, there's a huge amount of interest in the media about explaining and exploring the link between climate change and individual events. But scientists use different methods, different starting points, and different terminologies when they're covering these events. So there's a real imperative and urgent need for us to coordinate both in a scientific way through scientists, and also to use the media to really explain it.

There was another case we looked at: extreme weather events in India. This was a slightly different problem in India flooding in Chennai in 2015, and then a heat wave in different parts of India in the same year. This is also really interesting. In this particular case, there were studies that had been done which showed that there was a link, but they didn't come out until quite a bit later. But politicians and NGOs in India who wanted to show that there was a link for political reasons asserted the link before there was any science to prove or disprove it.

So I don't know if any of you remember well COP-21 in Paris - Prime Minister Modi of India went, and he arrived and said, "These floods are caused by climate change, we must do something about it." There was no evidence at the time, but he said it. It's almost like the politicization of the science. We did know later, but we didn't know at the time.

So finally, this is another case study which I think you'll find interesting. This was the 2018 report from the IPCC. It was called the 1.5 degree report, and I was very lucky enough to be part of the team that was trying to get the messaging right around this report. Here is the launch.

And the scientists and communicators thought, "Well, are there key ways that we can communicate the results? Can we take key messages from this report that we can summarize for the media?" And there were several which were, if I remember rightly, climate change is happening now in many parts of the world. We will need unprecedented changes in our society to bring them aboard to meet the 1.5 target.

We had another message, every bit of warming matters, because the context in which the report came out was promoted by the idea that 1.5 degrees was an important target, because low lying islands and coral reefs would be damaged. We couldn't wait until the two degree increase. The final one was – taking action on climate change is compatible for many developing countries with the SDGs, the sustainable development goals.

So the scientists did all the communication around the 1.5 report, and the headline in many newspapers was "We have 12 years to limit climate change catastrophe". No so much in the US actually interestingly, but certainly in parts of Europe. We have 12 years to limit climate change catastrophe. The IPCC never said that, but this is how it got picked up.

"This became a slogan of the extinction rebellion". It's very common trope in a lot of the activism of the school children. The issue created a lot of debate both within the academic world and in the media as to whether we really only have 12 years.

My colleague at the School of Geography at Oxford University, Professor Myles Allen, made a very powerful argument. The protesters should be wary of the 12 years. Firstly, the science never said that. Secondly, the idea was that actually we need to take action now. We don't have to wait 12 years.

The third criticism was the idea 2030 comes and we fall off a cliff, whereas the changes and impacts are probably going to be more gradual over years. The fourth area of concern was that some parents got really worried about it in the UK... some were writing emails and saying, "My child is really suffering severe psychological problems because they think they've only got 12 years before the world ends."

So there's a real problem with that climate deadline. How did we get there? This is what the IPCC actually said, "Global warming is likely to reach 1.5 degrees between 2030 and 2052, if it continues at the current rate." In model pathways...

"Well, are there key ways that we can communicate the results?

Can we take key messages from this report that we can summarize for the media?"

So if you're a journalist thinking, "How am I going to explain this huge problem and challenge to an audience?" What are you going to do? You're probably going to think 2030 is the date that things really matter. And that's what The Guardian did. And then as a result of The Guardian doing it, I think other papers such as the Independent followed suit. ...

Why does it matter?

It matters because we haven't got enough climate specialist journalists now who really understand that these ranges and scientific ways of portraying this issue are actually really important, and there are downsides to getting it wrong. However, and it's a real but, a lot of people kicked back against this and said particularly from the more activist side, that the 2030 deadline has really helped to mobilize school children, other members of the public, grandparents, who all now think that tackling climate change is much more urgent.

So do you stick to the science and say, "Well wait a minute, that's not quite right."? Or do you say the most important thing in facing climate change right now is massive political change, massive systemic change, and the only way you're going to get that is political mobilization?

So this is a summary from a journal article from Boykoff and Pearson that came out just recently. Although these deadline discourses might have helped galvanize action and raised ambitions in the short term, research suggests that this kind of language could induce fear or disengagement amongst some audiences.

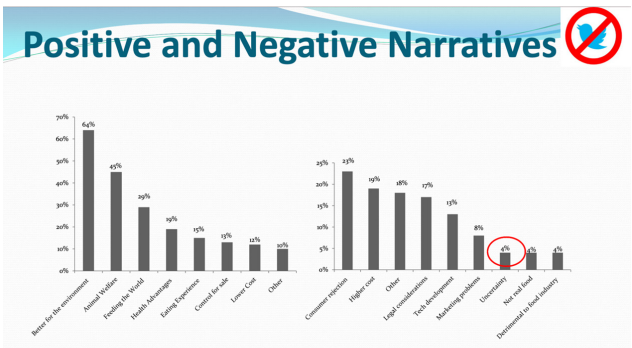
Final example. We're doing a lot of work also at Oxford around the issue of whether plant-based alternatives or cultured -meat alternatives to animal agriculture could help save the world. Research suggests that animal agriculture produces about 15% of all the greenhouse gas emissions, and yet in the past there's been very little media discussion about it.

In other words, the environmental impact of eating meat is crucially significant, and we should all be trying to either reduce, or cut out meat and dairy products. So along comes lab grown meat. That's cultured meat. They take a stem cell from an animal, most of the time now it's a cow, but they're expanding to chicken and other animals. And the idea is that you can grow it in a culture, and mass produce lab grown meat, which could stop animal suffering, reduce environmental impact, improve food security, and possibly even improve health because of the amount of antibiotics that there are in the meat sector.

However, there are huge amounts of uncertainties around lab grown meat. It's very much an incipient industry. We don't know how they're going to scale it up from the lab to make it a mass grown widely eaten alternative. Will people actually eat it, or will they able to afford it?

Anyway, to cut a long story short, we looked at the coverage in the US and the UK media over this period, 2013 to 2018, (Slide 54) and the key thing here is that these were the positive and negative narratives.

So if you look at the left hand side, those are all the positive narratives that the media focused on - much better for the



environment, animal welfare, feeding the world, health advantages, et cetera. There was only uncertainty in 4% of the articles. Do you understand the significance of that? There are huge uncertainties around lab grown meat, and yet the reporting of it was not consonant with the uncertainties around it.

So again, it raises the question why do journalists find it so difficult to report complexity and scientific uncertainties and does it matter? That's the key thing that I think we should all be addressing.

So here are some conclusions . In changing media landscapes where polarization and lack of trust is growing, there is a huge imperative to think through how to communicate uncertainty effectively.

We know that journalists find uncertainty reporting difficult. So we need training for communicators and journalists and scientists.

Then there is the possible advantage of framing uncertainty as risk for certain publics.

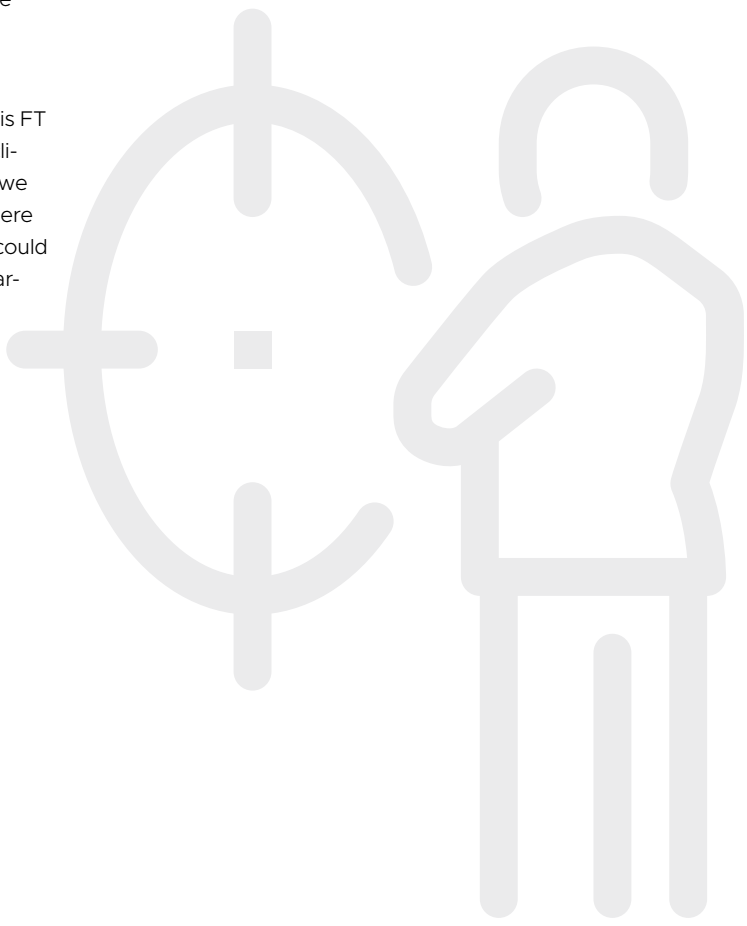
Visualisation is something we haven't talked about, but it's a really important issue, particularly because of social media and the rise of Instagram, Snapchat - we know how much good visuals drive sharing, reach and engagement on social media. BuzzFeed and Vox for example do a lot with good visuals. So visualization and infographics can be very helpful in explaining scientific complexity and uncertainty.

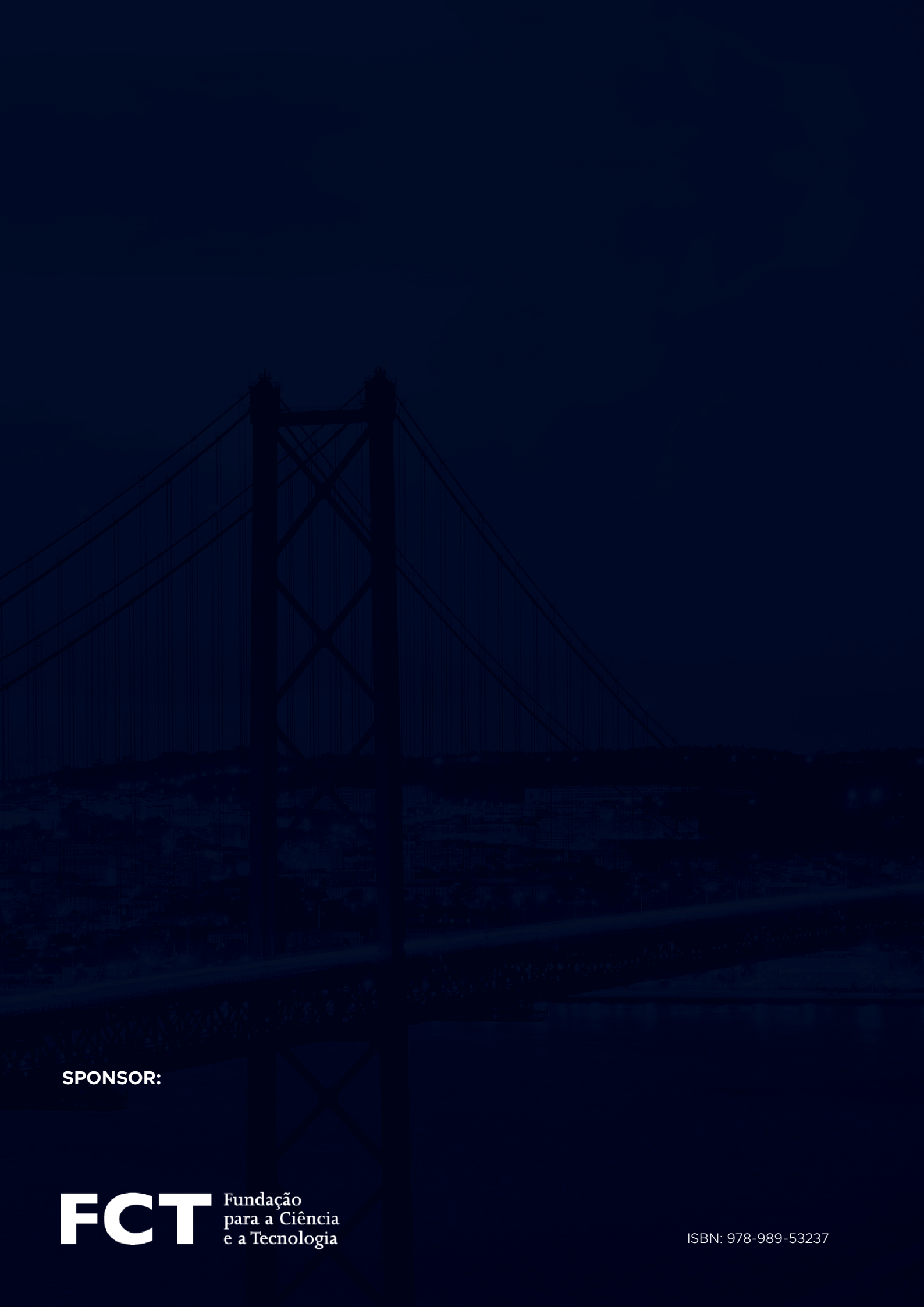
And there are actually, if you're interested in this area, plenty of practical guides published on communicating uncertainty.

Just one final thought about Tim Harford who works for the Financial Times and presents a BBC radio program called More or Less - if you're interested in statistics, go and listen to the podcast, it's brilliant.

He interrogates the claims of journalists, politicians around when and how they use numbers, but he recently wrote this FT piece in September last year. What we don't know about climate change is more important and dangerous than what we do, and here he's talking about tail risks. This idea is that there could be a low probability really high impact event, which could be really dangerous. We don't know, but that's why Tim Harford thinks we should take action on climate change.

I'll leave it there. Thank you very much.





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