

**Climate change or social change?  
A comparative analysis of the UK news media's  
'cultural emissions'**

**by**

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## ABSTRACT

This thesis positions the idea of ‘cultural emissions’ as a means for starting to identify and measure the potential impacts of all news-media output over time in relation to ‘sustainability’. The reason for doing this is the potentially huge, unmeasured *impacts* these cultural emissions may have and how this may be negatively affecting global efforts to achieve sustainability goals. Current approaches term the *effects* of this output ‘brainprint’, but the literature largely comes from industry and has weak links to theory, and indeed, sustainability theories. Combining notions of ‘emissions’ from environmental science, in this case meaning content or output, with brainprint, the effects of such output, aims to simplify the fearsome challenge of measurement.

The literature review suggests that all of these cultural emissions are likely influencing how markets, societies and ultimately people behave in relation to sustainability. It also raises questions about ‘responsibility’ and ‘accountability’, and highlights this may be impacting the ‘trust’ of audiences when confusing messages collide. Other studies focus on ‘editorial’ and ‘environmental’ content alone, missing key cultural emissions categories. This study has therefore developed and tested a content analysis instrument for measuring cultural emissions over time, across publishers, time periods and types of output, crucially including both editorial and ‘advertising’, which are too often taken as separate by content analysts and industry researchers alike. This instrument uses a ‘space score’ that extends existing approaches to help measure different kinds of output more quickly. It also offers a ‘sustainability score’ where items can be quickly judged to be ‘safe, just and equitable’.

The findings suggest the media industry’s sustainability focus must move from efforts around ‘climate reporting’ and environmental campaigns to include ‘background’ content, such as political, economics and lifestyle ‘topics’, and both advertising and editorial. Motoring, for example, was the single largest ‘subtopic’ of all advertising, even though Transport was not the largest overall advertising topic category. The largest advertiser captured in the sample, across both titles, was Volkswagen, *during* the 2015 emissions scandal. Motoring is the most polluting category according to advertising industry data. There have also been considerable editorial sections dedicated to this sector, as well as to the wider economy, and unlike the environment.

A theoretical contribution of this thesis is to show that the industry approach and media theory of 'social responsibility' that has informed much recent research may in fact be at odds with sustainability. A further theoretical contribution attempts to show the systemic, cyclical nature of brainprint, and how this may interact with the 'values' prioritised in our 'cultural commons'.

Implications of this research suggest the news media is not being held accountable for 'material' impacts on the 'natural world' and 'social world', instead it prioritises legal-financial and then editorial concerns. The thesis concludes that more work must be done to understand the values that inform media content, how these appear, and the outcomes and impacts this may have for ensuring a 'safe, just and equitable' world.

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Though some of the ideas in this piece of work have been bubbling inside me for many years, I officially started this project at the University of Central Lancashire in October 2019. I remember attending a session on ‘project management’ where the instructor warned us to expect the unexpected. I smiled thinking just how organised I’d become since I was an undergraduate journalist here a decade earlier. “What could possibly go wrong?” I humbly thought.

Just weeks later, I got a rare phone call from my older brother. My younger sister had been in a serious car accident. And here, I believed, was my answer. I left my job and my beloved Liverpool, moved in with my oldest friend from school, and we all started the process of visits and vigils that were to last longer than we could have ever imagined. We had never imagined this.

Then, in January 2020, news started to break of a new virus out of China. Our imaginations had failed us once again. The last time I saw Gabby in person during this period she was being lowered into a huge bath in a giant sling while I tried to help and tried not to cry. The next time I saw her in person was through the rain, and the railings, outside a rehabilitation unit.

What this time did allow for, thanks in huge part to the generosity of my great friend Kelly Clayton was ‘a room of one’s own’, along with the emotional support of a miniature sausage dog, Meryl.

My first real academic challenge was to come up with a suitable alternative research project, given the one I’d applied for was not something I wanted to spend years of my life considering. I must wholeheartedly thank Stephen Fozard and the World Association of News Publishers for giving their generous support and allowing me this academic freedom. As the university and libraries were closed, I bought many second-hand books online, seminal texts, and read them cover to cover. Many were beautiful and several take their rightful place in this thesis.

Gabby finally left hospital in August 2020 but normal life didn't resume. Like many, many other families, occasions and milestones continued to be marked at a distance. I lost one of my oldest and dearest friends – my Auntie Ethel – who had always assured me I was a “special little girl”. I hadn't known until her socially distanced funeral that she, too, had been hit by a car when she was a child – I'd just loved that she loved to dance. I got my current teaching job, at the University of Huddersfield, and spent the first year ‘innovating’ my way through teaching Journalism Innovation online.

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I might have learned to expect the unexpected. We will have to see. Instead, often, I have fallen back on the longstanding mantra of my dad, “be good”, and my mum, “just do your best”. I have certainly tried. And I thank them both for giving me the space to learn. Thank you, finally, to Paul for everything.

I know I am known for my insistence on finding, or enforcing, joy. I intend to make up for any missed occasions.

“Hope is an embrace of the unknown,” (Solnit, 2016, np).

“Hope is being able to see that there is light despite all the darkness,” (Tutu, 2010, np).

Joy, I believe, is charging into it.

I can't wait for what comes next.

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## GLOSSARY OF TERMS

Accountability – the idea that if one is responsible for something, there is an accepted means for judging whether this is being done properly.

Advertising, adverts, ads – media space that is paid for to sell something.

Anthropocene – the theory that we have done so much damage to our shared home, the ‘commons’, that we have entered a new geological age.

Brainprint – the media’s potential power to influence people via its output, initially styled in the literature as ‘brain-print’. This has been, but is not inherently linked, to positive outcomes for sustainability.

Content – all items produced by news media, the wider media industry and many other organisations for the purposes of informing, entertaining and selling.

Crisis – something that cannot be changed without changing the system.

Critical realism – an ontological position that accepts the existence of the ‘natural world’ and ‘social world’, and seeks ‘best explanations’ of mechanisms at work.

Corporate social responsibility (CSR), corporate responsibility (CR), social responsibility or responsibility – theories that suggest businesses have and may accept certain roles.

Commons – shared natural and social spaces.

Culture – things that particular groups do, usually in reference to a particular ‘society’.

Cultural commons – the shared space of a culture, part of which includes the news media, something that is now potentially borderless.

Cultural emissions – the media’s ‘content’, or ‘output’, into the cultural commons, which may have effects on people who access it, called its brainprint.

The economic – considered as one aspect of sustainability, though effectively a part of the ‘social world’.

Editorial – content usually produced by news-media organisations to inform, educate or sell.

Emissions – the output of something, usually a waste stream into the air or sea, but used here as cultural emissions into the cultural commons.

The environmental – considered as one aspect of sustainability, also called ‘natural world’.

Equitable, equity – approaches that seek to value everyone equally and gear resources according to need.

Feedback loop – a cyclical effect of a system.

Footprint – environmental emissions, usually considered as carbon or greenhouse gases, but can also include other waste.

Journalism – content usually produced by news-media organisations to inform, educate or sell, also editorial.

Just, justice – approaches that seek to repair and change structures that have caused longstanding injustice.

Material, materiality – considered here to be related to the consideration of the physical impacts of something.

The media, media, the press – used interchangeably in certain literature to mean news media, or all companies that produce content – distinctions are noted in the text where relevant. ‘News media’ is the focus of this study.

Medium – the physical, material infrastructure of media.

Planetary boundaries – precautionary ceiling limits for environmental harm to nine of the earth’s biophysical systems.

Nation – a political organisation based around land rights.

Natural world – space in, on and around the planet, including air, land, living things and water, which has biophysical limits, also called ‘the environmental’.

News media – producers of editorial or ‘journalism’, often paid for by selling ‘advertising’.

Responsibility, responsible – the idea that one may accept it is their role to do something.

Safe – approaches that seek to understand limits and change behaviour to help avoid danger.

Safe, just and equitable – sustainability approaches that seek to bring concerns about environmental impacts, largely caused by economic activity, together with needs for social justice.

Scope 1 – emissions produced internally to an organisation.

Scope 2 – emissions produced in the supply-chain of an organisation – including its suppliers.

Scope 3 – emissions produced in the value-chain of an organisation – including its suppliers and customers.

Social world – space for organising societies within the ‘natural world’, also called ‘the social’.

Society – general means for organising large groups, most often ‘nations’.

Sustainability, sustainable, sustainable development – theories that suggest we must attempt to balance ‘the economic’, ‘the environment’ and ‘the social’.

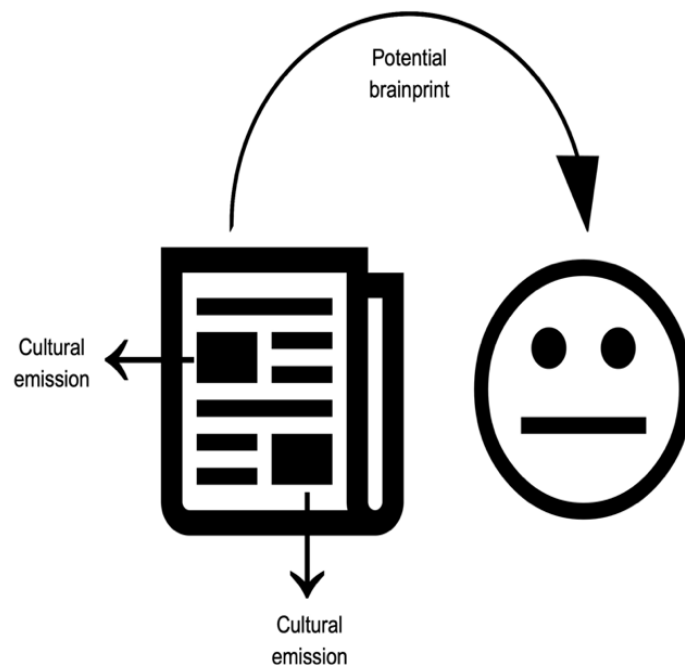
Tipping point – a point at which a system changes beyond what is considered normal.

Trust – the idea that one may depend on someone or something.

A further list of more specific definitions relevant to the study is discussed in the Methodology and listed in Appendix 2.

# 1. INTRODUCTION

We are experiencing a climate, and wider environmental, crisis – but this is ultimately an economic or a social crisis (Wallerstein, 2004; Fuchs, 2008) – driven by unsustainable and unequal lifestyles (Anderson, 2023) across the world. This thesis considers whether the UK ‘news media’ has a socially, economically and environmentally unsustainable “brain-print” (Peck et al, 2004, p. 1) that has contributed to this planetary challenge. Brainprint is defined in this thesis as the *potential effects* of what the media puts out into the world, its ‘content’ or ‘output’, which this thesis calls its cultural emissions.



**Figure 1: An illustration of the key concepts of cultural emissions and brainprint**

Starting its life in a SustainAbility and World Wildlife Fund UK report in 2004 titled *Through the Looking Glass*, this term, *brainprint*, has been tossed around by media sustainability practitioners for two decades (see for example: Ceasar and Hodgson 2008; Global Reporting Initiative, 2013; Hodgson et al, 2013; Towe et al, 2020). But it has not been properly defined or measured. Assumptions are made in the literature that this phenomenon relates positively to sustainability, particularly in that media

content *may* influence people to behave in ways that are good for the planet. Of course, it could also influence people to help destroy it, too.

The problem this study seeks to address is with our limited understanding of how this brainprint may help shape our global attempts to achieve sustainability. For reasons discussed in detail in later chapters, it is perhaps impossible to know the ultimate *outcome* or *impact* of a piece or a mass of content. This thesis therefore considers it expedient to consider pieces of output, a cultural emission, for evidence of potential effects. The purpose is to reveal more about the critical tensions relating to news media and sustainability, and consider how the news media might ultimately be held to account for the potential effects of its work.

This research is particularly concerned with the evidenced tension between economic and environmental imperatives (Maxwell and Miller, 2012), and it therefore includes a direct comparison between two organisations with different economic structures to establish whether this offers an explanation of any differences in brainprint. Debates linger about tensions between editorial and commercial concerns (see for example: Kleanthous and Peck, 2006; Henriques, 2007), so this thesis considers content in its widest sense, including both editorial and ‘advertising’, to illuminate this issue. Furthermore, the suggestion that environmental and economic problems are ultimately social problems (Fuchs, 2008) is explored.

This study adopts the philosophical approach of ‘critical realism’ (Bhaskar, 1989) chosen because it allows for an acknowledgement of both the ‘natural world’ and ‘social world’, and for research that attempts to identify structures and agents, and causal mechanisms or tendencies (Fryer, 2020), that may connect and influence each. Cultural emissions are positioned as a social mechanism alongside the environmental emissions into the natural world that we have broadly come to understand.

## Research questions

The research questions guiding this enquiry are designed to explore the relationship between the news media’s output, or cultural emissions, and the effect this may have, called brainprint, in relation to ‘sustainability’.

RQ1) How can brainprint be identified in the contents of news-media output?

RQ2) How can this brainprint be related to issues of sustainability?

RQ3) What does this identification reveal about changes in potential brainprint over time in relation to sustainability issues?

RQ4) What does this identification reveal about the influence that different economic structures of news-media organisations may have on brainprint?

Through the Literature review and Theoretical framework, a number of theoretical contributions are put forward. These clarify the logic of cultural emissions and brainprint, demonstrate its *potential* relationship to sustainability, and highlight problems with the dominant 'corporate (social) responsibility' approach in industry. The Methodology chapter explores just how challenging capturing brainprint may be.

At its most basic, this study quantifies the 'space' given to 'content units' and seeks to understand how these may promote economic, environmental or social sustainability across the Daily Mail and the Guardian over four time periods chosen for their environmental significance. The content analysis includes space given to both editorial and advertising elements, adds in a key industry indicator relating to environmental emissions, and offers a framework for measuring the sustainability of items, all of which represent a methodological contribution.

The Findings are then discussed in detail, followed by the Discussion and conclusion.

## Visualising the research problem

Figure 2 summarises key problems made clear in the following chapters. At its largest, we see spiralling CO2 emissions almost perfectly lagged by GDP, entwined with greater media production and use, which is among other things, enabling us to witness key environmental moments.

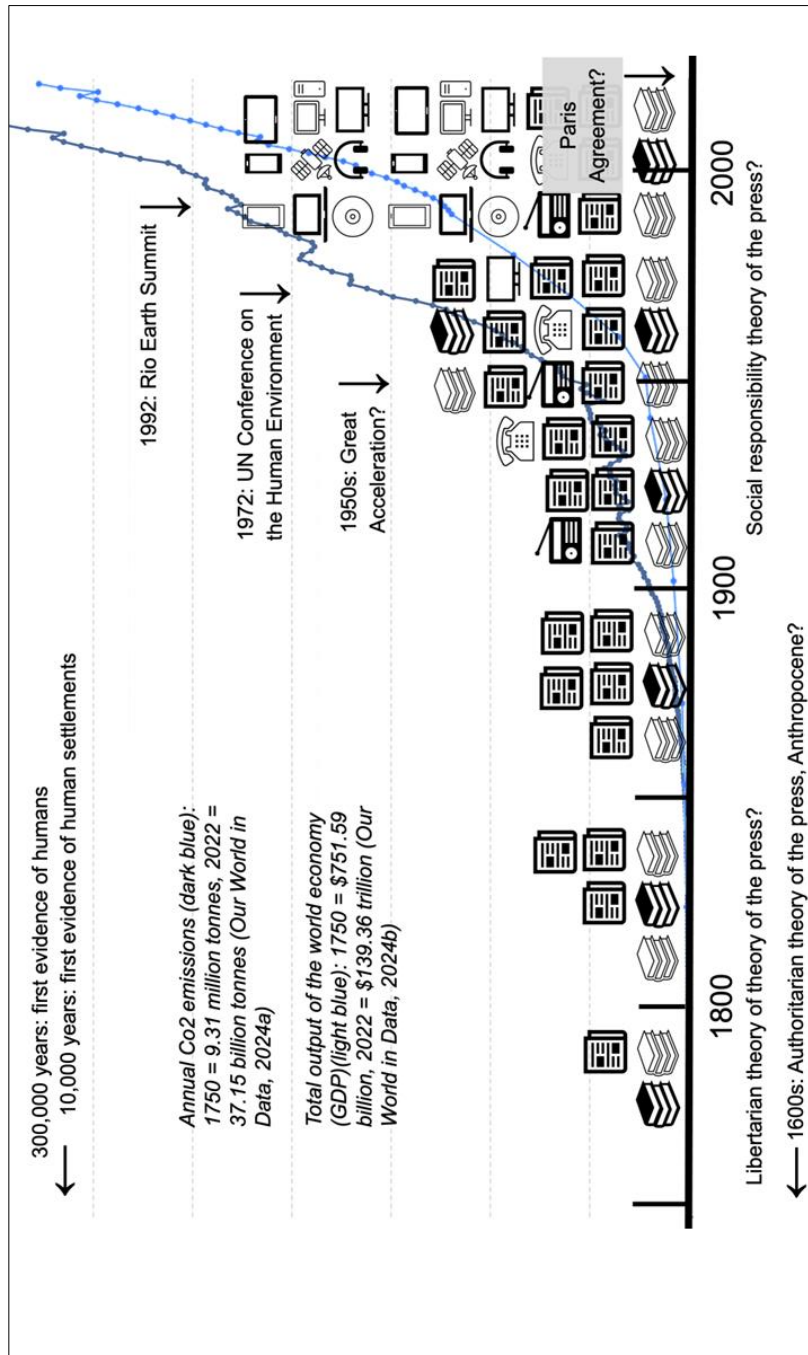


Figure 2: A timeline of key data, dates and theories discussed in this thesis

## 1.1. Accepting the existence of the natural and social worlds

At its widest, this research is about the interaction of the natural and social worlds – it seeks to be truly interdisciplinary. This section therefore discusses the debate about, and importance of, accepting the existence of both the natural and social worlds in order to be able to conduct interdisciplinary research. It argues that this challenge can be met by adopting a critical realist ontology.

The issue of ‘materiality’, “the claim that physical materiality... *matters* in the shaping of reality” (Bollmer, 2019, p. 1) represents an ongoing debate in the social sciences (Benton and Craib, 2011). Since the 1980s, “new materialists” (Conty, 2018, p. 73), “digital materialists” (Casemajor, 2015, p. 5) and others have sought to reframe humans’ position in relation to the world and its ‘things’, after an earlier “linguistic turn” (Benton and Craib, 2011, p. 11). Where previous years of media scholarship borrowed heavily from literary theory in its focus on the importance of human consciousness (see: Maxwell and Miller, 2012; Maxwell et al, 2015), despite sometimes apparent or indeed, actual, weightlessness (Fuchs, 2008), materialist scholars “assume that all things in the world, including things of the mind and digital stuff, are tied to (and in some cases, determined by) physical processes and matter...” (Casemajor, 2015, p. 4).

Today’s materialism directly contrasts with constructivism, Conty (2018) suggests, when defining it as being “devoted to studying this modern unconscious and celebrating what modernity had repressed... the scholars... are extremely diverse, [but] they all seek to celebrate the materiality of our world and its nonhuman actors” p.74). Interestingly though, just as some post-structuralism and post-modern constructionism developed in some areas in "opposition against 'traditional science' [which] led to an unproductive rejection of... nature and reality" (Krovel, 2015, p. 122), new materialists have likewise highlighted their concern with the idea that:

“the modern world developed the scientific method by differentiating between subject and object, nature and culture, mind and matter, these separate domains of knowledge have proven incapable of taking into account the mediated experience of our globalized and interconnected planet. We are, and indeed have always been, constantly confronted with entities that are both subject and object, nature and culture, political, scientific and social.... Instead

of looking at ourselves asymmetrically, limited to culture, cut off from the objects of science, we must share our agency with the world of things” (Conty, 2018, p. 77).

The work of Bruno Latour is used by Conty as evidence of progress in the move towards reconsidering the importance, or agency, of the *nonhuman* (2018), but the philosopher is criticised by Krovel for some of his earlier thinking, which suggested that things *do not exist if we do not know about them*. In this case, Latour was considering an unknown disease in ancient Egypt, but the idea is extended to environmental concerns (Krovel, 2015).

Indeed Latour later acknowledged that his efforts to demonstrate “‘*the lack of scientific certainty*’ inherent in the construction of facts” (2004, p. 227, italics in original), in this case quoting a climate change denier who was seeking to exploit unknowns, may have caused problems for public understanding of the urgency of this issue. “While we spent years trying to detect the real prejudices hidden behind the appearance of objective statements, do we now have to reveal the real objective and incontrovertible facts hidden behind the illusion of prejudices?” (ibid) the philosopher explains.

To deal with this issue, Krovel (2015) puts forward a theory of critical realism for journalism studies, dismissing those who use discourse to the point of presenting as “radical anti-realists” (p. 127), and extending the work of Roy Bhaskar, who was concerned with ‘what is’. Like Latour, Bhaskar was focused on devising a credible ontology to rival epistemology-driven positivist (and later interpretivist) views of the natural world, in order to account for ‘what is’ here. Like Krovel’s critique of human-consciousness-centred research in media studies, Bhaskar (1989) deconstructs the “epistemic fallacy” (p. 181) of positivist research in the natural sciences, that holds that our knowledge of ‘what is’ is limited to things we can see, of which he says, what is first needed is to “de-anthropomorphize it” (ibid, p. 182).

Bhaskar settles on the existence of an objective reality in the natural world based on open systems in an “intransitive” (Krovel, 2015, p. 127) physical dimension that are near-impossible to study because of their complex and intertwined nature, and a limited number of closed systems that can only be studied to some degree. Thus proving the existence of the former, while also appreciating that these can only be

studied by humans, from the transitive dimension, who all bring individual experiences to that study.

This ontological position has then been used, often more enthusiastically by others, to account for 'what is' in the social world (Benton and Craib, 2011). What results is a "double recognition [which is] relatively novel in social science research" (O'Mahoney and Vincent, 2014, p. 3) that there is both an objective world, much of which exists outside of our understanding of it, as well as a world created by people's subjective understanding. When people started bringing together his separate analyses of natural science and social science under the banner of 'critical realism', Bhaskar eventually succumbed, as "there were good reasons not to demur at the mongrel" (1989, p. 190). For a scholar studying potential interactions between the natural and social, critical realism appears to offer a practical and vital 'third way'.

Critical realism is positioned as a resolution of questions of the conscious and unconscious, as it allows for the existence of an objective reality, while also appreciating that this can only be studied by people from their particular experience. This "... makes it possible to acknowledge that we do not know or understand all there is in the world. We can learn more. And it again becomes possible to be mistaken" (Krovel, 2015, p. 129). Here, Krovel links this argument to the 'precautionary principle' foregrounded in scientific work about the environment (see for example: Steffen et al, 2015). "The very real possibility that we do not know what we are doing, must be given serious consideration if we are to confront an ecological crisis in a meaningful way" (Krovel, 2015, p. 129) he warns.

Critical realists find that in the social world, not unlike in the natural, reality is layered, but that it is *only* made up of open systems that are almost impossible to study due to their interconnection and complexity. Yet, Bhaskar's peers have formulated models of these layers over time, most notably the "laminated system" (Edwards et al, 2014, p. x) that can be used to visualise the "irreducible ontological levels" (ibid) in a given area of study, found to be particularly useful for the kind of interdisciplinary work (ibid, p. xii) that is the basis of this thesis.

In critical realism, the 'empirical' world, while rejected as the basis of *what is*, is still that which we can see and measure. The 'actual' world is made up of the things that we know happen even if we do not see them and the 'real' world represents the

mechanisms and structures that have the power to influence what we can observe. Critical realists acknowledge (Edwards et al, 2014) that we must work in the empirical world, but the subject of study is the workings of the real world as defined by Bhaskar (1989).

Though aspects of critical realism betray complexity, Fryer (2020), via a plain-English takedown of rival ontologies and epistemologies, argues that everyone should be a critical realist. He highlights that critical realism's ontology is realist and its epistemology is subjectivist – meaning critical realists believe the world exists, but that knowledge creation about it is theory-dependent. What critical realism therefore relies on is retrodution, to try to provide the best explanation of what is going on, which may itself be wrong. This, indeed, offers the researcher opportunity to improve the theory. Fryer therefore simply urges that good critical realist research must be looking for “causal mechanisms that act as tendencies” (p. 25), which are ultimately hidden in the real, as well as consideration of “both structure and agency” (ibid). It is from this position that this research proceeds.

Critical realism, and the materiality that this approach enables us to accept, informs the research approach because this thesis argues that both the natural and social worlds exist, they impact each other via causal mechanisms, and one of these may be the material impacts of news-media content, or the brainprint from its cultural emissions. But we may yet put these abstract ideas of nature and culture into proper historical, and material, context.

## 2. LITERATURE REVIEW

### 2.1. Introduction

This literature review looks at the far – and very recent – past to frame the potentially huge tensions when it comes to sustainability and how the media at large may have played a role in adding to or helping solve these issues. Some of these, along with theories discussed in the Theoretical framework, have been summarised visually in Figure 2. In an effort to demonstrate the need for, and lack of, interdisciplinary work looking at this specific research problem – the literature starts with a wide discussion of ‘the Anthropocene’ covering the humanities (Bonneuil and Fressoz, 2017), social sciences (Strange, 1989; Wallerstein, 2004) and natural sciences (Crutzen and Stoermer, 2000; Lewis and Maslin, 2015; Rockstrom et al, 2021). This section highlights good evidence of the social sources of environmental problems, but a limited consideration of the role of ‘the media’ at large or ‘news media’ in particular.

To add to this picture, it then deals with questions about the materiality of media (Maxwell and Miller, 2012) and endeavours to show that ultimately environmental problems are social problems (Fuchs, 2008). This leads us to see that these cannot be dealt with by natural scientists alone – and that the media at large may have a role to play in this, via its output, called cultural emissions, and its effects, or its brainprint. But, when considering the studies that have specifically dealt with this notion of brainprint, there surface a number of questions and tensions. Many studies are underpinned by ideas of corporate (social) responsibility, with weak connections made to sustainability – which indicates they are not properly dealing with these issues (see for example: Responsible Media Forum and Carnstone, 2018).

There is also a big issue with the unit of analysis – where labels like ‘the media’, ‘media and entertainment’ (M&E), ‘Information and Communication Technologies’ (ICT) or ‘Consumer Electronics’ (CE) are used across research without properly acknowledging differences in potential impact, and relatedly, roles or responsibility. This raises questions about the suggestion that ‘the media’s’ ‘footprint’ is small (ibid), given that studies may not account for ‘everything’, and whether the brainprint of news media includes something like the advertising it carries. This also relates to questions of accountability, particularly when considering whether the role of ‘the media’ is to

hold other industries to account, whether there is any regulation related to this, and whether regulation in general is desirable or effective (SustainAbility and Ketchum, 2002).

Thinking specifically about content, there is also an issue of measurement (what, how) meaning efforts had been limited to certain kinds of content (climate, environmental campaigns) – and has lacked consideration of background content or, indeed, advertising in its relationship to news media (Toennesen et al, 2013). There are also concerns about charges of hypocrisy in relation to brainprint should the ‘watchdog’ not be meeting its own obligations (Towe et al, 2020). Finally, this literature review offers a visual representation of the potential cyclical, systemic nature of brainprint, situated within our wider cultural commons (Lopez, 2012), to try to demonstrate what identifying this social mechanism may really mean. This is developed further in the Theoretical framework.

## 2.2. Accepting the realities of the ‘Anthropocene’

In line with a critical realist understanding of the world, this thesis adopts the concept of the ‘Anthropocene’ as a means for showing the inseparability of the natural and social, and just how far economic activities within the social world have been pursued at the expense of nature. It urges us to see that social mechanisms, most notably economic, have material, physical effects on the natural world, which go on to affect our lives in it. But these mechanisms, and the associated material benefits they can generate, are not equally controlled, and the cyclical effects are not equally distributed. Agreement among geologists that humans have created a new geological time period – the Anthropocene ‘era’ – remains elusive, but this section brings together interdisciplinary evidence to highlight the aspects of human life that are contributing to this Anthropogenic ‘event’.

The idea of the Anthropocene reflects another reasonably long-standing academic debate, now relatively uncontroversial in many fields today, about the suggestion that humans have done so much damage to the environment that we have brought forth a new geological time period – the age of humans (Crutzen and Stoermer, 2000; Lewis and Maslin, 2015; Bonneuil and Fressoz, 2017). Though an official designation of this new epoch, judged by some to have started in 1952 because of evidence of

atomic bomb testing identified in a Canadian lake, has been rejected by the International Commission on Stratigraphy's (ICS) Subcommission on Quaternary Stratigraphy by a vote of 12-4 (ICS, 2024) – debates on this particular procedure and the decision continues (Witze, 2024). Summarising some of the variety of such destruction, sustainability academic Robertson (2017) vividly depicts that since the 1970s:

“... population has more than doubled, global consumption of water has more than tripled, and the use of fossil fuels has quadrupled... Synthetic pesticides and heavy metals are found in the tissues of every animal on earth. The end of cheap fossil fuels is looming. The planet's sixth mass extinction is underway” (p. 50).

And yet, evidencing just one aspect of this ongoing debate, geologists Lewis and Maslin (2015) argue that: “colonialism, global trade and coal brought about the Anthropocene” (p. 177) and 1610 signals its start. The pair provide compelling geological evidence, so-called “golden spikes” (ibid, p. 173) of environmental change that appear in rocks, sediment, tree rings and glacier ice, for their theory over the one discussed by the ICS. In doing this work to define the Anthropocene, they acknowledge that, while scientific in nature, it is not without cultural influence or political implications. However the ICS process concludes, the organisation acknowledges the Anthropocene as an “invaluable descriptor of human impact on the Earth system” (ICS, 2024, np). Latour, who previously argued “we have never been modern” (1993, p. 144), is criticised to a certain extent by Krovel (2015), yet he called the Anthropocene “the most decisive philosophical, religious, anthropological and... political concept yet produced as an alternative to the very notions of ‘Modern’ and ‘modernity’” (2013, as cited in Bonneuil and Fressoz, p.19).

Demonstrating the vast power of the idea of the Anthropocene, it was initially put forward by meteorologist Paul Crutzen and biologist E. F. Stoermer (2000), but has been accepted by other natural scientists too, not least those who have been working for more than a decade to understand the limits of human harm that can be endured by the different biophysical systems that make up our Earth system (Steffen et al, 2007; Rockstrom et al, 2009; Rockstrom, 2021; Rockstrom et al, 2021). As the science has evolved, media scholars like Maxwell and Miller (2017) are also able to reference the growing consensus of the “Anthropocene era” (p. 24). But this history

and present of the Anthropocene remains controversial, not least because agreeing if and when the Anthropocene started may have consequences for who is responsible for putting things right (Lewis and Maslin, 2015). If any date is accepted, it begs huge questions around intergenerational and “interterritorial” (Maxwell and Miller, 2012, p. 117) justice.

Bonneuil and Fressoz (2017) have catalogued the many and varied aspects of human history that they believe have led us to this point – but implore that we cannot be surprised by this geological and political “event” (p. 19) that has brought the “Earth system” (ibid, p. 20) to the “centre of the political stage and of our everyday lives” (ibid). Going perhaps further than some critical realists, they argue this concept “abolishes the break between nature and culture” (ibid, p. 19), challenging our basic ideas about history, progress, freedom and democracy. Bonneuil and Fressoz note that a nature-culture distinction was not always made, pointing to various pre-nineteenth century works, but state that there then came a “great temporal and ontological divide” (ibid, p. 29) that appeared to separate humans from the long history of the planet. Much of this issue is also chronicled by world-systems analyst Wallerstein (2004) in that social science disciplines, and the phenomena they seek to interrogate, have for too long been artificially segregated.

As evidence of this, Bonneuil and Fressoz refer to the words of 19<sup>th</sup>-century economist Thomas Malthus, known more famously for his early views on the ‘population problem’, when he dangerously claimed: “Natural wealth is inexhaustible... Unable to be either multiplied or exhausted, it is not the object of economic science” (Malthus, 1832, as cited in Bonneuil and Fressoz, 2017, p.30). Almost in parallel with Malthus’ statement, we can find Alexander von Humboldt credited with being the first person to identify what we now understand to be man-made global warming (Wulf, 2015). The ‘greenhouse effect’ was first theorised by mathematician and physicist Joseph Fourier in the 1820s (Fleming, 1999). Svante Arrhenius was the first-known person to demonstrate through experiment the relationship between carbon emissions and global warming, in 1896 (McKibben, 2012). And yet further – economist E.F. Schumacher (1975) reminds us that science alone “cannot produce ideas by which we could live” (p. 71). How different things may have been if interdisciplinarity was the norm at this time.

Like those materialist media scholars found in the introduction, Bonneuil and Fressoz (2017) point to the need for interdisciplinary work today that (re)connects social and natural sciences, which they call “environmental humanities” (p. 33). They observe from this vantage point that what has been called use of ‘resources’, leading to ‘externalities’ discharged into ‘nature’ are nothing of the sort. We can now see “feedback loops” (ibid, p. 21) and “tipping points” (ibid) bringing us to the “point of no return... to the normality” (ibid) of the previous, and relatively stable, 10,000 years of the Holocene epoch. The official marking of a new time period, or not, will not change how the Earth system works. But, Bonneuil and Fressoz argue this is:

“not new awareness... nor... moral leap... One of the determining aspects in the history of the Anthropocene is that of disinhibitions that normalize the intolerable... modernity is... imposed situations, of normalised exceptions... tactics and mechanisms... that our ancestors destabilized the Earth and its ecosystems despite knowing what they were doing” (ibid, pp. 290-291).

The pair suggest a battle, at this point lost – between “exploitation and conservation” (ibid, p. 22) – in which calls from environmental voices have been consistently ignored. They point to war, and particularly the “Great Acceleration” (ibid, p. 10) following World War Two, as a consolidation of a “consumerist culture” (ibid, p. 166), bringing new technologies powered by fossil fuels, spread via globalisation and backed up by new legal frameworks, as evidence of and additive to the Anthropocene. Here they highlight a convention of the International Civil Aviation Organization, a part of the United Nations (UN) set up in 1947 to promote travel and trade, which was signed by 52 countries and “prohibits the taxation of aircraft fuel” (ibid, p. 147). Flying is the sector whose emissions were “most rapidly rising” (ibid) at their time of writing.

Products, from suburban homes, TVs to furnish them and cars to get you to your new driveway were all equated with freedom, sold via a new set of values promoted via advertising, called “disciplinary hedonism” (ibid, p. 157), and replacing “repairing, economizing and saving... [with] consumption, fashion and obsolescence” (ibid). All of this has come with environmental and economic, or social, impacts, particularly in the form of rising debt, tying our culture both to growth and destruction.



Figure 3: A potential relationship between culture, growth and environmental destruction

Indeed, they state it is “the motor car, [that is] in all probability the single technology with the greatest share of responsibility for the present climate crisis” (ibid, p. 277). The continued and particular exceptionalism of the car, despite huge environmental and social impacts, has recently been termed “motonormativity” (Walker et al, 2023, p. 21). The World Health Organization has also alarmingly acknowledged that: “Four corporate products – tobacco, ultra-processed foods, fossil fuels and alcohol – cause 19 million deaths per year globally, or 34% of all deaths” (2024a, np).

Using a similar historical lens, Wallerstein (2004) points to three moments that might further explain the crisis within the living system that is our shared history: the 1500s that enabled the current world-system to come to life; the French Revolution and the rise of liberal democracy; and the “cultural shock” (p. 16) of 1968, a year marked by calls for political change all over the world. He says this is when world-systems analysis came to life, along with the idea of a “modern world system... a capitalist world-economy” (ibid, p. 77).

Wallerstein similarly points to questions being raised about how the system was working post-1945, when we “saw the largest expansion of productive structures in the history of the modern world-system” (ibid, p. 83). This ultimately gave voice in the 1960s to “concern with the unit of analysis, concern with social temporalities, and concern with the barriers that had been erected between different social science disciplines” (ibid, p. 16). The unit of analysis at the time was nation states, which he argues are not enough to help us understand the world, and the temporalities relate to the need for greater consciousness of the roles of both time and space.

Since around this time, but not simply because of this moment, Wallerstein suggests the system has encountered:

“problems it can no longer resolve... a systemic crisis... that *cannot* be resolved within the framework of the system... To use the technical language

of natural science... the system bifurcates... In effect, the members of the system collectively are called upon to make a historical choice about which of the alternative paths will be followed, that is, what kind of new system will be constructed" (ibid, p. 76, italics in original).

Like those identified by Bonneuil and Fressoz (2017), Wallerstein (2004) argues these problems are things like the constant need for new consumer demand to sell products, the drive to reduce costs to maintain profits, accompanied by movements of production to poorer parts of the world, related and growing inequalities, the needs for ever-more 'resource' inputs and increasing scarcity, and uncontrollable waste. All with resultant anger with the system and disappointment with attempts at change, leading to inflection points like the cultural shock in 1968.

### *Recognising inequality as a systemic issue*

Many of these issues are also capably tackled by Susan Strange, one of the forgotten female voices who "foresaw multiple aspects of the global financial crisis of 2008 and its aftermath" (Dyer, 2021, p. 92). She is considered the originator of international political economy, interested particularly in the balance of power between political authority – usually states – and markets. In her landmark book of this name (1989) she describes four broad structural powers of nations, which, though taking a global view, she saw as the ultimate powerbrokers in the social structure. These are: "security, production, finance and knowledge" (p. 27). She notes that the economic aspects of life, by virtue of representing two such powers, via the production and finance structures, could be observed as the most important.

When looking at the production structure, she specifically considers Thomas Malthus' famous concern about overpopulation, but argues that this is a question of distribution:

"Production of wealth is a relative matter: relative to the number of people needing to be fed, clothed, sheltered... This is not always an easy question: for what may be enough to feed a multitude when everyone has an equal share may not be enough where some groups insist on an extra large share, on the right to waste production, or on factors of production going into sophisticated artefacts and luxuries rather than into basic needs of food and shelter" (ibid, pp. 66-67).

She notes that Thomas Malthus failed to make this link, and through historical observation, suggests that the production structure is very good at producing wealth, but perhaps most limited in securing justice. Though she further observes that this depends on what we mean by “fair or equitable” (p. 78), about which groups we are considering, and whether there is an absolute or relative standard, not least when looking to historical comparisons. Bonneuil and Fressoz (2017) urge us to start to turn our attention away from environmental impacts and onto “actors, institutions and decisions that have produced these effects” (p.70). And there is now more evidence than ever that there is a distribution problem – not in terms of wealth alone – but also in who is causing environmental problems, and experiencing the effects.

*The World Inequality Report* (Chancel et al, 2022) shows that in terms of the world’s wealth (both financial assets, including shares and bonds, and non-financial assets, such as land and housing) the richest 10 per cent of people own anywhere between 60 and 80 per cent. The bottom 50 per cent has less than five per cent. In terms of who those people are, an Oxfam report with the Stockholm Environment Institute (Khalfan et al, 2023) identifies that those in the top 10 per cent globally have a starting income level of \$41,000, or almost £31,000 per year in 2019, representing 770 million people. This group was also responsible for 50 per cent of all greenhouse gas emissions (CO<sub>2</sub>e) in 2019.

The next cohort, called the middle 40 per cent, with a starting income level of \$16,000, or around £12,000, and representing 3.1 billion people, were responsible for a further 43 per cent of emissions. Meanwhile, “the super-rich 1% were responsible for as much carbon emissions as the poorest 66% of humanity (5 billion people)” (p. xii) the report explains. Rather chillingly, but of particular interest for this thesis, the report notes that a third of the “top content media companies have major individual owners who are billionaires” (ibid, p. xvii).

Chancel et al (2022) make clear that we cannot deal with common environmental issues without acknowledging, and acting on, what we know about economic inequality. Though typically we may think of inequality between nations, or indeed, two halves of the planet, the report emphasises the disparities within nations too. Dealing with the former, Chancel et al state that: “Taking historical responsibilities into account implies that high-income nations have no carbon budget left” (p. 117). Considering the latter and echoing Khalfan et al (2023), they evidence that:

“Carbon inequalities within regions are even larger than carbon inequalities between them... close to half of all emissions are due to one tenth of the global population, and just one hundredth of the world population (77 million individuals) emits about 50% more than the entire bottom half of the population (3.8 billion individuals)... Per capita emissions have risen substantially among the global top 1% since 1990 but decreased for poorer groups in rich countries” (Chancel et al, 2022, pp.122-123).

Both groups of researchers believe this must, therefore, have a significant impact on how future policies are targeted. Climate scientists Anderson et al (2020) raised similar concerns when they found that even so-called “climate progressive” (p. 1) countries like the UK are way off meeting the emissions targets set in Paris in 2015, the so-called ‘Paris agreement’ to help the world remain within liveable changes to the climate. This was *particularly* when taking fairness with developing nations into account when addressing the “historical responsibility” (ibid, p. 5) for the “climate burden” (ibid).

We may notice that the late-medieval development of the world-system as we know it, identified by Wallerstein (2004), fits neatly with Lewis and Maslin’s (2015) geological start point of the Anthropocene. Perhaps then the inflection point of the 1960s onwards reflects a crisis *of the Anthropocene* as yet unresolved. Wallerstein (2004) argued that we are, and will continue to be, in a “period of transition” (p. 77) – perhaps the final stage of this ‘event’ of the Anthropocene – represented by struggle, uncertainty and “questioning about the structures of knowledge” (ibid, p. 90) until around the 2030s to 2050s. Choices made to change the system would represent a “clash of fundamental values, even of ‘civilisations’... the degree to which any social system... will lean... on two long-standing central issues of social organization – liberty and equality... either for a hierarchical system... or for a relatively democratic one” (ibid, pp. 88-89).

Referring to the tagline of the Rio+20 UN summit held in 2012, ‘the future we want’, Bonneuil and Fressoz (2017) similarly acknowledge that: “The planet will become what humans make of it, more or less voluntarily and more or less democratically” (p. 26). In their conclusion, they argue that “These histories invite us to take a political grip on the institutions and oligarchies, the powerful symbols and material systems, that led us to the Anthropocene” (ibid, p. 291). These symbols and systems are

summarised as: war, consumption, inequality, the energy system, global finance and technoscience. “To strive for decent lives in the Anthropocene means freeing ourselves from repressive institutions, from alienating dominations and imaginaries... an emancipatory experience” (ibid), *for freedom*, they urge. To shape such a system requires understanding, choices and action, Wallerstein (2004) explains. These tasks, “the intellectual, the moral, and the political... are exceptionally difficult. But they offer us, individually and collectively, the possibility of creation, or at least contributing to the creation of something that might fulfil better our collective possibilities” (ibid, pp. 89-90).

Though the concept of the Anthropocene remains a technical debate in geology, it appears to explain much of what we now understand about the world of the past 400 years. How structures and actors have shaped the social world and people’s lives within it, and the cyclical effects this is having on the social and natural world too. It is suggested our current situation reflects a *systemic crisis*, a problem that cannot be solved within the terms of the current system (Wallerstein, 2004), which has inequality at its core (Strange, 1989; Anderson et al, 2020; Chancel et al, 2022; Khalfan et al, 2023). All of this begs questions of individuals, organisations and governments – about who is responsible, how they are held accountable, and how we ultimately change our course. And, considering these later calls from Wallerstein (2004) and Bonneuil and Fressoz (2017) for collective social action, what of the news media’s role in this.

The Theoretical framework discusses a potential means for resolving these issues – ultimately in the development of theoretically grounded, sustainable theory of ‘the press’ – to help consider the Findings, illuminate the Discussion and suggest avenues for further research. The next section will use a number of key texts in the field of ‘green media’ to help situate the role of ‘media’ within this wider historical context.

### 2.3 Accepting the materiality of the ‘medium’

The wider disciplinary debates highlighted already in this chapter are intended to show the range of evidence in support of the Anthropocene theory, but this next section necessarily first highlights the lack of consideration of ‘the media’ in these discussions. It then demonstrates where the media, or more specifically the *medium*, may fit using key texts in the field of ‘green media’, or ‘materialist media ecology’. In particular we

can see how the start of the story of media innovation maps onto the start of the Anthropocene as defined by Lewis and Maslin (2015).

Bonneuil and Fressoz (2017) acknowledge the space TVs, particularly, took in many Western post-war homes and the power of the first visuals of Earth from space shared in the 1960s, yet they do not make a huge case for the role of the media, as problem or solution, in the Anthropocene. Wallerstein's "geoculture... refers to norms and modes of discourse... [something] that does not come into existence automatically with the onset of a world-system but rather has to be created" (2004, p. 93), and he does suggest our current struggle is typified by people questioning current structures of knowledge, but his work lacks consideration of 'the media' specifically.

In Strange's (1989) conception of the world, the "knowledge structure" (p. 115), which she says is no less powerful than the others, has been "the most overlooked and underrated" (ibid) in international political economy. This is where we can find what is *known* and what is *believed*, as well as how this information is or is not shared equally. She suggests the power derived from this structure is "diffuse" (ibid) and thus "unquantifiable" (ibid), though she notes that technological and associated economic changes have undermined the state's role here, observing "a wider sense of common humanity" (ibid, p. 126) at this time, driven by shared environmental concerns. Strange was wary of drawing conclusions given the limited research in her field, but observed that this structure was experiencing perhaps the most rapid change, changing the nature of competition and access to information, and seeing new distributions of power. What we already know from Khalfan et al (2023) is that considerable wealth and emissions, in the 21<sup>st</sup> century, are coming from the boardrooms of large media companies.

So, to give this area proper shape, we must begin with the work of materialist media ecologists, such as Maxwell et al (2015), who initially argue, in line with others rejecting the centrality of human consciousness, that much scholarship looking at the connection between the media and the environment has focused too heavily on representations *of* the environment *through* media. While these scholars do acknowledge the power that 'consciousness-raising' can have, helping for example marginalised groups get a voice within relevant issues (Krovel, 2015), they are more concerned with the physical, environmental realities of media. They argue that "if we want to claim that media can make a positive difference in mitigating the ecological

crisis, then we need to begin with the media technologies themselves as an environmental problem" (Maxwell et al, 2015, p. xi).

Maxwell and Miller's *Greening the Media* (2012) is a 'seminal text' in what they call the study of 'green media' because it highlights such environmental impacts at a global, industrial level, as well as demonstrating relevant gaps in knowledge. Earlier works in this field, such as Grossman's (2007) *High Tech Trash: Digital Devices, Hidden Toxics, and Human Health* and Gabrys' (2013) *Digital Rubbish* make a good start here, with their focus on gathering data on the growing piles of waste and other 'externalities' from media production, distribution and consumption. But it is not yet the norm in journalism, media research or public debate to foreground this unconscious world of 'things' involved in 'the media', or more specifically, material and energy use, emissions and waste.

So what is initially jarring about Maxwell and Miller's (2012) text is that they begin by stating that their readers will not be "surprised" (p. 2) by much of their half-millennium chronicle documenting the growing scale of our need, or desire, to communicate immediately, internationally, insatiably. To emphasise this, three years later, Maxwell et al (2015) acknowledge an ongoing "(un)awareness of ecological impacts and carbon footprints associated with... [media technology] use" (p. xxi). Later still, Maxwell and Miller (2017) highlight again that both journalistic work and communications teaching fails to make this link "between medium and message" (p. 20). The message, it would appear, is not getting through.

Starting their journey across time and space, Maxwell and Miller (2012) refer to the words of Francis Bacon, one of the developers of the modern scientific method (Stanford Encyclopedia of Philosophy, 2003a), when he said in the early 1600s that:

"Printing, gunpowder, and the mariner's needle [compass]... these three have changed the whole face and state of things throughout the world" (as cited in Maxwell and Miller, 2012, p. 44).

While the materiality of media may still be under-discussed today, this neatly aligns their timeline of destruction with Lewis and Maslin's (2015) start date for the Anthropocene. It is when (mainly) White European colonists set sail, moving what we

may call 'resources' here and people there, sharing the information of empire, and creating feedback loops, from racism to resource wars, which echo today.

For Maxwell and Miller (2012), these moments mark the start of large-scale, visible impacts that media technologies had and have on the planet, as well as on people and (some people's) prosperity. As they explain, it was the "site of the technological 'revolution' of moveable type that supposedly helped establish and enlarge Europe's global dominance between the fifteenth and eighteenth centuries" (p. 46). Or, as master printer Beatrice Warde said in the middle of the 20<sup>th</sup> century, this marks "the epoch that we have been calling 'modern times' by opening up a deep 'cleft-in-history' that made a time without printing unimaginable" (as cited in Maxwell and Miller, 2012, p. 47).

This story, or rather, the mass-sharing of stories, begins with printing, first with a fairly circular system of old rags, then by felling millions and millions of trees, using unknowable amounts of clean water for power and as part of the production process, then coal power, then sending words through copper wires, copper that was mined in Swansea, 'Copperopolis', then by colonial powers in Africa (Maxwell and Miller, 2012). It is a story where:

"the historical growth and planetary speed of pollution from electrical consumption tracks the industrialization of capitalism across the Earth – from 19<sup>th</sup> century Britain, to the United States after 1920, and on to China by the end of the 20<sup>th</sup> century. Large-scale electrification transformed the ecological context of all media when commercialized electrification of industrial manufacturing took off after World War 1" (ibid, p. 55).

So varied are the media industry's more recent impacts that when the blockbuster film *Titanic* was filmed in Mexico by Rupert Murdoch's then-film studio in the late 1990s, the chlorine being used killed off the sea urchins that local people relied on for food and for trade (ibid); that when speculators went after the precious tantalum needed to power the new PlayStation 2 games console, they killed the majority of a population of land gorillas in central Africa in the process (Lopez, 2012); that, in 2012, there was already so much media-related human rubbish in space that there is now an Inter-Agency Space Debris Coordination Committee and a belt of debris circling the planet (Maxwell and Miller, 2012); and then, as now, mobile phone towers kill birds (ibid).

Thus, over more than 400 years, media innovation, economic development and environmental destruction have gone hand in hand, pointing us towards an alarming reading of Schumpeter's mid-1900s theory of "creative destruction" (2003, p. 81), where he identifies this evolutionary nature of a capitalist economy, but does not foreground the environmental destruction it might lead to.



**Figure 4: A potential relationship between media innovation, economic development and environmental destruction**

Rather crucial here, not least because it is widely cited (see: Maxwell and Miller, 2012, p. 29; Lewis, 2013, p. 135; 'Is Your Online Habit Killing the Planet?', 2020), is an equivalence drawn between the carbon-dioxide emissions of media technologies and those of aviation, estimated by research firm Gartner (2007) to each represent two per cent of the global total in that year. Capturing both the production and use of media technologies, the research giant said at the time this was "unsustainable" (np), but little visible work has been done to update this analysis.

Maxwell and Miller (2012) in fact highlight that greater efficiency in new media technology devices can actually drive *even greater media use* and thus energy consumption, the "rebound effect" (p. 122). Later, they (2017) add to this that "the increasing time around the world people spend staring at screens is feeding an unsustainable rise in global demand for residential electricity" (p. 81). But of course, powering the equipment is only part of the environmental problem of the media-technology and aviation industries respectively.

### *Recognising the social source of environmental problems*

Maxwell and Miller (2012) capably describe the many varied impacts of *media technologies*, and of course, the news media itself relies on their use for business survival. Yet, this work is as expansive as it is limited, because there is a lack of consideration of the relative value of the work done *using* such devices and

infrastructure, in particular for this thesis, that of the news media. For example, their extended list of media workers, from chemists creating some minute aspect of a media device's functionality, to truck drivers taking materials for assembly or devices for sale, and inclusive even of those 'below the line' and often forgotten workers, omits journalists and editors. Maxwell and Miller (2017) are clearer about the destructive environmental impact of news media. "Despite the current transition/crisis in print, radio, and TV news reporting, unsound ecological practices continue as before" (ibid, p. 19) they explain. Though, it is unclear here why a financial crisis in any industry would logically be followed by environmental epiphany.

Mapping the news-media system's complex environmental harms, they cover: energy use, materials for production, including toxic ones, and waste, as well as visualising the journalistic process from newsgathering to recycling. But overlook: financing (subscriptions, advertising, infrastructure and associated environmental impacts of advertised products; investments, loans); business operations; multimedia. Though their criticism does extend to "advertising-based businesses and non-profit enterprises, to print and electronic distribution systems, and to small and large-scale organizations alike" (ibid, p. 19), without any greater interrogation, this offers space for a comparative study of content focussed on the interaction of economic and environmental issues. They state that the aim of such an exercise would be "knowing and publishing the carbon footprint of reportage, from all moments in its life cycle – mineral extraction, manufacture, transport, and consumption" (ibid, p. 30), which fails to distinguish properly between the *production of media technology devices*, the *use of those devices by journalists to produce journalism*, and the *consumption of journalism by audiences*. Additionally, establishing the carbon footprint *only tells part of the story*. Previously they'd also suggested making organisations' "ecological liability" (ibid, p. 29) visible – which may give a fuller picture of environmental impact.

Still using grey literature, they begin to break down some of the news media's production and consumption costs. "Today's digital age has accelerated the environmental risks of consuming news" (ibid, p. 28) they claim, citing the growing resources needed to create networked devices, increasing home-energy use to power such products and the huge energy consumption of 'the cloud'. The pair highlight the telecoms industry, specifically mobile network providers, as the 'worst offender' here, citing research from the now-defunct Centre for Energy-Efficient Telecommunications that found this infrastructure "consumes 90 percent of the total energy needed to

transfer digital content between journalists, editors, and readers” (2013, p. 29). “Worldwide, there are now over fourteen billion networked devices that digital journalists and news organizations are trying to reach in order to boost their revenue from the digital media economy,” Maxwell and Miller highlighted in 2012 (p. 29), a figure that was forecast to reach 21.7 billion in 2021. Even if only a portion of residential energy is used for accessing news, people need such devices, with all of their associated impacts, to access any digital news at all. They also reference Greenpeace research which estimated that cloud usage was as large as the energy consumption of Japan or India – two of the world’s top-five-worst polluters – at the time (Cook and Van Horn, 2011).

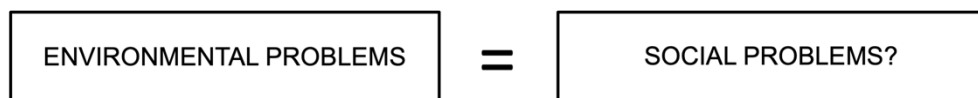
Interestingly, Maxwell and Miller (2012) also observe that “major energy and media-technology firms are positioning themselves with state aid to dominate the global smart-design economy... protecting profit growth and shoring up barriers of entry to competitors in alternative-energy generation” (ibid, pp. 132-133). Noting this rise of media-technology-turned-energy companies, Google (2019), acknowledged that in just one area of its impact, that of energy consumption: “Carbon-free or not, around-the-clock electricity is the fuel that enables us to continuously deliver Google search results, YouTube video plays, Google Cloud Platform services, and much more without interruption” (p. 1). All no doubt considered vital infrastructure for news-media organisations too (see: for example: Google, 2024a, np).

In order to address this, a year earlier the company said it was already the world’s largest corporate buyer of renewable energy (Terrell, np) as it successively and successfully matched its energy consumption with renewables. By 2019, it owned 52 renewable energy projects, part of its commitment to “additionality” (Pichai, 2019, np), where its investments add to the overall supply. Given that the company’s CEO said at the time that its latest project represented the “biggest corporate purchase of renewable energy in history” (ibid), there is certainly something to explore in Maxwell and Miller’s warning about what the future may hold here.

Concerningly, in 2024, Google revealed that its emissions had grown almost 50 per cent in five years due to an increase in energy consumption at data centres linked to the development, rollout and vast use of ‘artificial intelligence’ software (Google, 2024). This presents a direct challenge to Google’s use of AI to try to reduce emissions (ibid), as well as highlighting issues with the ‘digital value chain’, given how

much relies on this single company. Perhaps even more immediately concerning for the news media, we might consider Harari's assertion, in a discussion about his new book on information networks, that editors have been among the first to be automated – through the rise of social media platforms (Start the Week, 2024).

Despite the vital need to recognise the vast material impacts of media, Christian Fuchs makes clear his view that “environmental problems are social problems, not technological problems, they are neither caused by science and technology as such, nor can they be solved by science or technology as such” (2008, p. 308).



**Figure 5: A potential relationship between environmental problems and social problems (Based on: Fuchs, 2008)**

If we add here Maxwell et al's (2015) insistence that we begin with understanding that media technologies *are* environmental problems, then it would logically follow that the environmental impacts of media are a social problem, first and foremost.

All of this speaks extremely well to a critical realist's layered framing of reality. We are ultimately relying on human consciousness to see our material impacts on the natural and social worlds and, while acknowledging uncertainty, agree to take action, and then do it. Medium, message and subsequent *movement* must all combine here. This combined approach is potentially offered by research being done in the media industry, often speaking to the work of the news media specifically, to define and measure brainprint. This concept is typically positioned alongside footprint to highlight the more unique impacts of what the media industry puts out into the social world, its content, what this thesis calls cultural emissions. Though we will learn in the next section the gaps and questions that remain, which leads us to our research questions – and which ultimately help us connect the potential impacts of the news media's output to the theory that might help end the crisis of the Anthropocene – sustainability.

## *2.4 Challenges with defining brainprint, accepting responsibility and agreeing measurement*

In the first section of this chapter, we saw a lack of specific consideration of the media within wider discussions around the Anthropocene (see: Bonneuil and Fressoz, 2017), and later, concerns from materialist media ecologists where discussions about the environment were foregrounded over the materiality of media itself (see: Maxwell and Miller, 2012). Yet, we may also observe that, if environmental problems are social problems (Fuchs, 2008), then the social world, of which the media is a part, may have to provide solutions to this problem.

In order to understand the media's potential role as social problem, solution, or both, we must now consider the body of work on brainprint, or the *potential* impacts of media *output*, what this thesis ultimately defines as its cultural emissions. Along with bringing together both industry and academic literature, this section includes the first of two close analyses of the work of the Responsible Media Forum, which has ultimately adopted and deployed the notion of brainprint over almost 20 years. This section particularly highlights key tensions and concerns from industry.

### *Defining brainprint?*

The notion of brainprint gets to the very heart of questions about what the media *is* and *is for* – but it is poorly defined and sparingly measured. Given this term is referenced in the Global Reporting Initiative G4 standard (2013) for media companies reporting their sustainability, which was supported by the United Nations Global Compact corporate reporting initiative (UN Global Compact, 2024), we may assume this has been operationalised for use. But it mainly remains an idea, adopted and now long-debated by media stakeholder groups, particularly the Responsible Media Forum (see for example: Hodgson et al, 2013; Towe et al, 2020). Much of this work is informed by notions of 'corporate social responsibility' – and in which – we can find further problems of definition, responsibility, measurement, accountability and trust that will be explored in the next two sections.

Likely the first articulation of what was initially termed "brain-print" (Peck et al, 2004, p. 1) came from a collaboration between consultancy firm SustainAbility and the World

Wildlife Fund UK in 2004 titled *Through the Looking Glass*. SustainAbility was founded in 1987 by John Elkington, who was in the business of coining new language for the nascent 'green' movement, so it is unsurprising that new industry jargon might be found in his company's report (Elkington, 2023). Informing this report was SustainAbility and Ketchum (2002), which was part of a United Nations Environment Programme-funded series, and includes industry interviews, analysis of media content and an attempt at a CSR rating for media companies at large. Peck et al (2004) similarly includes a literature review, interviews and further media (called media and entertainment, or M&E) CSR scoring. Another key WWF-UK report, by Kleanthous and Peck (2006), offers something of an alternative analysis. It involved a literature review, interviews with 50 senior figures in marketing only, then a survey.

Though SustainAbility and Ketchum (2002) do not explicitly position their report in theory, it represents one of the first attempts to understand the role of the media in covering economic, environmental and social issues, as well as its more 'direct' organisational impacts. It adopts both corporate social responsibility (CSR) and sustainable development (SD) as key concepts. Yet, though the report deals with these two together, and observes that many businesses likely consider SD a part of CSR, it emphasises that sustainable development "requires the involvement of all sectors of society... and much longer timescales. So SD, not CSR, is the 'Big Story' that the media too often are missing" (p. i). This warning is not heeded, as CSR, 'corporate responsibility' or simply responsibility becomes the dominant lens (Media CSR Forum and KPMG, 2005; Ceasar and Hodgson 2008; Grayson, 2009; Toennesen, 2017). Emphasising an ongoing lack of clarity, when Towe et al (2020) attempt a later analysis of corporate responsibility reports from media companies, they note this is still variously called "'CR', sustainability, social impact" (p. 18).

Setting the scene for the suggestion that the media has real power in this area, SustainAbility and Ketchum (2002) argue the industry has "a critical role to play in the transition towards sustainability. Media understanding – and sustained intelligent coverage... is a necessary precondition for real progress" (p. i). This is perhaps best framed as a "custodian" (Responsible Media Forum and Carnstone, 2018, p. 13) role. Peck et al (2004) initially ask why WWF-UK and SustainAbility would commission their paper, "[t]here are, after all, other industries that are much more damaging to the environment" (p. i). The reason they state, going further than their predecessors, is the 'indirect' impact of media content, and that this "role M&E companies play in

shaping how society thinks and behaves is becoming increasingly controversial” (ibid).

Corporate accountability academic Henriques (2007) dedicates a chapter in his book to the media and says he believes these issues matter in his field because communication is a key part of transparency and thus accountability. He also suggests:

“The very word ‘media’ means something in the middle... But what is the sector in between? And how much does it get in the way?... If the media has a crucial role to play in delivering transparency in a modern society, how can this role be assessed and how effective is the industry in that role?” (p. 101).

He discusses the age-old question of whether news is produced in the ‘public interest’, or is simply done to interest the public, and argues that, where serious coverage happens, much is “in effect, provided by the government and the corporate sector. Both government and the corporate sector are keen to try to control the way they are reported by the media” (ibid, p. 104). He suggests reporting of corporate issues, equated to economics coverage, is of huge importance given its global nature and impact on people’s lives. Though he acknowledges that this kind of storytelling does not lend itself well to how the news often operates. This contrasts somewhat with SustainAbility and Ketchum’s (2002) early argument that SD, not CSR, is the big story – but in fact speaks to their foregrounding of globalisation as an upcoming issue of concern. Henriques (2007) says the ‘public interest’ is ill-defined, meaning it “therefore appears to be something anyone, including a news editor, can decide” (p. 103). He also reflects here that the media, via what he accepts as its “brainprint” (ibid, p. 110), can also set the agenda.

Corporate responsibility academic Grayson (2009) uses a relatively simple framework for his analysis – focusing on CR alone, which here encompasses sustainability – and looks at the organisation (of) and the editorial produced (in) media companies. He picks up a meaningful concern here – with the question: “Does the media, for example, have a responsibility... ‘to foster a more ecologically and socially sustainable society’”? (p. 18). A related issue, along with “legitimacy and... practicalities... [is that m]any in society would advance profound objections to the idea of private corporations driving change in this way” (Hodgson et al, 2013, p. 39).

WWF-UK's Living Planet Index (Loh et al, 2000), referenced by Peck et al (2004), had already demonstrated that people in high-income nations were using the resources of three planets. They therefore argue that: "If we are to move to more sustainable patterns of production and consumption, the M&E sector will need to play a central role... Without [it]... corporations and governments will not receive the signals they need to be able to provide us with more sustainable products, services and policies" (p. i). They echo Sustainability and Ketchum (2002) when they argue the media can act as "carriers and barriers" (Peck et al, 2004, p.1; Sustainability and Ketchum, 2002, p. 6) of information, thus suggesting: "The media's main impact is not environmental, but psychological and intellectual..." (Peck et al, 2004, p.1).



**Figure 6: A suggestion that the media may act as 'carriers' of or 'barriers' to information (Based on: Sustainability and Ketchum, 2002; Peck et al, 2004)**

Kleanthous and Peck (2006) rather vividly outline the charges against, and powers of, the marketing industry at large, as:

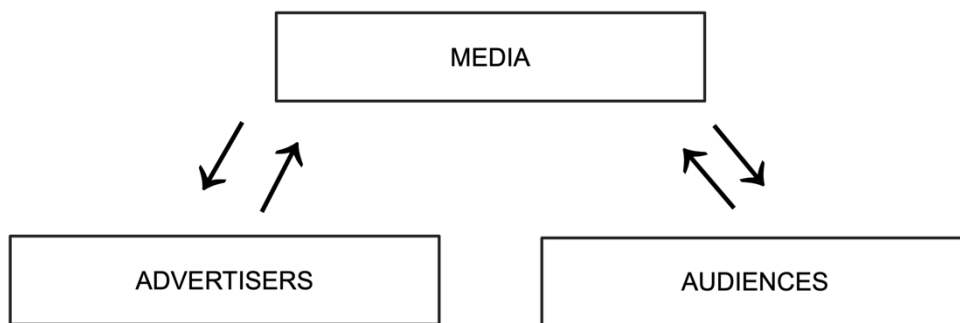
“... fuelling rampant and unsustainable patterns of consumption... alcohol, fatty foods, empty calories, water and biological resources... too much packaging; limiting the useful life of products... producing greenhouse gases... yet, our society is dependent upon communications. The communications industry... is bigger and more powerful even than governments. We must find a way for all parts of business... to flourish without compromising the wellbeing of this or future generations” (p. 5).

Despite claiming a more limited audience, Kleanthous and Peck state in a framework developed in their report that the “impact of brands on human consciousness is sometimes called the brainprint” (ibid, p. 28). If it is brainprint being depicted by the pair here, this suggests both incredible environmental destruction, and considerable power, perhaps even bigger than governments. Those working in news media may bristle at being taken together with the marketing industry – but it is hard to argue with the view that news-media organisations, too, are brands that work with other brands,

all of which are assumed here to have an impact on what people know and do. Indeed, when discussing the importance of customers, the Responsible Media Forum and Carnstone (2018) acknowledge that “[m]edia outlets are now brands” (p. 24).

Peck et al (2004) specifically observe that “through its close relationship with advertisers, the media also exerts a powerful influence on the decisions we make” (p. 1). Building on this, they argue that advertising should be of concern because of the growing dependence of media companies on advertising revenue, its potential influence on other content, the blurring of the lines between the two, and ultimately the role advertising has in “promoting consumption more broadly” (p. 18). Henriques (2007) adds to this view that:

“... advertising space has to be regarded as the principal product of most media companies. Yet, of course, advertising space can only exist if there is also demand from consumers for the space in between the advertisements. So while media organizations cannot afford to neglect their consumers, they are in an unusual position of having two key stakeholders directly interested in the delivery of their products” (p. 104)



**Figure 7: A suggestion that the news media has two key and potentially competing stakeholders (Based on: Henriques, 2007)**

Offering another take on this issue, Kleanthous and Peck (2006), when busting ‘myths’ perpetuated in their industry, suggest: “Media owners should enforce a strict separation between editorial and advertising departments’... Wrong! If anything, editorial and advertising policy needs to be more closely aligned” (p. 16). Despite such a bold statement, this debunking goes no further. Ultimately Kleanthous and Peck explain their goal is to build sustainability into businesses through their marketing – to

ultimately achieve “*more* sustainable consumption” (ibid, p. 7, italics added). Separation of commercial and editorial, or not, was not explicitly called for in previous reports, though Peck et al (2004) also observe that advertising was becoming more “subversive” (p. 18) in order to overcome people’s attempts to avoid it.

Kleanthous and Peck (2006) in fact implore that their industry must reject notions of responsibility and instead focus on commercial opportunity to exploit “[d]eep shifts in the values... of mainstream consumers... [and] abandon the philanthropic approach adopted by previous (largely unsuccessful) attempts to tackle the challenge of sustainable consumption” (p. 7). They do not, however, refer to any such unsuccessful attempts, but further argue these “were based on the mistaken assumption that business exists to be socially and environmentally responsible” (ibid, p. 9). This contrasts greatly with the responsibility arguments made across the wider media industry reports, despite marketing being considered a part. This ongoing issue with the unit of analysis will be clarified at the end of this chapter.

But perhaps the most outlandish, and yet enduring, claim Peck et al (2004) make is that *we know* that these psychological effects they describe are larger than environmental effects – because neither of these was really known at the time – and it all depends on what we mean by ‘the media’. They claim that while the sector “may not have an enormous direct environmental footprint, its ‘brain-print’ is colossal” (p. 5). Though in fact, they go on to admit that this part of being a “‘responsible media company’ has not been well articulated” (ibid).

Despite establishing it as an idea, Peck et al offer no measurement of brainprint – not least because businesses were not measuring or reporting on it. The authors argue that the sector must “develop relevant indicators for some of the intangible CR issues, such as the influence companies have on their audience... and how their products help to inform public opinion” (ibid, p. 12), as well as wider governance metrics. Here we must consider if one can measure something ‘intangible’, and indeed, whether brainprint is something that can be considered so.

Writing for what was *Ethical Corporation Magazine*, Hilton (as cited in Peck et al, 2004), suggests that, just as big food brands produce things that people put into bodies, and big oil brands take finite resources out of the ground: “The media are in the business of putting stuff inside people's heads. But does anyone think they take

responsibility for their cultural impact?” (as cited in Peck et al, 2004, p. 4). Towe et al (2020) put a more positive spin on this, calling this the “media’s cultural impact... [its] superpower” (p. 9) or its “cultural footprint” (ibid, p. 10). Even more explicit, as “... one media executive put it, ‘the [media’s] biggest emission is its programmes””(as cited in Peck et al, 2004, p. i).

This notion of ‘emissions’ is adopted and adapted in this thesis alongside ‘culture’, meaning the specific social workings of a particular society (UNESCO, 2001). Effectively brainprint as positioned here is a measure of the *cultural impact* of the media, which may potentially be observed in the media, and beyond, in how any particular society is organised, including potentially, in environmental harms. This sounds tough for a number of reasons – not least given that ‘news’ and increasingly ‘the media’ does not respect borders. But of course, neither do pollutants released into the air or sea.

### *Accepting responsibility?*

Ignoring pleas to think beyond ‘corporate responsibility’, the Media CSR Forum (Ceasar and Hodgson, 2008), now called the Responsible Media Forum, has done detailed work on the brainprint discussions started by SustainAbility and partners, initially in Media CSR Forum and KPMG (2005). Over 20 years, it has done desk research, stakeholder workshops, surveys and interviews (Media CSR Forum and KPMG, 2005, Ceasar and Hodgson 2008; Hodgson et al, 2013; Responsible Media Forum and Carnstone Partners, 2018; Witte et al, 2022), offering an industry-backed, rolling analysis of what we may believe are the biggest concerns of the media industry at large – including brainprint.

This exercise is where “common... distinct... [and] unique” (Media CSR Forum and KPMG, 2005, p. 3) corporate social responsibility issues were first identified – relating to challenges: shared across all industries; shared but with specific concerns for the media; or unique because of the nature of the media’s work. This first paper offers definitions of all issues (see: [Appendix 1](#) for complete list), which they say did not exist elsewhere. It is suggested particular challenges arise because of the “inter-relationship between the corporate and creative aspects of the media” (ibid, p. 2) – broadly governance and output.

The Media CSR Forum is dealing with the media industry in perhaps its broadest terms, in that the ‘unique’ category relates to “output which includes news, information, entertainment, advertising and opinion... subject to varying levels of regulation and self-regulation” (ibid, p. 2). In fact, many issues in the ‘distinct’ category (see: [Appendix 1](#)) may also relate to brainprint, such as “informing public opinion” (ibid, p. 3). It is not made particularly clear here that governance decisions could also influence, or indeed could conflict with, output. But what is clear is the assumption that advertising is a core component of this industry. In total, 36 issues were surfaced: six common, 23 distinct and seven unique (see: [Appendix 1](#)).

The commentary explains that:

“The fundamental CSR issues identified by the stakeholders were based around the influence the media organisations can have on society through their product output; that is, their content and programming (e.g. informing public opinion; audience needs reflected in output; responsible advertising). Stakeholders recognised media organisations’ output to have both a positive and negative effect on the overall culture and cohesion of the society in which they are operating” (p. 3).

This shows issues relating to brainprint were of utmost concern. However, those specifically identified as a “priority” (ibid), explained because they affected the whole media industry, were:

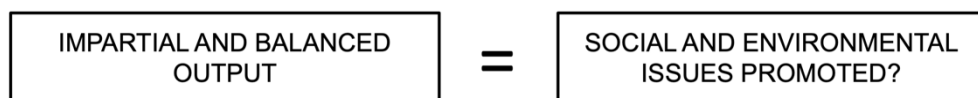
<b>Issue (2005)</b>	<b>Priority</b>
Transparent and responsible editorial policy	1
Corporate governance	2
Integrity of information	3
Impartial and balanced output	4
Investing in and supporting staff	5

**Table 1: Media CSR Forum Key Issues (Based on: Media CSR Forum and KPMG, 2005)**

The stakeholder process highlighted “significant” (ibid, p. 4) CSR issues in the common category (governance) to be dealt with, even aside from those more specific

ones (output). This echoes SustainAbility and Ketchum’s (2002) concern about a lack of serious corporate reporting on governance at this time.

What is striking given the importance of impartiality noted here is the bold suggestion that “Social and environmental issues [be] promoted” (p. 3), just as was urged in the SustainAbility and Ketchum report (2002). That this category exists certainly already suggests understanding of an awareness of, and responsibility for, the impacts of output. But the assumption here is that environmental and social issues are some sort of special case – and must be promoted – and we can begin to see a tension here between the norm of impartiality and the choice to promote something specific:



**Figure 8: A potential tension between two priority CSR issues (Based on: Media CSR Forum and KPMG, 2005)**

We must recognise that this report comes from those interested in CSR and debate likely remains, even today, about whether requiring coverage of any particular issue contradicts commitments to a ‘free press’. We may rightly ask ‘why this?’ issue over any other – and ‘what do we mean by “social and environmental issues”?’ – as this could cover everything from child labour to genetically modified foods, as SustainAbility and Ketchum (2002) outline.

Though sustainability is mentioned in the definition supplied (see: [Appendix 1](#)), it lacks acknowledgement that economics may play a role too. Interesting too is that environmental and social issues are absorbed within wider concerns of running a media business, CSR, while SustainAbility and Ketchum (2002) argue that SD was the bigger issue.

The issue of “responsible advertising” (Media CSR Forum and KPMG, 2005, p. 3) is also explicitly noted here. But in the definition (see: [Appendix 1](#)) responsibility may end with *consideration* of impacts, and may be overridden by other potentially legitimate concerns, which does not offer those ‘responsible’ a clear path.

The analysis was updated in 2008 through a survey of more than 100 respondents, from both CSR and media, drawn from the organisation’s membership (see: [Appendix](#)

1 for funders). This was followed by a validation workshop and one-to-one meetings. The authors, Ceasar and Hodgson (2008) from the group's new facilitator, sustainability consultancy Acona, noted limitations including a lack of separation between "news/factual" (p. 5) and "entertainment/creative" (ibid). In total, 32 issues were listed, including three new ones, while seven from the previous analysis disappeared or merged. Disappointingly, the list of definitions did not travel, meaning some terms are re-defined and some not defined (see: [Appendix 1](#)). New issues were said to have "emerged" (ibid), others "receded" (ibid), and some now "deemed most important" (ibid).

In terms of emerging issues, "climate change" (ibid, p. 1) is added as a separate concern beyond "environmental management" (ibid), along with "staff diversity" (ibid), both listed as common issues. "Awareness of the impacts of communication" (ibid) emerges as a 'new' issue with specific concerns for the sector. Such 'content impacts' now refer to "'brain print' or the residual influence of output on audiences" (ibid, p. 9), because the concept was highlighted, in the very spirit of brainprint, by a participant citing Peck et al (2004). That the effects are "residual" (Ceasar and Hodgson, 2008, p. 9) is at odds with the assumption of significant impacts (Peck et al, 2004; Kleanthous and Peck, 2006). Ceasar and Hodgson (2008) explain that:

"The extent of this influence [of content] is difficult to measure. However, as one stakeholder... noted: 'There is an incredible amount of money put into research by the advertising industry into proving through qualitative and quantitative research that this and that type of communication will impact behaviour and purchasing behaviour. If that's the case, then how is half an hour, when you have a consumer's full attention, not going to influence their view on things like violence in society, or consumer behaviour..?'" (as cited in Ceasar and Hodgson, 2008, p. 9).

What we can see from the stakeholder contribution is that within the advertising industry, it appears the impacts of communication were being well-studied. Meanwhile, responsible advertising has evolved:

Issue (2005, p. 5; 2008, p.1)	Definition (2005, P.7)	Definition (2008, P.10)
Responsible advertising (new issue in 2005)	The management of advertising that considers both the positive and negative impacts of products on society whilst meeting stakeholders' expectations, regulatory standards and organisational standards.	The notion of responsible advertising links to a media owner's willingness to carry advertising that conflicts with its standards. The issue is not new for advertising agencies familiar with industry specific codes and laws, for example, on alcohol or gambling and gaming products. This becomes problematic when the notion of what is safe, such as products and services that may or may not be beneficial to the environment, becomes subjective.

**Table 2: A comparison of definitions of 'responsible advertising' (combining Media CSR Forum 2005; Ceasar and Hodgson, 2008)**

The former definition highlights stakeholders and standards to be balanced, while the latter suggests inherent conflict, and compromise to be made, between advertising and organisational standards. That Ceasar and Hodgson are conscious in 2008 of questions around safety in relation to the environment is interesting – though they suggest this is something “subjective” (ibid).

What is now called “promotion of sustainable development” (2008, p. 1) is highlighted as an issue of particular importance in the ‘distinct’ category. Rather than being defined as encouraging awareness and understanding about things that might improve environmental and social sustainability, it is now suggested that this means “Media companies should encourage individuals/citizens to achieve sustainability goals and minimise negative impacts” (ibid, p. 12). Highlighting sustainability here means this definition does not explicitly mention, yet no longer specifically excludes, economic issues, something discussed in the theoretical framework. But this is now morally instructive, despite the report not being grounded in ethics, and as previously identified, the tension remains in that promotion of this may undermine parallel concerns about something like ‘impartiality’. In this report they do note feelings that this was an “*issue du jour* and some felt media owners should not pander” (ibid, p. 13, italics in original).

This tension, given that impartiality and promotion of SD were considered of equal importance, was ‘resolved’ here, in that “the active promotion of sustainable development issues, it was suggested, is best left to the creative side of the industry.

This includes advertising and promotion” (ibid). This is alarming if advertising is at odds with the idea of sustainability (Kleanthous and Peck, 2006). They note insurance, finance and CSR companies already benefitting from aligning themselves with these issues.

In 2005, we can see that the definitions were descriptive (see: [Appendix 1](#)), now Ceasar and Hodgson (2008) include no less than 24 ‘shoulds’ (see: [Appendix 1](#)). We may observe that the only issue where there is a definitive responsibility relates to corporate governance in that: “Companies have responsibilities relating to their boards, shareholders and other stakeholders which impacts their strategy and performance” (p. 18). Everything else relies upon somebody deciding somebody ‘should’.

“Climate change” (ibid, p. 1), new in the common category and identified via the survey as the third priority in this section, suggests “Companies should be concerned with climatic changes as a consequence of man-made pollution” (ibid, p. 18). Though including a ‘should’, this feels less instructive – should this be concern about their own impacts, or those in general? Where should they direct concern? And, given this is placed in the common category, what limits does this place on understanding the relationship between content and climate change? In conclusion on many of these issues, they muse:

“The survey gives rise to interesting questions... such as how can media companies meaningfully contribute to a more sustainable future through impactful communications, that is, by doing what they do best” (ibid, p. 22).

It is strange here to note so much deliberation about how to get these messages across, if indeed, this is “what they do best” (ibid). And, though important for this thesis to imagine that media companies might or should “contribute to a more sustainable future” (ibid), we should again note contestation about whether this is something the media *should* do. This is picked up in the theoretical framework when discussing key theoretical issues in more detail.

Continuing this project, Hodgson et al (2013) state that “[a]rguably, the biggest social and environmental impact of media is through its content, i.e. the residual influence of output on audiences” (p.11). This reflects a considerable increase in potential urgency from the previous report. But they explain that understanding and measuring

this is “fearsomely complex” (ibid). In terms of measurement, Toennesen et al (2013) contemplate the potential to consider “[c]ontent as carbon” (p. 32) and simply aim to reduce the negative impacts and increase the positives. But they suggest two major problems with this: “unpredictability” (ibid) of the impact on particular people and “attribution” (ibid, p. 33) of that impact. We may also note, as we did in the first section of this chapter, that carbon is not our only concern. As others have (Ceasar and Hodgson, 2008), Toennesen et al (2013) highlight one part of the industry that measures impact well – advertising. Looking at the metrics currently in use by media organisations to measure content impacts, they note:

“The emphasis is heavily on content *which has been conceived specifically for impact...* much less attention [is] paid to the effects of entertainment or advertising, or to the wider mass of background content that forms the bulk of a media company’s output, and which may in fact have more lasting power over the audience” (p. 17, italics in original).

This issue is of particular concern for this thesis and is picked up in the Methodology.

The discussion moves from carriers or barriers (Sustainability and Ketchum, 2002; Peck et al, 2004) to “[m]irrors or movers” (Toennesen et al, 2013, p. i), but these authors are still grappling with the issue of *whether* the media has real power to move people.



Figure 9: A suggestion that the media may act as 'mirrors' or 'movers' of society (Based on: Toennesen et al, 2013)

“If it is the case that media content influences society, and that media companies are seeking to be responsible, does it necessarily follow that they should actively manage their content in an attempt to be more responsible?” they ask (ibid, p. 28). Though, Hodgson et al (2013) in fact acknowledge that the contents of the media does “influence the way we think, speak and act” (p. 11).

*Agreeing measurements?*

Appearing to ultimately accept responsibility, Toennesen (2017) includes a visual comparison of extractive industries (e.g. fossil fuels and mining) versus 'media' companies in terms of number of employees and greenhouse-gas (CO<sub>2</sub>e) emissions. He explains that: "... If we had the metrics to prove it, it may well turn out that media companies are 143 times more impactful (or more!)... around behavioural change" (p. 24). He further adds that the media, old and new, has "enormous, undefined and ever changing responsibility... responsibility will be shared more widely... [all] will need to own up to their role as movers in society (ibid, p. 61).

Toennesen observes a discrepancy between the growing amount of CR *narrative* about output in corporate reports, compared to Key Performance Indicators (KPIs) measuring it, and a more limited narrative on 'direct' impacts on the environment, but far more KPIs. "This suggests that media companies are aware of the importance of content impacts (sometimes referred to as the brainprint of media), but struggle to measure those impacts" (ibid, p. 20). Towe et al (2020) similarly note the challenge with accurately measuring "quantifiable 'brainprints'" (p. 9) of a piece of content. Yet they reemphasise these "'emissions' are unequivocally enormous" (ibid) and echo that this means the ratios compared to extractive companies would be reversed if this was accounted for. This equivalence with extractive industries would of course be most concerning if the impacts were found to be *negative* for something like sustainability.

Referring to strategies launched by the Guardian, Sky and the BBC, Towe et al observe "the rise of the dual pledge" (ibid, p. 13), where companies are making both organisational and content-related commitments to sustainability in corporate reports. This is something that has been picked up in the corporate responsibility literature by Olkkonen (2015, 2018), where she explains not only that "people do not view media organisations' journalistic and business responsibilities separately... [but by] leaving out central areas of corporate responsibility, media organisations that follow the separation argument can lose important opportunities to create value and maintain credibility" (p. 170). Towe et al (2020) now see "serious overlap... [so t]here is a strong argument to be made that for any future sustainability strategy by any media company to be credible, it will need to incorporate both" (p. 13). They suggest this is because climate change is begging comprehensive efforts by organisations – and say this approach could be extended to "other social and environmental causes too" (ibid). We may ask ourselves if reducing emissions, to try to control global temperature change

and avert disastrous consequences, can really be defined as a ‘cause’ – which we may think of as something more like a fun run for a donkey sanctuary.

As early as 2014, the *Guardian*, “one of the few newspapers that have both stimulated debate... and opened itself up to public, scholarly scrutiny” (Miller, 2015, p. 658), worked with the University of Bristol to understand the carbon footprint of guardian.com. The study found its website was responsible for nearly one-third of the company’s reported carbon footprint – the vast majority from individuals’ media consumption – device used, ads viewed on pages and more (Wood et al., 2014). A project launched in 2020 by the same team has for the first time attempted to measure the entire carbon footprint of digital media, including advertising, publishing and broadcasting, in partnership with the BBC, ITV and others (University of Bristol, 2020), a missing piece of the puzzle. In acknowledgement of this problem, Sky said it will for the first time be targeting such ‘value-chain emissions’, *including* customers’ energy use, by *using its own media assets* to influence its audience (Sky Group, 2020). It has since launched a daily, 12-minute climate news programme (Collier, 2021). The *Guardian* has largely divested the charitable trust that supports it from fossil fuels, and recently stopped taking advertising money from fossil-fuel extractive companies (Waterson, 2020).

Both the *Guardian* and Sky are now planning to become ‘net-zero carbon’ by 2030 (see: the *Guardian*, 2019; 2020; Guardian Media Group, 2020; Sky Group, 2020; Rossi, 2020), but until 2021, there was no global standard for this term (Science-based Targets Initiative, 2020; 2021). In Sky’s ‘net zero’ corporate announcement (2020), Sky Group chief executive, Jeremy Darroch, said this was “the only responsible thing to do” (Sky Group, np). While Anna Bateson, chief customer officer of Guardian News & Media, outlined in October 2019: “We have a deep responsibility to our readers to live up to the values they expect of us and to have a positive impact on the world across our whole organisation” (Guardian Media Group, np). Recent academic analysis has shown confusion around what is to be achieved when making such commitments, and how it is to be measured, as well as existing inequalities being reinforced in commitments made (Reisinger et al, 2024). Just as these commitments were being made, the UK’s Climate Change Committee, the body that advises the government on its five-year carbon budgets, said that “most sectors will need to reduce emissions close to zero without offsetting” (Stark et al, 2019, p. 11).

The Responsible Media Forum (2021) now has a Climate Pact that follows this dual-pledge logic, with signatories including Channel 4, ITV, Informa, Pearson, Sky and Virgin Media committing to Science-based Targets (SBTI, 2020) on environmental management, along with “behaviour change... [through] climate-related content” (Responsible Media Forum, 2021, p. 3). Though they recognise ‘content’ in wide terms including advertising – they do not extend the topic focus, in terms of other pressing environmental issues, or consider other topics potentially undermining these efforts.

Towe et al (2020) echo Toennesen (2017) in finding that ‘content’ remains a key topic in corporate reporting, and observe more companies reporting KPIs, though broadcasters were found to be skewing this number up because they have stricter regulation relating to content. But they paint a confusing picture when they acknowledge that specific measures are “one area that hasn’t developed. Content impact measurement is generally retrospective and not developed as a discipline. In-depth, rigorous studies are rare and expensive” (Towe et al, 2020, p. 22). It is perhaps odd that they criticise ‘retrospective’ measurement – as it is hard to imagine measuring content that hasn’t been shared – though perhaps this may mean the need for ‘campaigns’ to set particular objectives beforehand and measure after.

Further to this, Towe et al (2020) explain that it is hard to know any outcome or impact from content, as everyone’s reaction may be different, and efforts, largely by broadcasters, have focused on surveys asking about behaviour change based, again, on specific campaigns. They note efforts among broadcasters to move from ‘inputs’ and ‘outputs’, such as “airtime or pages devoted to issues, number of readers or audience members reached” (ibid, p. 30), to ‘outputs’ and ‘impacts’. Non-broadcast metrics noted but not specifically identified were said to focus on accessibility and reach. They therefore suggest KPIs may be unique to an issue or item – which speaks back to the problem identified by Toennesen et al (2013) about a lack of measurement of background content and advertising.

Another disruptive trend, relating to the rise of targeted content, means potentially fewer people reached with a particular message. Towe et al (2020) note that then-*Guardian*-editor Alan Rusbridger was concerned that “each individual must be personally exposed to the effects of the climate crisis... to be convinced of the urgency” (as cited in Towe et al, 2020, p.14). It is not clear here whether he believes

that content counts, in terms of personal exposure. If not, this is hugely concerning if these issues require action from people in less exposed countries like the UK – though people here are already experiencing the effects of climate change (Met Office, 2024).

In their conclusion, and looking internally to the industry, Towe et al (2020) claim that “it’s clear that the brainprint has indeed risen in importance, with greater sophistication in measurement and management of impacts... greater confidence and proactivity, greater rigour in measurement, tight topic-focus via single-issue campaigns, and meaningful collaborations with expert partners” (p. 35). They celebrate again the dual pledge as “good evidence of the increasing recognition and understanding of the brainprint... greater range of KPIs being applied to this rather nebulous topic, suggesting that the way forward will involve yet further rigour, perhaps moving towards the maturity that other sustainability topics enjoy” (ibid).

Further relevant studies in relation to measurement, though not done in direct reference to brainprint, include albert (2021), which said it would measure “how UK broadcasters are exposing audiences to climate change through their content” (p. 1) compared to mentioning other things. It used subtitle data from broadcasters from 2020, excluding daily news, and compared it to 2018 and 2019. Environmental phrases were chosen from the UN’s Intergovernmental Panel on Climate Change’s (IPCC) report (2018) – where they warned we had 12 years to act on climate change. Themes were: energy, environment, food, resources and travel, and these were mapped against emissions data. Their content analysis shows that mentions of the word ‘dog’ (top-four word from 2018-2020), for example, have increased by almost three times (105,245, 180,312, 286,626), while mentions of something like ‘carbon emissions’ had increased more than four-fold (222, 1,087, 1,104) albeit from a far smaller starting point. They also found a focus on ‘waste’ and ‘food’ versus ‘transport’ and ‘energy’, despite the latter two having far greater environmental impacts.

Outside of industry, the Media and Climate Change Observatory at the University of Colorado has released a monthly newsletter since 2017 tracking mentions of ‘global warming’ and ‘climate change’ from more than 100 sources (across newspapers, radio and TV) in more than 50 countries (MeCCO, 2024, np). Emphasising a limitation of their approach, a commentary paper from the MeCCO team (Boykoff et al, 2021) questioned whether the observation of ‘more’ coverage about humans’ role in causing climate change since the 1980s means ‘better’. Furthermore, they suggest there is

room for research in this area, even that looking at newspapers, particularly outside the US – including research questions around placement, layout and format, understanding audience reception, and the relationship between the decline of newspapers generally and climate coverage.

Painter and Ashe (2012) conducted an international study into the presence of climate scepticism in national newspapers in Brazil, China, France, India, the UK and the US. They similarly noticed a prevalence of US-focussed studies before they conducted their own research, as well as previous focus on *how* climate-sceptic voices found their way into news coverage. Their main period of study (19 November 2009 to 18 February 2010) included two key environmental moments – so-called ‘Climategate’, where a news story broke that accused academics at the University of East Anglia of manipulating climate data, along with the Copenhagen Climate Change Conference (COP15). This was where the goal to limit the global average temperature increase to two degrees above pre-industrial levels was set, and scheduled for review in Paris in 2015, along with a consideration to re-set the limit to 1.5 degrees.

Ruiu (2021) studied British newspaper coverage of climate change over three different time periods (1988-1997, 1998-2007, 2008-2016) to understand how its consequences have been framed over time. Interestingly, her initial review found that alarmism in the news media on this issue was “counterproductive for individual engagement” (p. 478). The cohort was split into centre-left and centre-right, and coverage was categorised as reflecting: ‘mockery’, ‘uncertainty’, ‘neutrality’, ‘alarming but controllable’ or ‘out of human control’. Coverage by the centre-left was found over time to be moving away from ‘out of human control’ or ‘alarming but controllable’. Coverage from the centre-right retained a frame of ‘mockery’, but had also, where observed, begun to depart from ‘neutrality’ towards ‘alarm’. She describes this as “the disappearance of optimism in conservative newspapers ... [yet] the presence of both mockery and alarm around the consequences in the same political group can contribute towards creating a ‘confusing image’ of climate change” (ibid, p. 488).

A Carbon Brief study (Gabbatiss et al, 2022) analysed climate-related editorials in UK national newspapers, along with the top-three most-discussed potential changes to the energy system, over the period from 2011. Editorials were chosen because they are considered ‘what the newspaper thinks and shares with its audience as such’. The study suggested that during this time the language has shifted. They also say

that beyond talking about climate change or global warming, energy is “intrinsically linked” (ibid, np) to this discussion. All of these provide more detailed means for potential things to measure in output – but all are limited to environmental issues alone.

This section has dealt with some of the issues within the industry, industry literature, and beyond, on brainprint. The industry literature was quick to highlight what they observed as the distinction between footprint, what they call ‘direct’ impacts, or what may be broadly considered the medium, and brainprint, what is suggested is ‘indirect’ impacts, or the message. It was generally agreed that the footprint of the media at large, perhaps its most obvious material impacts, is comparatively small, and potentially justifiable, given the potential power of its brainprint. Moves towards the “dual pledge” (Towe et al, 2020, p. 13) at least suggest recognition of both issues.

Relevant academic studies do not refer to brainprint but do offer ideas for measurement that are discussed in the Methodology. Though broad measurement of brainprint remains elusive, the general agreement is that, whatever the impact, it is almost unimaginably large – which becomes highly concerning if the messages go against, for example, global efforts to achieve sustainability. The industry literature particularly lacks theoretical underpinning, something that will be dealt with in the 3. Theoretical framework. Issues with exactly what brainprint might mean, and a potential means for measurement, will also be made clear.

## 2.5 Brainprint, accountability and trust

In the last section, we dealt very particularly with industry literature that has developed the notion of brainprint, while recognising remaining questions around responsibility and ultimately measurement. A number of other key themes, which are no doubt linked, appear in this literature too – namely trust and accountability – which will be explored now.

Like SustainAbility and Ketchum (2002), Peck et al (2004) argue that the media has an “enormously important role in holding other parts of society to account and, ultimately, in underpinning an effective democracy” (p. 4). Further to this, the initial UNEP-funded effort was founded on the “basic principle... that sustainable

development will be achieved fastest, most efficiently and most effectively where there are high levels of social capital, particularly trust” (SustainAbility and Ketchum, 2002, p. iv). Yet, while apparently vital, the report also argues ‘the media’ is “one of the most powerful – yet least trusted and least accountable institutions – in the world” (ibid, p. i).

One interviewee speaking to Peck et al (2004) similarly argues that this vital role ‘the media’ plays in society, and for sustainability, means the “sector should be held to a higher standard of accountability” (p. 3). But the authors also point to a “lack of trust” (ibid, p. 9), also called “credibility” (ibid), as one of the industry’s biggest challenges. It is “... an essential characteristic of successful businesses, particularly when operating in a highly competitive landscape” (ibid) they argue.

Peck et al (2004), Henriques (2007), Webb (as cited in Grayson 2009), Toennesen et al (2013) and Towe et al (2020) all cite different sources indicating low trust in the media, and particularly in journalists, among the public. In the shadow of the Leveson Inquiry (Leveson, 2012), Toennesen et al (2013), observe that: “Companies in all sectors thrive on public trust, but in the media sector the commodity is perhaps uniquely valuable...” (p. 14). Given the reference to Leveson, they are certainly referring to news media here and so we can broadly assume the Responsible Media Forum reports included in this section are referring to this part of the industry alone. Though, Toennesen et al interestingly note that high levels of trust do not necessarily correlate with large audiences.

A related concern of Toennesen et al, echoing Grayson (2009) and laid clear here, is that “[a]ny media company intending to pronounce externally on social and environmental issues must first look inwards...” (p. 8). Towe et al (2020) restate this, urging that the media should “get their own house in order before pronouncing externally on social and environmental issues” (p. 7). It is potentially understandable to seek to avoid charges of hypocrisy – yet this concern appears to render real scrutiny by the news media impossible if their own house is not ‘tidy’.

Speaking to the issue of a post-truth age, Toennesen (2017) observes rather concerningly that:

“We need to consume less to save the planet/up pops an economist who emphasises the link between consumption and economic growth... We are left with the impression that it depends who you ask. And that in turn can lead us to suspect that, at a deep level, there is no answer... there is no one left to trust. It is under such circumstances – and fuelled by business models that rely on crude engagement above anything else – that the manufacture and spread of false news become a headache for democracies and companies alike” (p. 61).

This idea of business models relying on ‘crude engagement’ speaks to the reliance of companies on advertising (Peck et al, 2004) secured by audience eyeballs. But it is interestingly linked to the rise of fake news here too.

Highlighting another considerable tension, and ultimately confusion, remaining in this body of work, which is taken up in the Theoretical framework, Towe et al (2020) highlight that there:

“... remains reticence... about the extent to which media companies ought to marry content with sustainability concerns. By putting greater emphasis on positively impacting society through content, do media companies risk becoming campaigning organisations, eschewing the editorial impartiality or balance that is embedded in many media companies’ social contract?” (p. 35).

A similar concern from the BBC (as cited in Peck et al, 2004) suggested that “because of its legal obligation to be impartial, it cannot take on the role of environmental campaigner, particularly where there are political issues involved — [though it does have a] responsibility to educate, inform and to be factual and accurate in its environmental coverage” (p. 13). Taking this head on, Porter and Sims (2003) point out that “a broadcaster is not expected to be impartial about theft or murder, for instance... [so b]eing neutral on sustainable development is not exercising due impartiality, it only legitimises an indefensible view way outside the international consensus” (as cited in Peck et al, 2004, p. 19).

Featherby (as cited in Hodgson et al, 2013) in fact suggests a limited effect of the public-service obligation and little general pressure to improve. He also assumes that “regulation may restrain the negative but will seldom inspire the positive, [so] then the necessary leadership can only come from within the industry itself” (ibid, p. 4). We

may wonder, given that much media regulation is self-regulation, what hope we can hold out for such leadership, not least because these are likely people already signed up to relevant, potentially inadequate regulatory codes.

### *Who is watching the watchdogs?*

On accountability, SustainAbility and Ketchum (2002) highlight that the ultimate question may be “[w]ho, in short, watches the watchdogs?” (p. 36). They point to a number of “mechanisms” (ibid) that may help: “peer pressure... legislation... litigation... media watchdogs... shareholders... [and] consumers” (ibid), though most were suggested to have considerable limitations. This is unresolved, not least because none of these are geared towards holding the media to account on sustainability – all increasingly concerning, they argued, given growing international, multimedia and multi-industry ownership – leading to challenges when thinking how these companies may be held accountable.

Echoing this, Peck et al (2004) argue that the media is unlikely to turn scrutiny on itself. At this time, they noted growing pressure, particularly from NGOs, which can “powerfully influence the public and regulators” (p. 7), and investors increasingly focusing on good governance principles. But they said governments were reluctant to hold media companies to account, not least because deregulation was de rigueur. This meant a lack of business regulation and the favouring of voluntary initiatives. Ultimately they argue that “[a]s new issues emerge, public policy regulating the M&E sector must evolve” (ibid, p. 23), not something most readily led by the sector itself.

Webb (as cited in Grayson, 2009) suggests that non-financial CSR reporting (about something like brainprint) had been poor at his time of writing because the media were not seen by campaigners or politicians as large contributors to the problem, and they are also the route to voices being heard – so neither had prioritised action. Overall he claims that in developed nations, media freedom often means the freedom to do anything, “protected by instant cries against censorship and freedom of speech” (p. ii). It is quite striking here to see the suggestion that freedom of expression, protected by the UN Declaration of Human Rights (United Nations, 1948) and reaffirmed in Sustainable Development Goal 16.10 (United Nations, 2015a), may ultimately be used as a tool for avoiding responsibility.



**Figure 10: A suggestion that the media may avoid responsibility by claiming the right to freedom of expression (Based on: Webb as cited in Grayson, 2009)**

Rather tellingly on this, Toennesen et al (2013) are concerned that “one direct consequence of public trust is the political and public appetite for regulation... But also that trust and more generally questions around governance can impact on relationships with other stakeholders too” (p. 14). Further to this, the Responsible Media Forum and Carnstone (2018) reassure their audience that “[d]emocratically elected governments are not about to regulate the media sector for their content, nor should they” (p. 5), highlighting that “[f]ree speech is a fundamentally important principle and any suggestion that a particular politician or party wants to control the media would be rightly met with a powerful backlash” (ibid).

Instead, they urge ‘us all’ to “... hold the media to account on their contribution to the future we all want, as enshrined by the UN within the Sustainable Development Goals (SDGs). Only then can we return to trust media on their content, governance and strategies” (ibid). Looking at the SDGs, we must assume they are referring to Goal 16, which is to: “Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels” (United Nations, 2015a, np). It is not clear to what extent media companies recognise this role, which is varied and expansive – or how ‘we’ do that.

An instructive footnote in Kleanthous and Peck (2006) reveals that the body representing the “biggest-spending advertisers in the UK, the ISBA, chose not to engage... [its] chairman Malcolm Earnshaw stated: ‘ISBA has a clear role to play... defending our freedom to advertise and helping members to advertise efficiently and economically... this is outside our remit’” (p. 16). We may yet notice another tension here – if we believe Peck et al’s (2004) concerns with the relationship between editorial and advertising.



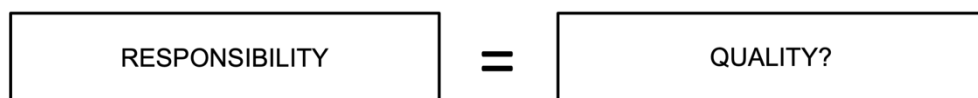
**Figure 11: A suggestion that the 'freedom to advertise' might be at odds with media freedom (Based on: Peck et al, 2004)**

Towe et al (2020) claim that “[i]nfluential stakeholders are shifting focus to content” (p. 12), pointing to Ofcom focusing on diversity and Sir David Attenborough on the environment – echoing previous reports that noted things only become an issue when regulators or those who influence audiences are concerned (Peck et al, 2004). Towe et al (2020) also observe that pressure for action on various social issues has moved from fossil-fuel companies to media companies. They add that this means media companies are being asked about, and doing more work on, content impacts than ever – now being called “responsible content” (p. 20).

Reasons for this included concern from business leaders and customers – and as a result advertising clients wanting more done – as well as staff and potential recruits prioritising this. Interviewees also noted this was “[b]ecause it’s positive... seizing an opportunity rather than responding to a risk-driven agenda, as is so often the case in sustainability” (ibid), as well as a general rise in advertising brand “activism” (ibid) on social issues. Interestingly they said this push was not coming from legislation or investors, with one interviewee stating “there’s been some progress but it’s baby steps, investors still don’t get it” (as cited in Towe et al, 2020, ibid). That advertisers may ultimately be holding to account the companies that they advertise with is an extremely interesting claim here.

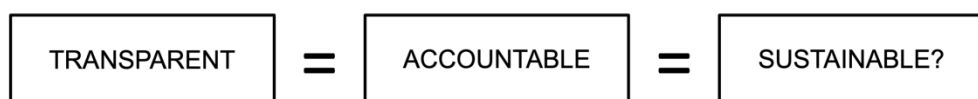
Both Robin Esser of the *Daily Mail*, and Michael Grade, representing the BBC’s Board of Governors, told Peck et al (2004) that editorial independence is paramount, just as the advertising industry suggested for advertisers. Though, the authors highlight a challenge to this, in that corporate responsibility is unlikely to happen without wide support and leadership. We may also observe that both the Press Complaints Commission, to which the *Daily Mail* was subscribed, and the BBC Trust, which Grade went on to lead, have both been disbanded, with the UK’s national broadcaster now ultimately regulated by Ofcom (see: Calcutt, 1993; Leveson, 2012; Potter, 2023).

Webb points to the-then PCC as “toothless” (in Grayson, 2009, p. ii), instead suggesting powerful people were taking issues straight to court. “This lack of both interest and action on media responsibility is at a time when the decline of quality news and investigative reporting is becoming ever more widespread...” (ibid) he adds. Here he highlights veteran investigative journalist Nick Davies’ charge of “churnalism” (2009, p. 59) at national newspapers, increasingly focused on “quick, cheap, unchecked news... as profit-hungry media firms look to cut costs, and corners” (Webb in Grayson, 2009, p. iii). We may observe here that responsibility and quality may be linked.



**Figure 12: A suggestion that 'responsible' media means 'high-quality' media (Based on: Webb as cited in Grayson, 2009)**

The Media Standards Trust (2009), which was highlighted by Webb (in Grayson, 2009), contends that ultimately self-regulation of non-broadcast news media was “not sustainable... it is insufficiently effective, largely unaccountable, opaque, and failing to reflect the radically changed media environment” (p. 6). The invocation of sustainability, or rather unsustainability, is instructive, meaning, something cannot, or in their view, should not, continue. And we can see here a direct link drawn between sustainability, transparency and accountability.



**Figure 13: A potential relationship between transparency, accountability and sustainability (Based on: Media Standards Trust, 2009)**

Interestingly, though the PCC was shut down, its code of practice is the one signed up to by members of the new Independent Press Standards Organisation (IPSO) (Editors’ Code of Practice Committee, 2024), albeit the code is updated when required. We may also observe that both Ofcom and (now) IPSO ultimately rely on

compliance and complaints, meaning that really audiences are expected to notice something and take time to report it, which represents a significant dependence on just one of its key stakeholders.

In another pointed question back to groups like the ISBA, Webb (as cited in Grayson, 2009) asks: “Is there any responsibility between advertising promoting more consumption and commitments to sustainable development?” (p. 15). Given their focus on the marketing industry, Kleanthous and Peck (2006) reference the limited regulation of advertising related to “sustainable consumption” (p.12). They state:

“... regulators have neither the teeth... mandate... appetite to take on sustainability challenges beyond what is required by law or overwhelming public pressure. The codes... stipulate that ‘advertisements must not make unsubstantiated claims about environmental impact’... but they do not effectively address the issue of sustainable consumption... advertisers are forbidden from encouraging the excessive consumption of food, but not of fossil fuels or electricity. Furthermore, while ‘advertisements must not encourage or condone behaviour prejudicial to the environment’, this does not apply to ‘products or services that may have adverse environmental impact in normal use or in their manufacturing processes’ (ibid).

The ‘codes’ mentioned here is the Independent Television Commission’s (ITC) consultation on the Advertising Standards Code (2002, pp. 38-39). The ITC regulated commercial broadcasting from 1991 until 2003, when Ofcom was created, and in 2004 this responsibility became shared with the Advertising Standards Agency (ASA) via its UK Code of Broadcast Advertising (BCAP Code) (Advertising Standards Agency, 2010a). Alongside the BCAP sits the Code of Advertising Practice (CAP), the ASA’s 12th iteration of its self-regulatory code for *non-broadcast advertising* (Advertising Standards Agency, 2010b). Reflecting on the future, Kleanthous and Peck (2006) urged legislators and regulators to ensure relevant documentation is “brought into line with the new environmental and social concerns” (p. 12). Yet, today, we find that broadcast advertising “must not condone or encourage behaviour *grossly prejudicial* to the protection of the environment” (Advertising Standards Agency, 2010a, p. 25, emphasis added), a watering down of the ITC’s language, while words to this effect do not appear in the current or previous CAP at all (Advertising Standards Agency, 2010b).

There are rules for making “environmental claims” (Advertising Standards Agency, 2010b, pp. 58-59) about a product’s benefits, but nothing relating to negative impacts. The latest CAP does now stipulate that the full lifecycle of a product be accounted for, but again, only when making specific claims. Advertising, like much of the news media, is self-regulated through adherence to the code, which is monitored via complaints, and it is funded by a voluntary levy on the cost of advertising space. But without an environmental claim, there is limited impetus to act. The CAP code also states that “Editorial content is specifically excluded from the Code, though it might be a factor in determining the context in which marketing communications are judged” (ibid, p. 3).

Instead, Kleanthous and Peck (2006) encourage their marketer audience to embrace the values of sustainable development, but warn that messages that do not reflect the product, service, brand or corporate values, could be guilty of “greenwash” (p. 29). Where this may be a concern, they encourage ‘softer’ communication choices, from typefaces to photography. For all content businesses, Towe et al (2020) further emphasise that given “accusations of white- or greenwashing, it is important for any [content] campaign to be somewhat aligned with other content impacts and editorial positions” (p. 32).

We may note here that the ISBA, along with the IPA and the Advertising Association, recently came together to launch Ad Net Zero – an industry initiative with commitments on what can be understood as footprint and brainprint (Advertising Association, 2020). This was apparently prompted by an open letter from Extinction Rebellion and a protest by staff from more than 150 firms (McCarthy, 2019; Glenday, 2021, np). Google, Channel 4 and Unilever have all joined. An alternative, and already working, measurement of advertising brainprint is “advertised emissions” (Kite et al, 2022, p. 1) from Purpose Disruptors, which also represents people in industry. Advertised emissions are a calculation of the greenhouse gas emissions (CO<sub>2</sub>e) that result from the uplift in sales generated by advertising – aligned with World Advertising Research Center (WARC) (2024) categories used by industry to measure advertising effectiveness. We could yet imagine brainprint as ‘mediated emissions’, though its connection to categories and consumption are less clear.

According to Kite et al (2022) advertised emissions in the UK have risen by 11 per cent, from 186 million (Co<sub>2</sub>e) in 2019 to almost 208 million in 2022. They suggest a “business as usual” (ibid, p. 8) approach will see this rise to 273 million by 2030 – but

that this needs to be cut to less than 100 million. The authors make many recommendations for advertisers and publishers – and news media could easily take them up on working with lower-emissions sectors, as the Guardian has demonstrated with its commitment to rejecting fossil fuel ads (Waterson, 2020). Purpose Disruptors' CEO Jonathan Wise, in a previous guise at The Comms Lab, co-authored a report that suggested “purpose” (Saltmarsh et al, p. 52) become the defining cause of advertising, aiming for “mindful consumerism” (ibid, p. 25).

Finally on governance, Peck et al (2004) urge that: senior committees should work on corporate responsibility “including commercial and political independence” (p. 20); use of external governance codes and advisory groups with stakeholders; articulation and embedding of “values” (ibid); declaring board-level conflicts of interest; and the creation of policies and means to ensure implementation. While some of the above discussion might all suggest limited governance systems, Peck et al (2004) in fact state:

“The problem often isn't so much that these... don't exist... they are not adequately implemented... Steve Rendall, a senior analyst at FAIR [said], ‘in the media industry today you have what companies say about how they behave, how they actually do behave, and how they should behave. The three are entirely different’” (ibid).

This section has dealt with some of the ultimate reasons why brainprint matters aside from any ‘direct’ or ‘indirect’ impacts – perhaps most importantly – the potential role ‘the media’ has in holding other industries to account on these issues. But one of the key issues with all of this literature is that the unit of analysis varies, from the media industry, to media and entertainment, to technology and media companies, and news media, marketing or advertising alone.

News media is the ultimate social structure, or indeed, social mechanism, of interest for this thesis – news media produce, or emit, output, including advertising, though not all content is produced by the news media. But the assumption from this body of work is that this output, including from the news media, and which often includes advertising, has real-world impacts – that must be huge – but which remain reasonably unquantified, and perhaps unquantifiable, at scale.

One key theme in this last section was around trust, though it was not always entirely clear why trust relates to sustainability. It is potentially linked to transparency and accountability in that it is hard to trust those who hold others to account if they are not doing the same. This is a concerning tension, potentially rendering the industry paralysed or powerless. Where concerns about trust are articulated, they can appear as concerns that a lack of trust leads to demand for regulation, which is not portrayed as a good thing for ostensibly 'free' media.

Where external accountability regimes exist, they appear fundamentally challenged, and so debates remain about who exactly watches the watchdogs. Legislation and regulation become more difficult as the media has become increasingly borderless. All of these themes will be taken into the Discussion where the Findings of the research, informed by these issues, will be discussed.

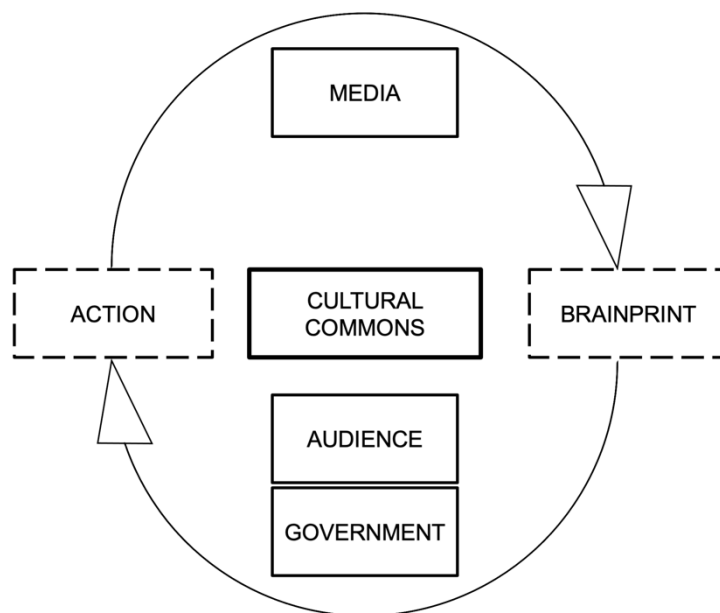
## 2.6 Visualising a cyclical system of brainprint to justify research questions

The last section detailed issues of accountability identified in the literature, relating to the challenges described in the previous section, namely with brainprint definition, and thus responsibility and measurement. Ultimately in the last section this is linked to the role of the media in potentially holding other industries to account, and both trust and accountability issues appear alongside this. But one final thing that is not well-described in the literature, yet may be demonstrated from it, is the cyclical, systems-based nature of cultural emissions and thus potential brainprint. Doing this will help us see the relationship between output and sustainability.

The path of the "news cycle" (Harcup, 2014, p. 201) is well-trodden. It is described by Harcup as "[t]he period of time that elapses before one news story or batch of news stories is replaced by another" (ibid), historically moving in 24-hour print production cycles, but potentially speeding up to the 'deadline is now' as new technologies arrive. We can see this reflects a perhaps understandably *new*-focused, and thus extremely short-term, reading of this idea. Interestingly he says journalists used to observe that audiences would find a story just as journalists were tiring of it.

Taking a far longer and wider view, Lopez (2012) leans on systems theory like that of Wallerstein (2004) as the basis of his thesis on our “cultural commons” (Lopez, 2012, p. 12), seeing media as a living system within our wider social and economic worlds. Here a dependent relationship is made clear in that “the world system at its core is biological and needs energy to run” (ibid, p. 88). He does not offer more detail on how this system works, beyond observing that our “worldview” (ibid, p. 12) influences how the interaction between the natural and the social plays out. To add to this systems theory, we may observe relationships in the literature that appear to show a *cyclical system* in action.

SustainAbility and Ketchum (2002) note media output is often prompted by NGOs or protests but aimed at influencing governments, “which alone have the ultimate power to regulate and enforce” (ibid, p. 29). Though they also note that such output influences audiences, and the media too, as these issues become more mainstream. In Figure 14 we can see a visualisation of this cycle of influence.



**Figure 14: The potential cyclical nature of brainprint within our cultural commons (Incorporating ideas from: SustainAbility and Ketchum, 2002; Lopez, 2012)**

Cesar and Hodgson (2008) note a growing distinction between CSR issues that are important to external groups, “which have received high profile media attention” (Cesar and Hodgson, 200, p. 22), versus those of more concern internally. It is not

made clear which those were, but acknowledging this highlights the impact of the media on the Media CSR Forum’s participants and thus the consultancy process.

Grayson (2009), speaking as an academic in the field of corporate responsibility, highlights something else that is not-yet-well-articulated:

“[The media] ...are in an ambiguous position: they report on business but they are also businesses themselves. Media businesses have a profound impact on markets and societies through their ability to inform, educate, influence and entertain; and through their own content and the advertising they carry, they have a pervasive influence on global patterns of consumption. *As such they are critical to whether the planet achieves sustainable development*” (p. 3, italics in original).

Adding these observations to our previous illustration, we may see in Figure 15:

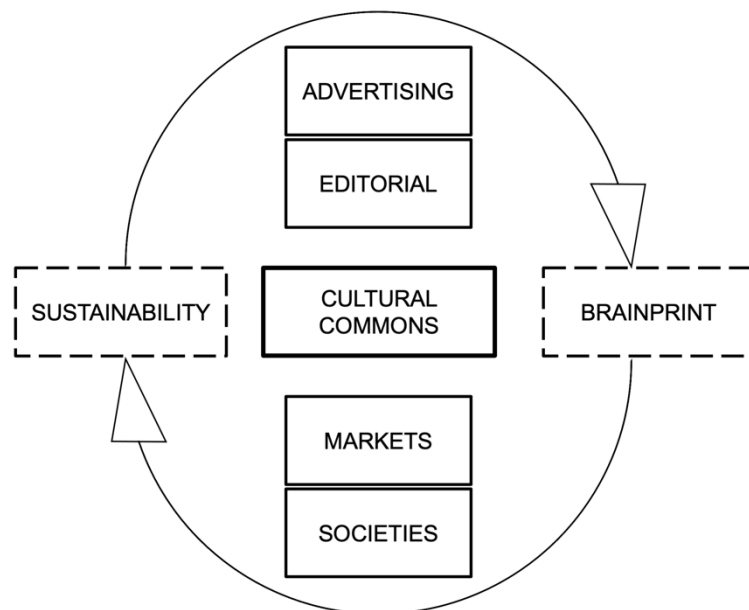


Figure 15: The potential cyclical nature of brainprint within our cultural commons (Incorporating ideas from: Grayson, 2009; Lopez, 2012)

There are a number of difficult issues in Grayson’s observation. Firstly, the challenge of reporting ‘responsibly’ on something that may impact your business – because the media’s brainprint impacts the media. Secondly, brainprint is not just influencing governments or consumer behaviour, it has wide economic influence. Ultimately, as others have argued (Sustainability and Ketchum, 2002; Peck et al, 2004), Grayson

believes the media’s output is vital for achieving sustainability – but responsibility for its power is not routinely accepted, neither is accountability strived for via routine measurement.

Where we may see evidence of this first issue, the challenge of the media reporting on something that influences its own position, is in Responsible Media Forum and Carnstone (2018) where two “new on the radar” (p. 8) CSR issues are reported – “net neutrality” (ibid) and “disinformation (fake news)” (ibid). Both were ‘making the news’ at this time, perhaps mainly because both had potential for impacting the news business. Featherby (as cited in Hodgson et al, 2013) highlights that the media taking responsibility for its brainprint is akin to the banks taking responsibility for “selling unmanageable debt” (p. 4). This notion is similar to “financed emissions” (Dennis et al, 2021), or holding banks responsible for the emissions of the businesses they invest in. Here he seems to be suggesting that the news media’s very product, its output, is the problem. This idea will be revisited again in the Methodology and Findings.

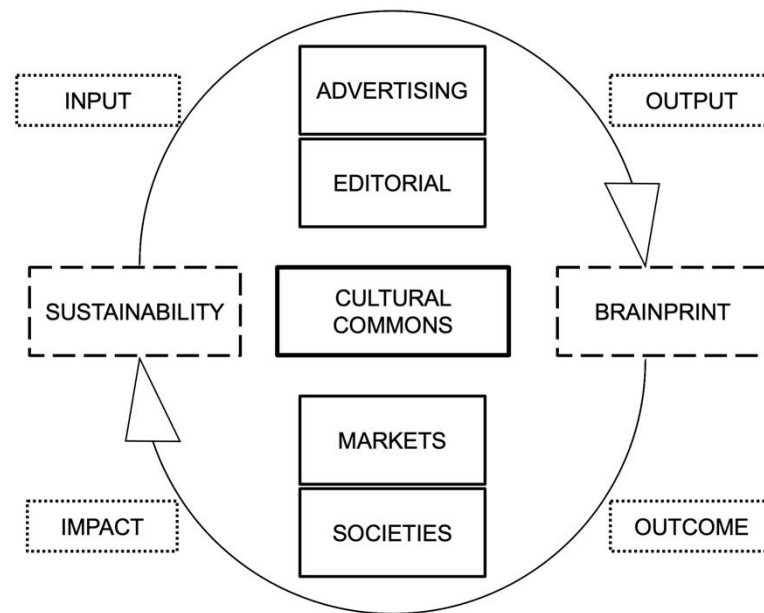
In the first mention in this body of work of what are often called ‘externalities’, unintended negative effects, Featherby (as cited in Hodgson et al, 2013) in fact warns: “... [there are] only feedback loops that have not yet fed back to our children and grandchildren” (p. 4). We have already argued brainprint is likely cyclical. Featherby instructs us to see that these are not just *effects*, but cyclical *impacts*. Speaking to this, Toennesen et al (2013) point to the potential levels of complexity when thinking about measuring output in this way:

Level of complexity	Type of measurement
Easy →	Input
	Output
Complex →	Outcome
	Impact

Figure 16: Potential levels of complexity when measuring content (Based on: Toennesen et al, 2013)

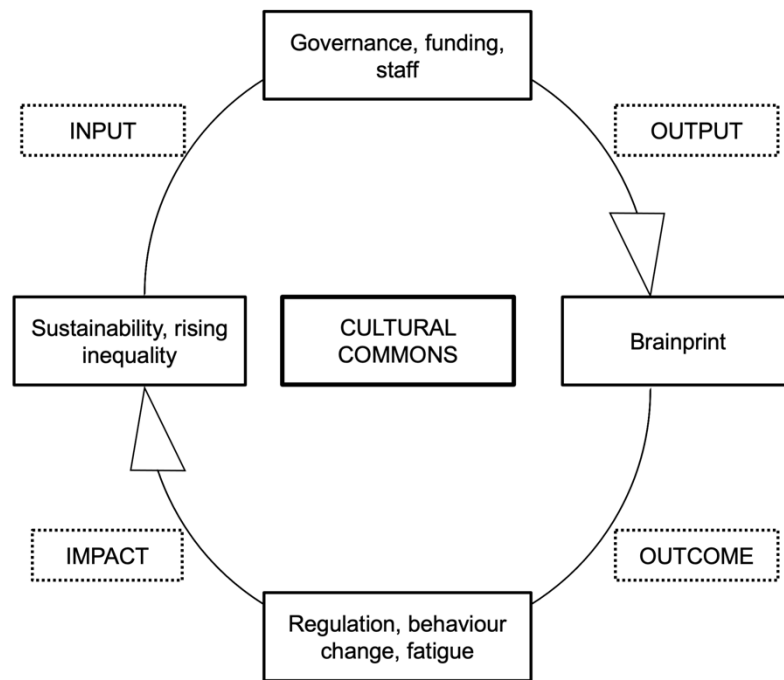
The source of these categories is not referenced, though it may borrow from ‘theory of change’ models (yet omitting ‘outcome’) that evolved out of philanthropy and development initiatives, and have been used to take a systems view (see for example:

Simeone et al, 2023). Or it is perhaps borrowing the widely adopted business goal-setting methodology of Objectives and Key Results (OKRs) (Niven and Lamorte, 2016). Both are typically done to identify a desired goal, working backwards to what would need to happen to achieve it. So it is interesting to consider their use for observing an *impact* or *outcome* that is potentially already happening, so that responsibility might be identified in inputs or outputs. We may deploy these categories to add further insight to the brainprint model in Figure 17:



**Figure 17: The potential cyclical nature of brainprint within our cultural commons (Incorporating ideas from: Toennesen et al, 2013; Lopez, 2012)**

But one thing that is not guaranteed is the *impact* of sustainability. This may be pursued or desired, but it can easily not be, and some in industry continue to question this goal. Brainprint, this thesis argues, is therefore part of a cyclical system but is also values-less – in that, it isn’t necessarily tied to positive sustainability impacts. In fact, Lopez (2012) suggests a choice, based on worldview, between “exploitation or sustainability” (p. 69) which is imagined with various outcomes and impacts in Figure 18.



**Figure 18: The alternative 'worldviews' potentially influencing the cyclical nature of brainprint (Incorporating ideas from: Lopez, 2012)**

Lopez yet presents an opportunity for the media to take control of these problems, “media as remedy” (2012, p. 82). His belief is that we can transition from “conquest, colonization, and consumerism to connection, communication, and consciousness” (p. x), and his book is to some extent the kind of work on media education and media literacy that is called for by Maxwell and Miller (2012, 2017). In ecological terms, Lopez (2012) explains that “remediation is the technical term for restoring landscapes and habitats” (p. 85), and he argues that something of this nature is needed within our cultural commons, specifically our media culture, in order to save the planetary commons on which all depends. Lopez’s thesis presents a powerful articulation of what we might call the ‘potential of brainprint’ – the special power its output has, or may have, to not only inform, but also move people to work together to change the social behaviour that is the ultimate source of environmental harms.

Yet, only the *inputs* and *outputs* of a media organisation are directly, though potentially not entirely, controllable by the media. So, if the media’s output, or cultural emissions, has the potential to move markets and societies, its brainprint, and if all areas of society are expected to control their *impacts* in relation to the environment, this is where the focus – or initial responsibility and accountability – should be. This has to be most pressing because of the suggestion that the impact of the media industry could be larger than extractive industries such as mining – if the contents of the output,

the cultural emissions, and the *outcomes* and *impacts* this results in, its brainprint, are found to be bad for sustainability.

Tensions and issues aside, cultural emissions and their potential brainprint, appear a compelling means of linking what the news media *does* to sustainability – with output ultimately acting as a social mechanism that may have positive, or negative, impacts on the natural world, and social world, too. Given limited measurement of the breadth of what makes up the news media's cultural emissions, weak links made to sustainability, limited consideration of the long-term, and confusion about where economics fits, the research questions are, therefore:

RQ1) How can brainprint be identified in the contents of news-media output?

RQ2) How can this brainprint be related to issues of sustainability?

RQ3) What does this identification reveal about changes in potential brainprint over time in relation to sustainability issues?

RQ4) What does this identification reveal about the influence that different economic structures of news-media organisations may have on brainprint?

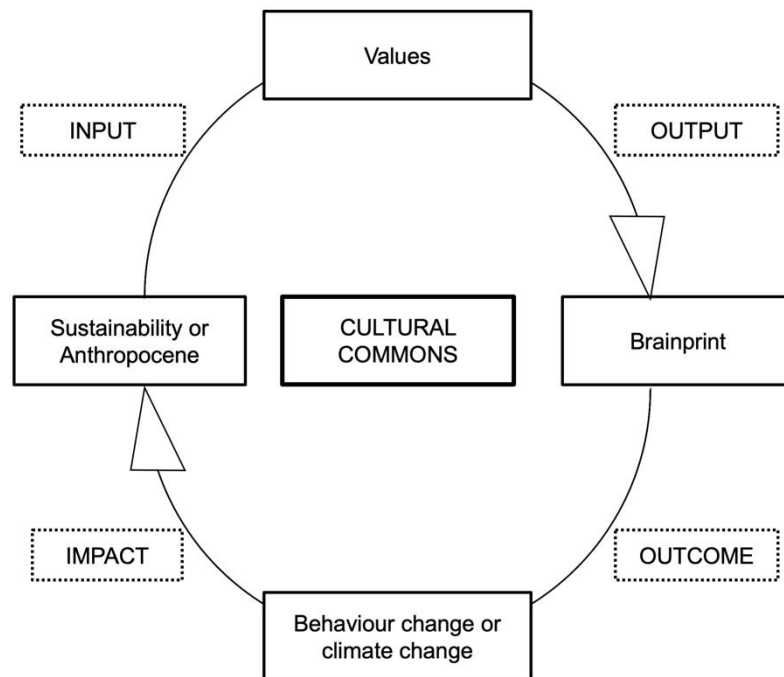
## 3. THEORETICAL FRAMEWORK

### 3.1 Introduction

The literature review attempted a broad, and detailed, look at interdisciplinary research to help us understand the research problem. This is, broadly, that the news media may have huge impacts, called its brainprint, from its output, or cultural emissions, that it is not routinely taking responsibility for. This issue has been particularly linked with potential implications for sustainability.

In order to start addressing the gaps in knowledge that led to the research questions, this integrative theoretical framework necessarily draws together a combination of theories from different disciplines across the natural and social worlds to start to explain some of the theoretical issues in the literature and inform the research approach.

These are broadly: theories of sustainability, theories of the press and theories of values. Building on Figure 18 developed in the final section of the literature review, this conceptual framework attempts to show how these interdisciplinary theories may be linked, and thus how brainprint may be linked to sustainability. Initially, we can see:



**Figure 19: Linking theories of values, theories of the press and theories of sustainability within our cultural commons (Incorporating ideas from: Schwartz, 2012; Siebert et al, 1976; Lopez, 2012)**

The sections in the chapter are intended to offer a mirror to the equivalent-numbered section in the Literature review. This means, in the first section of this chapter, theories of sustainability are highlighted to demonstrate how these may answer concerns about the Anthropocene identified in the literature review. These theories have, however, been poorly applied in general, with ‘the economic’ very often winning ‘trade-offs’ against ‘the environment’ (Barbier, 1987; Daly, 1993; Maxwell and Miller, 2012). This means sustainability is cautiously adopted as a theory.

The next section deploys this sustainability theory to offer a detailed explanation of a theoretical problem found in the literature – about the meaning of materiality. This is mainly that, because corporate (social) responsibility is one of the key theories in the literature on brainprint, and this theory often appears to prioritise financial materiality, sustainability may take a back seat. Materiality, as defined in this thesis, is discussed in the Introduction and the Literature review. One further theoretical issue remains in this section, relating to potentially legitimate concerns about a tension between editorial priorities and the foregrounding of sustainability.

The third section adopts theories of the press to further explain why these problems in the literature have arisen, suggesting that the wide adoption of corporate (social) responsibility may be theoretically at odds with sustainability. The fourth section suggests the use of theories of values to help explain competing theories of the press, including identifying a place for a new theory that recognises environmental limits and social needs. The final section of this chapter revisualises Figure 19 to offer a final theoretical framework in Figure 28 to guide the research design and discussion.

### 3.2 Accepting theories of sustainability

Noting the potential turning point of 1968 identified by Wallerstein (2004) in the literature review, and the bifurcation, or potential choices to be made, leads us to an alternative analysis of where we may yet choose to head. Though the Anthropocene concept provides a compelling theory for how the social world has taken precedence over the natural – and the evidence provided adds weight to this as a ‘best explanation’ that critical realists are keen to pursue – we can also understand from this that it likely cannot continue. It is unsustainable. This section therefore details the origins of the concept of sustainable development, along with its considerable challenges, to help explain the Anthropocene, and instead justifies sustainability as a key theory of this thesis.

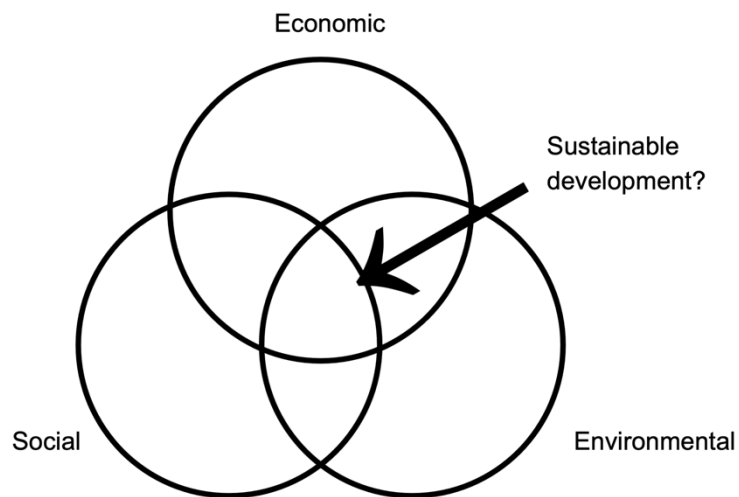
Sustainability is at its core a multi-discipline (Stock and Burton, 2011), systems-level (Robertson, 2017) concept, related ultimately to the survival of our species on the planet we call home. Informing this theory is ‘sustainable development’, and one of the earliest and most widely cited conceptions of this comes from the United Nations’ (UN) 1987 *Our Common Future* report, where it is envisaged that development “meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987, p. 16). What the wide deployment of this conception does is establish some level of global responsibility for both *past* and *future* sustainability. Today we may call this “intergenerational justice” (Stanford Encyclopedia of Philosophy, 2003b, np) yet this is an old idea, captured by Edmund Burke, considered the father of modern conservatism, in the late 1700s, that this, our planet and us, or “[s]ociety is indeed a contract... a partnership not only between those who are living, but between those who are living, those who are dead, and those who are to be born” (Oxford Reference, 2016, np).

Among the first truly global conversations about this started in 1968 at the Intergovernmental Conference of Experts on the Scientific Basis for Rational Use and Conservation of the Resources of the Biosphere, held by the United Nations Educational, Scientific and Cultural Organization (UNESCO, 1968). Here, in 20 recommendations, attendees acknowledged that human activity both rests on and impacts the environment, and recommended the need for research, data, policy and education on its use and protection. This included mandating for the first-ever global environmental conference, to be held in 1972, as the United Nations Conference on the Human Environment.

While neither sustainability, nor indeed, sustainable development are mentioned in the resulting documents from these two events (UNESCO, 1968; United Nations, 1973), both do, no doubt informing Brundtland, reference the need to protect the environment for future generations. Yet they start to paint a confusing picture, where economic and social development are being considered on one hand, and the environment on the other. Similarly, while the word sustainability is used throughout, *Our Common Future* (1987) never actually articulates that achieving sustainable development, or rather, *sustainability*, might ultimately mean balancing (and therefore achievement of) economic sustainability, environmental sustainability and social sustainability (and perhaps further other 'sustainabilities' besides).

Such a conception is often attributed to SustainAbility's John Elkington, whose company also coined the term "brain-print" (Peck et al, 2004, p. 4). Writing in response to Brundtland in 1994, he equates this balancing to "people, planet, profit" (Elkington, 2023, np) – or eventually the "triple bottom line" (TBL) (1997, p. vii). Alarming, we can see in Elkington's first conceptualisation that, compared to his relatively neutral framing of the social and environmental, he explicitly bakes in the idea of economic 'profit'. Similarly, his latter conceptualisation visualises the planet as something akin to monetary value on a large balance sheet – which may be as dangerous as it is useful.

The idea of "three combined pillars" (Elliot, 2013, p. viii) is now broadly accepted, but before this, it was actually economist Edward Barbier (1987) who is credited with visualising the three overlapping spheres that perhaps best summarise the goals, or challenges, of work in this area.



**Figure 20: sustainable development (Barbier, 1987)**

Though his work was produced at the same time as Brundtland, Barbier seems to have been overshadowed, yet it is perhaps more vital. He notes the need for definition of what he observes as an “ongoing process” (p. 101) with multiple aspects, meaning agreement of some definition had often been attempted at the expense of being either operational or measurable. He visualises these three areas of sustainability, and observes the challenges between them, in fact noting this is in effect a “*process of trade-offs*” (ibid, p. 104, italics in original) where one may not be able to achieve success in all three simultaneously. He notes that mainstream economics is only typically interested in the economic area, along with the potential incompatibility of achieving something like “increased productivity... [without] environmental degradation” (ibid, p. 103).

Brundtland’s (1987) work particularly informs efforts being made to achieve the UN’s 17 Sustainable Development Goals (SDGs) (United Nations, 2015a) today. These ideas therefore have incredible reach, including within journalism scholarship. But a literature search in key media journals<sup>1</sup> found where ‘sustainable development’ is

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<sup>1</sup> Convergence; Digital Journalism; Information, Communication and Society; Journal of Media Business Studies; Journal of Media Innovation; International Journalism and Media Management; Journalism; Journalism Practice; Journalism Studies; New Media and Society, The Communication Review (Accessed: January, 2020)

discussed, the work is more often about the economic or social pillars, or, is assessing how the concept is applied within global development. And, there remains general debate about its effectiveness (see for example: Robertson, 2017; Meadows et al, 2009; Fahy and Rau, 2013).

Critics across disciplines see particular problems where the term 'development' appears to be substituted for 'growth'. "Development is qualitative; it means an improvement in the quality of goods and services, with or without growth" Robertson (2017, p. 54) explains. "Sustainable development involves an increase in quality without a quantitative growth in consumption or production. Sustainable growth is physically impossible because the biosphere is finite" (ibid) she adds. Paul Wachtel (2016) revisited his provocatively titled work *The Poverty of Affluence* first published in 1983 and said that still-mainstream economic thinking focuses reasonably singly on growth and that this doesn't have a strong relationship to people being able to live a fulfilling life. "It pays more attention... to *how much* is produced than to *what* is produced, to whom it mostly goes, and whether it actually makes us better off" (p. 6). In the field of journalism, but writing more generally, Maxwell and Miller (2012) find similar concerns where "quantitative economic development overtakes other concerns" (p. 118), calling 'sustainable growth' a "bad oxymoron" (ibid, p. 31) and adding that at its weakest it is "little more than 'sustainable' capitalism" (ibid, p. 118).

Economic growth is usually measured using Gross Domestic Product (GDP), something that Robert Kennedy famously, in 1968, said measures everything "except that which makes life worthwhile" (np). In *Prosperity Without Growth* (2017), Tim Jackson is, alarmingly, able to highlight that for every percentage point increase in GDP, our global targets for reductions in greenhouse-gas emissions get further away. First published in 2010, his book started as an inquiry for the UK government under Gordon Brown called the UK Sustainable Development Commission – to interrogate the relationship between "growth and sustainability" (p. xxvi). Yet, the launch of its findings came at the time of the second-ever G20 meeting of the richest nations, in London, following the financial crash, the aim of which was, according to one advisor "to kick-start growth again" (ibid, p. xxviii). In Jackson (2021) he recalls another alarming conversation, where whatever the evidence, a UK Treasury official suggested the potential embarrassment of slipping down the world rankings would prevent them from reconsidering GDP. And yet still, although it is one of the most widely used global metrics for national progress, it fails to take pollution into account

in the production of goods and services. Then follows a situation where this can be counted towards national income if it is sold or cleaned up later (Robertson, 2017).

We have actually known about the “limits to growth” (Meadows et al, 2009, p. i), related to our growing human impact on our finite planet, for at least half a century. The text of the same name was first published in 1972, commissioned by the Club of Rome alongside the World3 computer simulation model. It showed very plainly that the environmental impacts of humans could not increase beyond the “carrying capacity of the Earth” (ibid, p. xv) – if the number of Earths remained constant – *at one*. Bonneuil and Fressoz (2017) in fact observe that issues of ‘limits’ were “swept under the carpet by the new watchword of ‘sustainable development’” (p. 23). Indeed, they see limits to our knowledge as a real danger, with the simplicity of this idea betraying the complexity of the systems it may seek to balance.

Writing his latest book during the COVID-19 pandemic, Jackson (2021) demonstrates how changes to our lives made at this time, “where the ideologies of capitalism were set aside” (p. 149), show that major lifestyle shifts could be made right now. One assumption of this ideology that he observes is the “myth of growth” (ibid, p. 3), in that, because profit is the motivation of capital, versus wages or labour, a key focus for growing profits is to increase labour productivity, or reduce the cost per hour worked. But because labour productivity peaked in the UK – in 1968, and likely only made possible by the availability of ‘cheap’ fossil fuels – this can only happen now via ‘growth’ of people working, or of working hours, or by finding cheaper labour elsewhere. And, if we are no longer able to reduce working hours, akin to raising living standards or promised time for “leisure” (Watchel, 2016, p. 232; Lewis, 2013, p. 4), then we are already in “a postgrowth world” (Jackson, 2021, p. 19).

Jackson also highlights the “limits to decoupling” (ibid, p. 150), where efforts are being made to detach growth from material impacts, and the “paradox of happiness” (ibid), where increases in some people’s material wealth isn’t improving wellbeing. He previously urged us to see that “more can sometimes be less” (2017, p. 51). And ultimately argues for an economy that refocuses on low productivity and low impact work, in “care, craft and culture” (ibid, p. 147). Schumacher (1975) would also add a reimagining of how we use and care for the land, ultimately representing work in our food system, to this list. Jackson (2021) implores that growth:

“... has failed us. It has failed the 3 billion people who still live on little more than the price of a skinny latte... It has failed the fragile ecological systems on which we depend for survival. It has failed, spectacularly, in its own terms, to provide economic stability and secure people's livelihoods” (p. 21).

Given such systemic issues, or indeed, our “systemic crisis” (Wallerstein, 2004, p. 76), that the Sustainable Development Goals are *so-called*, and they enshrine ‘economic growth’ in Global Goal 8 (United Nations, 2015a), raises important questions about this approach. Not least because the trade-offs noted by Barbier (1987) appear to only be made in one direction.

In the special IPCC report (2018) that warned us we had 12 years to act to keep global temperature rises to ‘liveable’ levels, they do note that the SDGs, taking on from the Millennium Development Goals (1990-2015), had reduced “overall poverty and hunger... infant mortality... [and improved] access to drinking water” (p. 74). Though they simultaneously warn that during this time “greenhouse gas emissions increased by more than 50%” (ibid). This means, close to half of all emissions since the industrial revolution have happened *since* the first IPCC report in 1990 (Chancel et al, 2022). And yet, more than 1.5 billion still live in extreme poverty, reminding us that while ‘development’ may be happening, many still have very little, and much relies on gaping and growing inequalities (IPCC, 2018).

Further to this, Eide and Kunelius, who study climate communication, acknowledge that some question the “whole notion of development... without genuinely addressing global and historical structural inequalities” (2012, p. 14). Wallerstein (2004) similarly criticises such notions, fleshed out as they were after 1945, as a means for explaining why some countries were ‘ahead’ of others, while suggesting there was a natural progression towards living standards of the United States. On top of concerns about growth, Lewis (2013) highlights further problems in relation to economics and the environment, in that the World Bank in 2012 saw that disposing of waste was becoming a big financial burden, and that the UK government's Stern Review called climate change the “greatest market failure the world has ever seen” (2006, p. viii).

Yet, the notion of sustainability is not in itself a poor one – it is just not necessarily, and likely should not be – tied to growth. Herman Daly (1993), an ecological economist, put forward the Index of Sustainable Economic Welfare as an alternative

to GDP. Daly explains in his “steady-state economics” (p. 811) or “‘full world’ economics” (ibid, p. 814) thesis, written while he was a senior economist at the World Bank, the existence of the closed system of the Earth, which only takes in energy and not matter, while the economy is an “open subsystem” (ibid.) that both takes in and releases energy and matter.

Daly (1993) suggests traditional economics sees the economy as a standalone system of which the environment is a sector for use that “has no relation with its environment, and for all practical purposes has no environment” (1993, p. 813) and is therefore “useless for studying the relation of the economy and the environment” (ibid). He points to the utter dependence of the social on the natural, using the example of the uselessness of fishing boats without fish, and even the additional requirements of sun, nutrients and more, even if we own a commercial fishing pond.

Although this kind of resource use may be sustainable in the short term, eventually, he suggests, as a subsystem of the Earth ecosystem, which cannot grow, the economy “must at some scale adapt itself to this same pattern of ‘development without growth’ – which is what should be understood by the popular term ‘sustainable development’” (ibid). “The economy may continue to develop qualitatively without growing quantitatively, just as the planet Earth does, but it cannot continue to grow – in other words, beyond some point it must approximate a steady state in its physical dimensions” (ibid, p. 814) he adds. Thus:

“An economy in sustainable development... is one whose scale (... resource throughput, equal to population times per capita resource use) remains constant at a level that neither depletes the environment beyond its regenerative capacity nor pollutes it beyond its absorptive capacity... The nongrowing economy is not static – it is being continually maintained and renewed as a steady-state subsystem in dynamic equilibrium with its environment” (ibid).

In establishing his idea, he suggests we need to establish how big the steady-state economy is – how big it could be and how big it should be. He suggests the answers to these questions cannot be found in standard, growth-based economics. Daly argues there is an “optimal scale” (ibid, p. 815) of the economy, after which the costs outweigh the benefits. As others across disciplines have argued before and since

(Meadows et al, 2009; Maxwell and Miller, 2012), Daly (1993) suggests the very question is whether growth, which may be used to pay to repair the environment or alleviate poverty, is actually the thing that is making us poorer – what he calls “antieconomic growth” (p. 816).

In their work on attempting to add social sustainability measures to environmental ones, particularly for companies, McElroy et al (2008) build on Daly’s work, highlighting in sum that environmental sustainability means we:

- cannot use renewable resources faster than they are renewed
- cannot use non-renewable resources faster than new renewables can be created
- cannot add more pollution more quickly than it can be absorbed

They then use the “capitals-based theory” (p. 226), or “non-financial capital” (ibid) as a basis for understanding what impact companies have on the world around them. To the above, somewhat distastefully called “natural (or ecological) capital” (p. 227) they add “human capital, social capital... and built... capital” (p. 227). Thus, the social and natural “commons” (Ostrom, 1990, p.1) which can be identified by combining Daly (1993) and McElroy (2008) are:

Social:

- Individuals
- Institutions
- Infrastructure

Natural:

- Renewable nature
- Non-renewable nature
- Pollution

But they also emphasise that for environmental sustainability, because there is a limited share of resources, companies should be looking to *use no more* than their share, while social sustainability is additive, so companies should be looking to *produce more* than their share. They in fact suggest a binary view of sustainability –

*sustainable or not* – as a better view than relative sustainability. They also criticise metrics like the GRI (2013), mentioned in the literature review on brainprint, because the reporting requirements at the time lacked context – because sustainability can only be determined in relation to what is in the world.

Though there is still work to be done on operationalising sustainability, some of which will be clarified in the final section, Jackson (2017) implores that:

“Prosperity for the few founded on ecological destruction and persistent social injustice is no foundation for a civilised society. Economic stability is vital. Protecting people’s jobs – and creating new ones – is absolutely essential. But we also stand in urgent need of a renewed sense of shared prosperity. A deeper commitment to justice in a finite world” (p. 22).

Much like Wallerstein (2004) and Bonneuil and Fressoz (2017), Jackson calls for “a new foundational myth” (2021, p. 33) or a new “core sustaining narrative” (p. 3), which he terms a “a postgrowth narrative” (ibid). We can credibly consider here what role the media has, or should have, to construct such “credible alternatives... [because] this is a profoundly social [task]... to nurture communities of meaning” (2017, p. 218). Jackson finally adds that we “can’t change ecological limits... But we can and do create and recreate the social world. Its norms are our norms. Its visions are our visions. Its structures and institutions shape and are shaped by our norms and visions. This is where transformation is needed” (ibid, p. 211). What Jackson (2021) calls a new core sustaining narrative, we may humbly argue, may be supported by a theory of the press – which is developed fully in the following sections of this chapter.

In sum from this section, we can theorise that activities that are ‘sustainable’ may be socially free – adding to the stock of social capital – but must be more economically controlled, which at its most basic means not depleting natural resources faster than they can be replaced. Though, we must also remember that social activities have environmental impacts. There is also lots of evidence to suggest there must be a switch of focus from growth of the economy towards other notions of ‘prosperity’.

This theory informs the research approach in that we can look at news-media content for evidence of issues with balancing the economic, the environmental and the social. This is required because many of the studies already detailed in the literature review

lacked real engagement with all three aspects of sustainability – and indeed – a means to measure it. Sustainability will be picked up again in the final section, where some of the most comprehensive interdisciplinary work on this will ultimately be used to highlight a “*safe and just*” (Raworth, 2012, p. 1, italics in original) approach for the news media.

Before that, the next section highlights the lack of relationship between the main brainprint approach outlined in the literature review (Hodgson et al, 2013; Responsible Media Forum and Carnstone Partners, 2018) and theories of sustainability. This includes a questionable reading of the concept of materiality – which may explain a number of perverse conclusions relating to what has been prioritised instead.

### 3.3 Using the theory of sustainability to highlight problems in the industry literature

The literature review showed that the media industry (see: [Appendix 1](#)) at large is cognisant of the potential influence its content has on sustainability. We in fact got a sense that the concept of brainprint was inherently linked to the theory of sustainability. It has, after all, been developed by those working in CSR, and very often sustainability is considered a part of this (Hodgson et al, 2013; Responsible Media Forum and Carnstone Partners, 2018). However, much of this work is actually poorly related to this theory. This means it contains a number of theoretical issues that will be clarified now. These are with the meaning of materiality, and with a tension between editorial and sustainability concerns. Below the work of the Media CSR Forum, which became the Responsible Media Forum, will be explored again in detail to highlight these theoretical issues.

#### *Challenging social responsibility theories*

Materiality, as outlined in the introduction, recognises that activities in the social world have a real impact on the natural world, and social world too. But the word materiality can be given a specific economic meaning ultimately determining ‘what matters’ – and therefore what may be done. This offers an extremely limited view of the world, where ‘things’ are there for what Lopez (2012) may call “exploitation” (p. 69), and meaning only things that have the potential for short-term economic impact matter. As a result,

issues of sustainability have often not been identified as a priority, despite the literature regularly making reference to this term – and this approach likely falls into the ‘economics wins’ issue outlined in the previous section.

The Media CSR Forum, which later became the Responsible Media Forum, started considering materiality explicitly in 2008, “understood as the consideration of the significance of a particular issue” (Ceasar and Hodgson, 2008, p. 22). They had previously worked with stakeholders to identify five priority CSR issues for the industry (Media CSR Forum and KPMG, 2005). These initial priorities identified in the literature review (Table 1) are likely reasonably uncontroversial in the news media – and many remain throughout the years of this study (Ceasar and Hodgson, 2008; Hodgson et al, 2013; Responsible Media Forum and Carnstone Partners, 2018).

Though the Media CSR Forum and KPMG (2005) commentary explained that issues related to the *impact of content* were of utmost concern to their stakeholders – who also recognised this could be potentially positive or negative – this was not initially prioritised. The Media CSR Forum and KPMG were at this early stage suggesting media companies *should* promote issues of sustainability, as well as separately considering the impacts of their content, alongside advocating for responsible advertising. All the while urging the need to remain impartial – a key tension that will be further explored here.

Ceasar and Hodgson (2008) list promoting sustainability issues as a priority, a separate issue from the newly identified issue relating to climate change, and again, separately from awareness of content impacts and responsible advertising. In fact, the advertising industry was at this time positioned as the correct place for sustainability messages – in order to overcome concerns about impartiality.

Another tension becomes clear, when Featherby (as cited in Hodgson et al, 2013) emphasises explicitly that this report considers “the extent to which these issues matter to the media industry, and therefore to its investors, from a financial perspective” (p. 4). He quickly concludes that from his vantage point, they largely do not and in fact argues that: “History is clear that societies flourish when they have institutions that contribute to individual and communal wellbeing, and that they suffer when they have institutions primarily focused on the extraction of financial value” (ibid). Which makes the framing of this report particularly jarring.

The rest of the report is written by Hodgson et al (2013) and builds again on the Media CSR Forum and KPMG (2005) and Ceasar and Hodgson (2008) mapping. But, demonstrating this economic lens, priorities are defined as:

Material	Strategic	Operational
"... Financially significant over the short to medium term, i.e. It has the potential to affect a key financial indicator, e.g. Profits or revenue, by around five per cent or more within a two-year time period"	"... has the potential to significantly affect the ability of the company to deliver its strategy in the medium to long term"	"matters for other reasons – internal, reputational, efficiency – but is neither material nor strategic. Under normal circumstances, it does not represent a significant threat to the company"

**Table 3: Priorities of the Media CSR Forum, demonstrating an 'economic lens' (Hodgson et al, 2013, p. 5)**

Pointing back to Featherby's foreword, the authors acknowledge a number of issues "arguably of great importance to society" (ibid) are unlikely to register as material using this frame. Hodgson et al (2013) note that many issues considered "unique" (Media CSR Forum and KPMG, 2005, p. 3) to the media industry, such as "diversity of output" (Hodgson et al, 2013, p. 10), "freedom of expression" (ibid) and "impartial and balanced output" (ibid) are "essential in democratic societies" (ibid), but are largely 'operational' and "do not matter materially to a media company's business performance. There are few mechanisms that will increase or deny revenues in general to companies based on these factors" (ibid). They argue these only become 'strategic' if the company is considered public-service media, or is targeting specific international markets, not least if those are markets without freedom of expression, which could jeopardise their local market reputation. They also emphasise that it is ultimately up to companies to prioritise and manage these concerns.

"Responsible advertising" (ibid) is moved from the 'distinct' to the 'unique' category, is considered 'operational', and borrows Ceasar and Hodgson's definition (2008) highlighted in the literature review (see: [Appendix 1](#)). This time, Hodgson et al, (2013) reassure their readers here that: "[t]here is little or no evidence of any company being punished for advertising that conflicts with wider social standards as long as it is

legally compliant with national codes” (ibid). We have already explored the limitations of such codes in the literature review.

This issue is linked to a new category, split out from the 2008 category of ‘compliance’, which is now “[l]egal compliance – editorial” (ibid, p. 9). This is another ‘unique’ issue and considered material if a breach results in fines or reputational damage. Linked to this is “transparent and responsible editorial policies” (ibid), which are ‘unique’ and ‘strategic’ if “[m]edia companies producing factual content rely on the (perceived) accuracy of that content for their market advantage. The closer the content gets to entertainment – particularly fictional entertainment – the less strategic this topic becomes” (ibid). Here we are getting a sense of a potential expectation of accuracy for news media – if only for competitive reasons.

“Awareness of the impact of communication” (ibid, p. 11) is now somewhat defined: “Arguably, the biggest social and environmental impact of media is through its content, i.e. the residual influence of output on audiences” (ibid). It too is considered ‘operational’, largely because, the authors explain, understanding and measuring this “is fearsomely complex” (ibid), but they urge that this will eventually become part of the “regulatory and social license (sic) to operate” (ibid). Indeed, it will only become a ‘strategic’ concern, they admit, “when society develops mechanisms to hold companies to account” (ibid). The above definition fails to acknowledge the economic source of environmental issues. It also demonstrates that they believe the industry should be held to account for this – but at present it cannot be.

Further, “promotion of causes... [and] sustainable development” (ibid, p. 13), the latter exemplified with the definition that “[s]takeholders believe media companies should encourage individuals/citizens to achieve sustainability goals and minimise negative impacts” (ibid) have ‘distinct’ implications for the sector and are ‘operational’ only. We can see here that “media companies should” (2008, p. 12) has now been prefaced with ‘stakeholders believe...’, appearing to water down the responsibility, if it is something only believed to be necessary by external groups. Hodgson et al (2013) acknowledge that: “There may be a great benefit to society from the media’s promotion of social causes, sustainable development or citizenship in general, but with the exception of some niche elements of the market, there is currently little commercial or strategic advantage from doing so” (p. 13). This exemplifies the problem with looking at things only in narrow economic terms.

The *Media Materiality Report* (Responsible Media Forum and Carnstone, 2018) builds neatly on the structure set out in 2013. The list of key issues was updated through desk research, one-to-one conversations and a stakeholder event to help with prioritisation (see: Appendix for list of members and Media CSR issues). Given that the report still suggests there is work to do on footprint, it is interesting that environmental management has been 'downgraded' to 'operational', apart from those reliant on printing. Though we may also observe that this was 'operational' in the previous analysis too (Hodgson et al, 2013, p. 14) – and they do not yet note digital impacts.

Responsible Media Forum and Carnstone (2018) state that many companies have had success in reducing their footprint, as well as several launching environmental content campaigns – though we may yet wonder if this is all that brainprint is. But, more tellingly, while acknowledging action on this as a “proxy for good governance” (p. 16), investors were not found to see it as a risk or opportunity, and consumers were not challenging companies on this. “That said, regulatory pressures and government commitments, particularly in light of the Paris Agreement, will require media companies to *'run to stand still'* to manage,” (ibid) they add. Though, oddly unrelated to this, climate change is similarly 'operational' and is not updated from 2013.

Given that environmental action is observed as evidence of good governance, it is unusual that this isn't connected to the strategic issue of “corporate governance” (ibid, p. 24) where they suggest bad practice *can* impact access to finance, if not the views of the public. This year, they note “[r]ecent examples have seen more systematic scrutiny of corporate governance practice and even divestment from media investors” (ibid), though they do not evidence this.

Where issues related to content and sustainability are referred to, still called “Promotion of sustainable development” (ibid, p. 23), the Responsible Media Forum and Carnstone see no commercial incentive for tackling this. “Awareness of the impacts of communication” (ibid, p. 21) remains complex and without “consensus yet on what is best practice” (ibid) but they reiterate that this will become part of the “social licence to operate” (ibid) as soon as relevant mechanisms are developed by society. It is not clear who in society would take this lead.

Looking at the longstanding issue of “Transparent and responsible editorial policies” (ibid, p. 20), they state that financial analysts are starting to request evidence “of editorial quality and integrity, e.g. guidelines, policies and training” (ibid). Given the economic lens already discussed, we can see how issues become ‘more material’, as this is upgraded to ‘strategic’. Further, on legal compliance relating to editorial, they now state that: “Breaches of compliance in the editorial sphere can lead to material fines, serious reputational damage, onerous increases in editorial control arrangements and even the closure of titles” (ibid, p. 19). This therefore remains a ‘material’ concern.

“Responsible advertising” (ibid, p. 15) was one of three issues ‘upgraded’ this year, from ‘operational’ to ‘strategic’, largely due to the rise of online ads, particularly growing use of data and risks to privacy. They observe FMCG companies moving their money away from online for this reason. The authors suggest that issues about advertising content, such as “promoting gas-guzzling SUVs” (ibid), have largely been dealt with, yet this is the first mention in this report series. This issue has certainly not been connected directly to the environmental issues listed, but mention of SUVs, at very least, demonstrates a general consciousness of the environmental impact of consumption prompted by advertising. The Department for Transport found in 2020 that, despite a 22 per cent increase in traffic, car emissions had dropped five per cent since 1990 because of vehicles becoming more efficient, but progress has stalled since 2016 because of the huge increase in SUV car sales – representing one in five cars sold in 2019 (DfT, 2020).

Interestingly, the Responsible Media Forum and Carnstone (2018) also note the work of Stop Funding Hate, which had put pressure on Lego, the Body Shop and NatWest to stop spending money with particular new media titles. “Advertising and advertisers are also under increased scrutiny from consumers” (p. 15), they suggest, about where such advertisers spend their money. This goes beyond the scope of this thesis, but demonstrates an interesting effort to influence the media’s biggest customer, advertisers (Henriques, 2007), thus potentially creating an economic incentive to change editorial content. That news media is considered the ‘bad guy’ here should be alarming. Finally on ads, they note that “around one fifth of British adults online are using an ad blocker” (Responsible Media Forum and Carnstone, 2018, p. 15) but do not reflect on why. Perhaps we may start to consider that if people don’t like ads, they harm experiences of news and websites (Yan et al, 2022), and consumption

supported by ads likely adds to the destruction of the planet, why wouldn't the industry consider an alternative?

Two interacting diversity issues, of staff and content, are both upgraded from mainly 'operational' to 'material' issues – ostensibly due to new regulations, but with reference to #MeToo. They explain: "The media sector is doubly exposed to these winds of change as a major employer (shared with all sectors) and a societal custodian of what appears on screen, in print, etc. (unique to the sector). Both D&I challenges have the potential to significantly impact financial KPIs within companies across the full spectrum of the media sector" (Responsible Media Forum and Carnstone, 2018, p. 13).

In 2013, diversity was called a "moral issue" (Hodgson et al, 2013, p. 15) that also had the potential to impact on finances, not least if companies are particularly looking to grow in relevant markets. But the Responsible Media Forum and Carnstone (2018) readjust their thinking: "Workplace D&I is *not just* a moral issue but a serious social and economic cost/opportunity. It affects... [the] talent pipeline, innovation capacity and customer engagement. With increased scrutiny from regulators, investors and employees combined with an ever-growing number of industries competing for the same pool of digital talent, this challenge will continue to grow" (2018, p. 23, italics added). It is becoming clear that 'moral issues', which may ultimately be classed as social issues, do not matter much until they demonstrably impact the bottom line.

Taking those issues that the Responsible Media Forum considers 'unique' or 'distinct' to the industry, we can start to see something interesting:

<b>'Unique' and 'distinct' media CSR issues (2018)</b>		
<i>MATERIAL?</i>		<i>IMMATERIAL?</i>
<b>LEGAL-FINANCIAL PRIORITIES</b>	<b>EDITORIAL PRIORITIES</b>	<b>SOCIAL-ENVIRONMENTAL PRIORITIES</b>
DIVERSITY OF OUTPUT	CREATIVE INDEPENDENCE	AWARENESS OF THE IMPACT OF COMMUNICATION
PRIVACY AND DATA PROTECTION	FREEDOM OF EXPRESSION	PROMOTION OF CAUSES
IP AND COPYRIGHT	IMPARTIAL AND BALANCED OUTPUT	CITIZENSHIP
EDITORIAL COMPLIANCE	MEDIA LITERACY	HUMAN RIGHTS
RESPONSIBLE ADVERTISING	PLURALITY	EDUCATION
WORKPLACE DIVERSITY AND INCLUSION	TRANSPARENT AND RESPONSIBLE EDITORIAL POLICY	PROMOTION OF SUSTAINABLE DEVELOPMENT

**Table 4: Priorities of the Responsible Media Forum and Carnstone (2018) demonstrating an 'economic lens'**

Those CSR issues considered 'material' or of highest priority relate mainly to legal or compliance issues that ultimately come with a financial penalty. Those in the middle mainly relate to editorial concerns, and those towards the right, the lowest priority, to what we may consider wider social or environmental issues.

Summarised as such, we may see clearly perhaps the greatest tension found within this body of work. Those issues that are broadly a priority, when using an economic lens, as these reports do, are legal-financial issues. Second, broadly labelled 'strategic', are editorial priorities, many of which may not be prioritised because they do not in fact have an effect on the bottom line. Last are social and environmental priorities, which are ultimately not prioritised, and are also highlighted by many observers as in direct contradiction with editorial priorities. We might therefore surmise that companies will do little more than what they are legally obliged to do, particularly if it is perceived to interfere with editorial principles.

### *Challenging economic materiality*

The Responsible Media Forum's latest *Media Materiality* report (Witte et al, 2022) is suggested to be built upon its previous work, not least the 2018 report of the same name. It was done via desk-based research, and industry and sustainability interviews. This was then refined at a Mirrors and Movers conference in 2021. And yet, or so, this analysis departs from that seen previously – explained by the authors, in the shadow of COVID-19, because these are:

“not normal times. As sustainability has entered the mainstream, companies... face more expectations... around how they manage their impacts on society. We believe that is why many issues have become more important or are newly on the radar, while almost no issues have become less important” (p. 8).

In the foreword from Nathan Fabian, Chief Responsible Investment Officer at the United Nations Principles for Responsible Investment, he offers a good attempt at a definition of what was called “Awareness of the impact of communication” (2013, p.11; 2018, p. 21), but is now labelled as “Responsible content” (Fabian as cited in Witte et al, 2022, p. 5). This new conception was also mentioned by Toennesen (2017, p. 61) and Towe et al (2020, p.20) but not defined. Fabian (as cited in Witte et al, 2022) states that: “Clearly, the biggest opportunity lies... [with] how media companies govern the content they produce and ensure it has a positive impact on peoples’ lives and the world at large” (p. 5). He restates that brainprint is bigger than footprint, with too little focus on the latter, “although we do not know exactly how much larger as we lack the approaches and tools to measure the brainprint accurately” (ibid). Ultimately he argues:

“Resilient, democratic societies rely on healthy media ecosystems... Without access to high-quality media, there is no access to high-quality information... [it] plays a crucial role in helping citizens decide who to vote for, consumers decide who to buy from, and investors decide who to invest in. No sector has more cultural relevance than media, and therefore the *material* sustainability issues... should be of paramount interest to [all]... ” (ibid, italics added).

Of course, this depends on what we mean by material. The rest of the report is written by Witte et al (2022), though they thank contributors (see: [Appendix 1](#)). Interestingly, as with previous reports, they state that their definition of materiality is economic, but this time claim “this does not mean that issues which are of great importance to

society are excluded – as a matter of fact, we believe there has been a lack of financial quantification of sustainability/ESG risks and opportunities, but this is quickly changing following the implementation of frameworks such as the Task Force on Climate-related Financial Disclosures” (p. 6).

The Task Force on Climate-Related Financial Disclosures was set up by the intergovernmental Financial Stability Board on behalf of G20 finance ministers (IFRS, 2024) to lead the private sector on corporate risk and climate change. It was headed by media tycoon Michael Bloomberg – who is worth more than \$100bn (Forbes, 2024, np) – no doubt a high-emissions media billionaire (Khalfan et al, 2023). As of 2024, the organisation was merged into the International Sustainability Standards Board (ISSB), which was formed by the International Financial Reporting Standards Foundation (IFRS) in 2021 (IFRS, 2024). We may yet make a judgement on this initiative – but the claim about now being able to financially account for such issues represents an incredible turnaround from previous reports (Hodgson et al, 2013; Responsible Media Forum and Carnstone Partners, 2018).

Witte et al (2022) restate the ‘material’, ‘strategic’ and ‘operational’ categories – but also add “emerging” (p. 7) as “an issue that is not yet widely on the radar of a company or its stakeholders, but is increasing in importance and expected to become a material or strategic issue within the next two years” (ibid). Now, ‘strategic’ issues can be seen as those that have high “importance to stakeholders” (ibid, p. 8), ‘emerging’ issues are those with high potential “impact on the media” (ibid), visualised below:

Importance to stakeholders ->	Strategic	Material
	Operational	Emerging
Impact on media ->		

Figure 21: A new visual framework from the Responsible Media Forum on material, 'strategic', 'operational' and now 'emerging' media CSR issues (Based on Witte et al, 2022)

They note that since the last report, “fake news” (ibid, p. 8) and “net neutrality” (ibid) have gone from the (news) agenda, while they suggest, prompted by the COVID-19 pandemic, climate change is now a leading issue, along with the “standing issues of responsible content and diversity, equity and inclusion” (ibid).

This time, five key ‘content’ issues are lost because they now all come under ‘responsible content’, previously called “Awareness of the impacts of communication” (Responsible Media Forum and Carnstone, 2018, p. 17). This is identified as “arguably the media’s biggest specific sustainability issue” (Witte et al, 2022, p. 10), but is considered to present opportunities. In sum, it now suggested:

<b>‘Responsible content’ includes:</b>
Charitable issues promoted
Creative independence
Impartial and balanced output
Legal compliance – editorial
Transparent and responsible editorial policy

Table 5: ‘Responsible content’ (Based on Witte et al, 2022) now the media’s biggest sustainability issue and absorbing other previously key CSR issues

This now appears as one of the top two ‘material’ issues, identified as being both important to stakeholders and with high potential impact on the media – though they emphasise particular constraints on this for public-service broadcasters – notably

“expectations on objectivity” (p. 10). This contrasts with Towe et al (2020) who noted greater moves among broadcasters *because* they had regulatory obligations. This is not a focus of this thesis but is worthy of further clarification. Freedom of expression was also supposed to have been merged here but continues to appear among the list of seven issues ‘upgraded’ this time. Reflecting on this change, they explain:

“As preservation of the natural moves to the forefront, media has another opportunity to ensure a healthy future for people and planet. With this opportunity, though, comes responsibility. Media companies are under more scrutiny than ever – on how they govern themselves, how they manage our data, and the content they put out” (Witte et al, 2022, p. 8).

What we can observe from this issue now being in the top two priorities is that it is now of acute financial concern – not *necessarily* important because it reflects real-world impacts. And all with limited definition of what ‘responsible’ means. We can in fact see efforts made to identify “opportunity” (ibid, p. 5) in potential crisis – and that in effect, the above is only being done because of, or to avoid, potential scrutiny.

Many further issues that had been present since 2005 have been incorporated into others or simply abandoned, such as: customer relationships, education, corporate compliance, plurality and transparent ownership (see: [Appendix 1](#)), with some revived without note. The ‘common’, ‘distinct’, ‘unique’ classification has also been lost. All of this makes the report appear quite chaotic – including a record 21 ‘new’ issues (see: [Appendix 1](#)). ‘Upgraded’ issues, demonstrating how many longstanding issues remain but with a rebrand, were:

<b>Issue (2022)</b>	<b>Priority (2018)</b>	<b>Priority (2022)</b>
Climate change	O	M
Freedom of expression	O/S	S
Health, safety and security >> Wellbeing	O	M
Human rights	O	S
Investing in and supporting staff >> Skill development	O	M
People management (new for 2022)	NA	M
Social and environmental issues promoted >> Consumer environmental awareness	O	S

2

**Table 6: 'Upgraded' CSR issues (Based on: Responsible Media Forum, 2018; Witte et al, 2022).**

“Climate change” (ibid) has consistently been found to be ‘operational’ (Hodgson et al, 2013; Responsible Media Forum and Carnstone, 2018) until 2022. It is now ‘material’, and also among the top two issues. It is interesting to observe the huge number of ‘new’ environmental issues listed (nine explicitly environmental, plus two longstanding issues rebranded, see [Appendix 1](#)), given the ‘new normal’ is not normal. None appear exactly necessary, apart from what is now recognised as the crisis of “nature and biodiversity” (Witte et al, 2022, p. 8), given how many of these issues could already fall under the longstanding categories of climate change, environmental management or promotion of sustainable development. Without the ‘common’, ‘distinct’ and ‘unique’ categorisations, it is hard to see whether many of these issues relate to governance or content.

They explain that climate change “has risen up every agenda as the negative consequences of global warming, and the widescale societal implications of a low-carbon transition... have become clear. It is an issue for all industries. It is linked with various other issues... including Climate resilience, Green production, Low-carbon transition, and Climate justice” (ibid, p. 9). This surprise is confusing given it has been considered an issue since 2008 (Ceasar and Hodgson, 2008). But it is interesting to see ‘climate justice’ as an issue, with a definition that acknowledges injustice and inequality, particularly between the Global North and Global South. That “human

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<sup>2</sup>Key: O = operational, S = strategic, M = material, >> = name change

rights” (Witte et al, 2022, p. 8) have been upgraded to a ‘strategic’ concern is justified here because of compliance requirements, such as the Modern Slavery Act 2015.

Explaining the inclusion of climate resilience, they chillingly highlight “I’m A Celebrity airing a pre-recorded episode for the first time in its 19-year history due to Storm Arwen” (Witte et al, 2022, p. 11). Here they are talking about *companies dealing with the effects* of climate change, rather than coverage of this issue, but it’s not clear how ‘resilient’ this response actually is. Linked to this is low-carbon transition, ideally done so as to avoid issues like that example supplied. Worryingly and tellingly, they tentatively say “if the transition materialises” (ibid, p. 14) – as we may be in real trouble if it does not (Anderson, 2023). They also fail here to acknowledge any potential need to reduce or eliminate advertising.

“Consumer environmental awareness” (ibid, p. 11) was previously called “Promotion of sustainable development” (2013, p. 13; 2018, p. 23) and is a longstanding issue considered ‘operational’. This time, it has a material name change that seems to move the onus outside of the organisation and has been upgraded to ‘strategic’. This perhaps resolves the concern around organisations taking particular action on this – but it is not clear how this will be dealt with, or judged, or indeed linked to issues now within ‘responsible content’. This links to the “Low-carbon transition” (Witte et al, 2022, p. 9) category, which relies on making real changes to economic systems. Similarly we can see the importance of “media and information literacy” (ibid, p. 8) if communications do not reach people. “Responsible advertising” (Responsible Media Forum and Carnstone, 2018, p. 8) is now “Responsible marketing” (Witte et al, 2022, p. 8) though the name change and placement are not discussed. It was upgraded from ‘operational’ to ‘strategic’ in 2018 and remains so.

A number of other meaningful additions are made, including “Sustainable value chain” (Witte et al, 2022, p. 8) explicitly bringing in wider Scope 3 (Greenhouse Gas Protocol, 2013) emissions concerns; “user safety” (Witte et al, 2022, p. 8), which does not refer to climate change, perhaps our biggest safety issue, but does include “safety of media content for the users that are exposed to it. Advertisements are a main example, where regulation limits the advertising of certain products” (ibid, p. 13); and “holding leaders to account” (ibid). The authors state: “Consumers of media content expect to be provided with high-quality content that informs, challenges and uncovers. They need this to be able to form a view on what their leaders should be doing on issues

such as climate change, human rights and nature protection” (ibid, p. 12). This could also be accused of straying into previous concerns about campaigning (Towe et al, 2020) – or be considered a basic editorial principle, so a longstanding omission. Other interesting new issues, though not defined are:

<b>Interesting new CSR issues (2022)</b>
Anti-competitive behaviour and open internet
Business ethics
Economic impacts

**Table 7: New but unelaborated CSR issues (Based on Witte et al, 2022, p. 8)**

It is not clear why the first two would not sit under the longstanding strategic issue of corporate governance (Media CSR Forum and KPMG, 2005; Ceasar and Hodgson, 2008; Hodgson et al, 2013; Responsible Media Forum and Carnstone, 2018), while the latter is unclear. Impacts on who or what?

Witte et al (2022) conclude by highlighting growing pressure from government, investors, employees and consumers, which they claim has meant “more mature and systematic approaches to managing their own climate impacts whether present or future... [and more] climate narratives across their content portfolios...” (p. 15). We must, yet, consider whether ‘climate narratives’ are what is required given the issues outlined in the literature review (Bonneuil and Fresoz, 2017; Robertson, 2017) go far beyond climate – and whether the above reflects a more systematic approach. Concern about pressure, again, because of fears about short-term material impacts, means the work does not appear to have departed from a financial reading of materiality, rooted in CSR.

To conclude on this, we can see that a considerable paradox arises in this body of work when looking at what things emerge as ‘material’ issues, which here means things that are of acute financial concern. Top priority for the Responsible Media Forum, and ultimately its partners (see: [Appendix 1](#)), has typically been legal-financial issues, followed by editorial issues, then environmental and social issues. An alternative reading of materiality discussed in the [Introduction](#) to this thesis, and further in the second section of the [Literature review](#) – that physical impacts matter – would see this order changed.

Given the legal-financial nature of the issues often identified as ‘material’, regulation appears as a potentially powerful social mechanism to ensure responsibility, but it has been criticised as weak (Webb as cited in Grayson, 2009) and characterised as potentially overreaching into human rights (Responsible Media Forum and Carnstone, 2018). The favoured approach is responsibility – though this lacks definition or clear accountability mechanisms. The strongest sustainability initiatives have come either from those more tightly regulated aspects of business in general and parts of the media industry specifically (Towe et al, 2020). At present, this work seems to reflect the foregrounding of the economic at the expense of the environment – and may therefore be at odds with sustainability (Maxwell and Miller, 2012).

There is also a tension between the latter two priority distinctions, in that editorial commitments to things like freedom of expression, impartiality and balance, or transparency and responsibility, appear to be pitted against commitments to dealing with environmental and social issues (Responsible Media Forum and Carnstone, 2018). That actively reporting on issues affecting the social and thus the natural world is at odds with editorial priorities seems to appear as a special case, compared to any other topic. Plus, there are more general unresolved tensions within editorial priorities themselves – between ‘freedom’ and ‘balance’ and ‘objectivity’ and ‘impartiality’ and ‘responsibility’, and perhaps more besides. These are not minor concerns and will continue to be considered in the discussion.

We can explain some of the above notions of materiality by arguing that sustainability has been poorly applied in the field of CSR. Why that may have happened will be explained in the next section, initially using theories of the press to demonstrate that the above is not a sustainable theory of the press at all.

### 3.4 Using theories of the press to link dominant CSR theory to the Anthropocene

The previous two sections critique the deployment of sustainability ideas when what is happening may not be sustainable. This seems to be where the economic is found to consistently win trade-offs at the ultimate expense of people and planet. However, there is credible evidence, particularly from economics, that this need not be the case (Daly, 1993; Jackson, 2017, 2020). Calls remain in this field for a new narrative – and

what the work of both natural and social scientists may lack is a theory of the press fit for helping build a sustainable future (Anderson, 2023).

While putting forward many interesting ideas, the literature on brainprint lacked a general theory for explaining how the news media works. The work was weakly linked to sustainability, and more often incorporated into CSR, leaving the many tensions that these varying issues created unresolved. So, before setting out a theory that *does* properly bring together sustainability and press theories, which ultimately frames the research approach and builds on the work of Berglez et al (2017), Lewis (2013), Lopez (2012), and Maxwell and Miller (2012, 2017), this section uses the *Four Theories of the Press* (1976) to suggest that the broad approach from the literature on brainprint, of corporate responsibility, may in fact be of, and contributing to, the Anthropocene. The press, as discussed here, is the printed news media particularly but should in modern terms mean any organisation making news.

### *Understanding theories of the press*

When looking for a theory of the press, *Four Theories of the Press* (Siebert et al, 1976) remains a reliable companion. This work is not least important for this thesis because its historical lens enables us to see how the workings of the press over time map onto Wallerstein (2004), Maxwell and Miller (2012) and Lewis and Maslin's (2015) timelines. We will see that both the "Libertarian theory" (Siebert et al, 1976, p. 3) and the "*Social Responsibility* theory" (ibid, p. 4, italics in original) also provide many ideas that echo in the recent brainprint literature. These are not least 'objectivity' in reporting, and the symbiotic relationship between the news media and advertising (Witte et al, 2022).

But perhaps the most useful observation is from Peterson (1976) when he suggests that the news media reflects "the mentality of an age derives from the world view which is dominant in the educated sectors of society" (p. 81). We have already got some idea of the presence of potentially destructive worldviews, and potentially sustainable ones. Below we will see where the corporate responsibility worldview may fit. Siebert et al (1976) suggest that three key philosophical assumptions must be made in relation to any such theory, which are: the nature of knowledge, the nature of humans, and the relationship of humans to power.

The “Authoritarian theory” (p. 3) begins in earnest at the dawn of printing in the West around the turn of the 1500s. At this time, mass communication was mainly controlled by and done on behalf of centralised power – monarchy and church – highly limiting humans and knowledge. One question that came out at this time was “who checks the press?” (Siebert, 1976, p. 28), which has become a modern concern (Peck et al, 2004).

This theory gave way over the course of 200 years, starting around the 1600s, to the “Libertarian theory” (Siebert et al, 1976, p. 3) during the so-called Age of Enlightenment, informed by the writings of John Milton, John Locke, John Stuart Mill and others. Though no specific definition is offered, this period in effect defined the “freedom of the press” (Siebert, 1976, p. 45), combining notions of the rational man, natural rights, freedom from government, and scientific empiricism, along with the object of truth, the “free market place’ of ideas and information” (Siebert et al, 1976, pp. 3-4), and the media as a check on power.

In line with Maxwell and Miller (2012) and ultimately those writing about the Anthropocene, Siebert (1976) reflects that: “This history has paralleled the development of democratic principles in government and free enterprise in economics... [which has] resulted in the stupendous advancement of the well-being of humanity” (p. 70). What is missing here are the parallel destructions of the planet and the gaping inequalities forged (Chancel et al, 2022). It is argued that at this time, men believed they were not only capable of understanding the “system of the world... [but] mastering it” (Cassirer, 1935, as cited in Siebert, 1976, p. 45), which is naïve given what we now know.

“Government was the chief foe of liberty” (Siebert, 1976, p. 76), so the ‘libertarian theory’ relies on such notions as the “self-righting” (ibid, p. 51) process of debate over regulation. This interestingly remains a key concern expressed in the literature (Responsible Media Forum and Carnstone, 2018). That is perhaps because, as Siebert (1976) notes, “no general principles have been developed to assist in solving this problem” (p. 54). Further, “free enterprise was a guiding principle... Anyone with sufficient capital could start a communication enterprise... success or failure would depend upon his ability to produce a profit... [but t]he problem of economic support... was never squarely faced by libertarian theorists ” (ibid, p. 52). Far from free

enterprise, it was already observed at this time that media owners had become another form of concentrated power (Forbes, 2024).

Though there is limited consideration of the press' contents, or the potential impact of content, "the theory of objective reporting" (Siebert, 1976, p. 60) was built into the libertarian theory around the 1900s, which Siebert suggests was related to "[t]he growth of advertising and the drive to increase circulations" (ibid). This was "a lucrative source of revenue... thus developed an additional function for the press, to stimulate consumption and sell products" (ibid, p. 52). This is not something that was picked up in the section of the theoretical framework where critical tensions were observed between short-term financial concerns, which were typically legal-financial, and editorial principles were usually a second priority (Responsible Media Forum and Carnstone, 2018). That objectivity was pursued *specifically to secure* advertisers and wider circulation must beg us to question whether it is really editorial priorities that are potentially being compromised if environmental or social issues are given appropriate coverage.

The advertising relationship is criticised, particularly when considering broadcast mediums, as it was unclear to what extent advertising undermined or led to standardisation of editorial content. This objective of 'objectivity' was also highly criticised for yet still offering partial truths, so it "fails to give the reader a sufficient basis for evaluating the news in terms of social goals" (Siebert, 1976, p. 61). Similarly, the marketplace of ideas is alternatively characterised as "an endlessly renewed clash of hypotheses..." (Hoking, 1948, as cited in Peterson, 1976, p. 102) making decisions and therefore progress difficult.

Far from seeking only objective truth, the news media's role at this time had become to "assist in the process of solving political or social problems by presenting all manner of evidence and opinion... Thus there developed a refinement of the function of the press as a political institution... that check on government which no other institution could provide" (Siebert, 1976, p. 51). The media was also increasingly taking on "adult education" (ibid, p. 56), as well as a role in "the elevation of public tastes, and to improvements in the practical business of daily living" (ibid, p. 57). All of these brainprint issues represent considerable responsibilities for an ostensibly 'free' enterprise, raising concerns past and present about who is watching the watchdogs (SustainAbility and Ketchum, 2002).

Given the general philosophical principles on which this theory is based, Siebert (1976) explained that “[d]efining the proper limitations on the freedom of the media is the most disturbing problem facing the supporter of libertarian principles” (p. 50). Meanwhile, its “greatest defect has been its failure to provide rigorous standards for the day-to-day operations of mass media... vague, inconclusive, and sometimes inconsistent... [though offering] flexibility... adaptability to change... confidence in its ability to advance the interests and welfare of human beings by continuing to place its trust in individual self-direction” (ibid, p. 71).

The libertarian theory is supposed to have given way to the “*Social Responsibility theory*” (Siebert et al, 1976, p. 4), largely kicked off by criticisms made by the United States’ Hutchins Commission in 1948 and the UK’s Royal Commission on the Press in 1953. This timeline also aligns with the post-war Great Acceleration, perhaps indicating limited success. Five relatively humble recommendations of the commission were that the media should: pursue truth accompanied by proper context; offer a forum for debate; be representative of groups in society; offer “presentation and clarification of the goals and values of the society” (Peterson, 1976, p. 91); and, ensure access. It is not clear what the goals or values of society were intended to be at this time.

But, as early as the 1850s, technological changes, external criticism, revisions of the Enlightenment, professionalisation linked to university courses, and moves towards social responsibility in business meant “[i]ndustry groups formulated codes of ethical performance” (ibid, p. 83), with “some concern for the public good... as they regarded it” (ibid, p. 77). The *Canons of Journalism*, from the American Society of Newspaper Editors accepted it was “responsible for general welfare” (as cited in Peterson, 1976, p. 86), again, a considerable responsibility with limited definition.

Yet, the Hutchinson Commission is observed as noting that these codes were “not enough to insure the sort of press society requires... [this] has not and cannot be enforced” (Peterson, 1976, pp. 86-87). These codes were also, as Rauch (2018) found today, focused on the limited behaviours of editorial staff. Ultimately, the reports of the commission were criticised as “unrealistic” (Peterson, 1976, p.103), though without citation. There were also global debates happening at this time, such as a subcommittee of the United Nations Commission on Human Rights on freedom of

information (United Nations Economic and Social Research, 1946). At the time of writing, Siebert (1976) found “no apparent progress has been made in the last several years toward solving the problem of information agencies on a world-wide basis” (p. 69), citing tensions between the United States and Russia as an ongoing concern.

Another key early criticism of the libertarian theory, considered as evidence of the beginnings of social responsibility, was made by one of the famed US muckrakers, Will Irwin, in 1911. Summarised by Peterson (1976), he argued that the commercial nature of newspapers in general, including advertising, and the movement of influence from editorial to news “was responsible for many of its shortcomings” (p. 79). Much of this also meant it was near-impossible for new entrants to join.

Far from a great departure, those considering social responsibility were found to broadly accept six functions of the media: servicing politics by informing debate on public affairs; supporting the public to achieve self-government; watchdog of individuals against government; “servicing the economic system, primarily by bringing together buyers and sellers... through the medium of advertising” (ibid, p. 74); entertainment; and, financial independence. Proponents of this new theory suggested the press had not performed the first three well; implored that economics should not take precedence; urged for ‘good’ entertainment; and suggested some media should be free from whims of the market. At least the first five could all bring potential issues relating to brainprint. That the sales function was not simply to enable independence, but in service of the economic system, is a rather alarming responsibility given what we know about how this has developed. Strangely, Olkkonen (2018), in her corporate responsibility research with five Finnish media businesses, points to Peterson as the origin of her work, but says he *did not* recognise the responsibilities of running a business.

In Siebert et al’s (1976) framework for summarising the comparative roles of the media within these theories, the chief purpose for each of these two outlined above, which reflects notions of brainprint and a framework still observed in the literature (Toennesen et al, 2013), was to “inform, entertain, sell” (Siebert et al, 1976, p. 6). But the former theory is suggested to also help discover truth and hold government to account, while the latter is supposed to “raise [social] conflict to the plane of discussion” (ibid), meaning debates in society are aired so we may come to better understanding. If the libertarian theory was supposed to ultimately rest on the freedom

of man to seek out the truth in the marketplace, social responsibility arguments took a dim view: “Man’s aim is not to find truth but to satisfy his immediate needs and desires” (Peterson, 1976, p. 100). If this were the reality, it may have been enthusiastically accepted by media companies in pursuit of revenues. We may also question whether previous libertarian theory subscribers had yet met their public education role, or indeed, ever accepted it, if this was the general state of public consciousness at its potential end.

The social responsibility theory perhaps most notably adds “the public’s right to know” (ibid, p. 73) and “the public responsibility of the press” (ibid), acknowledging that with this right or freedom comes responsibility. Freedom of expression, though accepted as a “universal right... [was] not an absolute right” (ibid, p. 97). This is most easily demonstrated in that “[o]ne does not have the right to be deliberately or irresponsibly in error” (ibid, p. 98). This theory also revised the “negative liberty” (ibid, p. 93), or ‘freedom from’, associated with liberalism to “positive liberty” (ibid). The idea behind this was that people must be able to act on this right, via associated things like freedom of information and access. It was particularly observed to be more “collectivistic ... [an] intermingling... [offering] social responsibility as a safeguard against totalitarianism” (ibid, p. 82), a key concern of the age.

Moral duties, implicit in liberal ideas, became more explicit – and extended to the audience. But, demonstrating a particular weakness, this reflects “the duty is to one’s own conscience... As a social being, man owes a duty to his fellow beings; and morality is duty not primary to oneself but to the interest of the community... the citizen is no longer morally free not to read, not to listen... the citizen’s approval or disapproval is an effective control on the media” (ibid, pp. 98-101). This directly contradicts the stated assumption about the nature of humans at this time, acting as mere consumers – but this language can also be found in the brainprint literature too (Responsible Media Forum and Carnstone, 2018).

In order to be effective, this theory required “first... a public awareness of the tremendous power of the mass media... [then] how far the press fails to meet the needs of society...” (Peterson, 1976, p. 92). We may see that this is unlikely to be sought out by the mindless consumers characterised here. Peterson does, though, suggest a role for non-profits in bridging gaps, education in media studies and an

“independent agency to appraise press performance” (ibid, p. 93). The latter remains particularly wanting.

Becoming somewhat less sceptical of government, Peterson suggested it might in fact “actively promote” (ibid, p. 95) relevant freedoms. But further than this, that “government should help society to obtain the services it requires from the mass media if a self-regulated press and the self-righting features of community life are insufficient...” (ibid). Yet, it is absolutely worth reminding ourselves that: “Any agency capable of promoting freedom is also capable of destroying it. Since freedom of expression is the keystone of political liberty, it must be especially protected” (ibid, p. 95). This has remained a key concern of industry (Responsible Media Forum and Carnstone, 2018). Tacked onto this thought, though, is the assumption that “... the press must still have a foundation in private enterprise” (Peterson, 1976, p. 95). That no sustained consideration is made of whether there are yet further alternatives to public or private is a real limitation of this theory. For government, the recommendations included supporting new businesses, new legal remedies to halt abuses of press freedom, and government-owned entities where required.

The mention of the press as “assuming responsibilities of common carriers of information and discussion...” (ibid, p. 92) reflects forward to the literature review’s carriers versus barriers language (Sustainability and Ketchum, 2002; Peck et al, 2004). But, despite claiming to be concerned with social issues, Peterson’s chapter lacks any engagement with material impacts of the media, or any wider environmental concerns. It also lacks any real consideration of the social debates or groups that appear to be important to this theory. Peterson (1976) argues ultimately that “pure libertarian theory is obsolescent, as the press as a whole has in fact recognized” (p. 103), but concurrently suggests that social responsibility was “chiefly a *theory*” (ibid, p. 75, italics in original). He also notes that the essential difference of this theory, which likely applies to any, and may be its downfall, is that the “media must assume obligation; and if they do not, someone must see that they do” (ibid).

Thinking back to Peterson’s observation that any “emerging theory” (ibid, p. 103) of the press reflects “the mentality of an age... [and influences] the thought patterns in such areas as ethics, religion, and science (ibid, p. 81) – he also emphasises that: “A theory of the press which diverges fundamentally from the mentality of its age, then, may well be modified or scrapped altogether” (ibid).

If we accept this position, and the timeline outlined by Siebert et al (1976), we may observe that the libertarian theory, and perhaps the social responsibility theory too, may both be *Anthropocene theories of the press*, embodying the ‘mentality of the age’ as already detailed at the start of the literature review. While the social responsibility theory is argued to potentially supersede the former, it does not go particularly far in the replacement of its principles. With specific calls for change coming at the time of the Great Acceleration, it may yet represent an *acceleration* of the libertarian theory. Given the obvious links to the CSR approach adopted by industry, particularly given the name, can we assume that the news media today reflects the social responsibility theory in action?

### *Linking theories of the press to theories of values*

Potentially linking these issues to our present-day concerns, climate scientist Kevin Anderson (2023) sums up what he seems to see as the mentality of the age that may be the source of our present challenges:

“... we require deep social change... We have to ask fundamental questions about power...social values... economics... climate change is a symptom of how we have run contemporary society... we have to start thinking of these things at system-level... the key reason [for inaction] is the people framing the debate are in the top 1%... we have done very well out of ‘business as usual’, we don’t want to rock the boat... policymakers... CEOs... senior managers... senior academics and professors... owners and editors of the newspapers” (np).

Before this, environmental lawyer James Speth told the BBC in 2013 that our top environmental problems cannot be found in science, they are in the social, as “selfishness, greed and apathy” (Shared Planet: Religion and Nature, 2013, np). If these observations really do reflect the mentality of those most influential in our society, and thus wider society too – including apparent adoption of responsibility theories, as evidenced in the literature – does this actually explain why such huge global challenges remain?

Adding weight to Anderson's (2023) observation, the wider academic literature suggests the media is far from embodying responsibility. Lewis' (2013) overarching concerns about the media in the early part of the 21st century relate to longstanding concerns about the business of news and the media narrative of growth. His arguments, to a large extent, are that the disposability of news, indeed, its daily, planned obsolescence, prevent it from real scrutiny of such things as the hyper-consumption found across our societies – from the devices needed to do journalism, to general goods, not least those found in news-media advertising.

Like Lewis, Lopez (2012), Maxwell and Miller (2012), and Rauch (2018), express disbelief in corporations' ability to 'be good'. "By definition, multinationals search the world for competitive advantage in state incentives, weak labor organization and protection, minimal environmental regulation, favorable exchange rates, low wages, and sparse human rights enforcement" Maxwell and Miller (2012, p. 90) state. The pair are also sceptical about so-called "green consumption" (ibid, p. 25) and conversations around greening business. Of course, it does 'look good' and can increase your share price – but that's exactly the point, it is:

"contradictory... transient... superficial... [promoting the] magical fusion of environmentalism with growth, profits, and pleasure... guarding carefully against the acknowledgement of what is already known – that accelerating innovation, rising energy consumption, and government and business policies promoting a growth ideology are responsible for scarcity and climate change" (ibid).

Rather grimly, Lopez (2012) observes: "When the majority of media play up the growth and prosperity discourse above a conservation ethic, most people will identify with the hollow view that consumerism and technology can magically fix any problem" (p. 80).

In terms of the economic growth 'story', Lewis (2013) suggests the recent approach of journalism here is in, firstly, amplifying this narrative above the environment, and making little connection between the two; secondly, the 'need for (and assumed benefits of) growth' are central to economic reporting, and thirdly, that the negative impacts of growth are rarely reported. Although he does highlight that "sustained global effort to focus on the production and consumption of goods... has, on its own terms, been extraordinarily successful" (ibid), he doesn't use sustainable

development as a foundational idea – missing the opportunity to specifically contrast this economic ‘success’ with social or environmental development and apply it in this field. We may ultimately ask ourselves here – can you have journalism without growth?

For Lewis, a focus on economic news over the environment is “understandable, while interest in environmental problems like climate change can be difficult to sustain... without a regular supply of ‘events’ to stimulate coverage” (ibid, p. 5). Interrogating this issue of ‘events’, Brüggemann’s (2017) exploration of “post-normal journalism” (p. 57), building on Eide and Kunelius’ (2012) concept of “post-normal” (p. 16) usually applied to evolving scientific ideas, highlights that ‘normal’ approaches to journalism see climate change covered “as a succession of short-term media events” (Eide and Kunelius, 2012, p. 63). Brüggemann (2017) outlines how journalism could better cover these kinds of challenging stories by accepting the impossibility of objectivity, offering multiple perspectives, sharing proper context about uncertainties and questions, and encouraging collaboratively built expertise.

Environmental coverage, at the time of Lewis’ (2017) writing, had peaked between 2006 and 2010 – compared to something like terrorism, which remained consistent, or the economy, which had only increased (Lewis and Thomas, 2015). Citing research in this area, Lewis (2017) believes this lack of coverage over the previous 10 years would have given the public the idea of a “*diminution of the threat*” (p. 5, italics in original). He says a “lack of scrutiny” (ibid) by the news media has let business and governments get away with postponing efforts to address environmental issues, but he doesn’t specifically say why. When considering the financial crisis, Lewis (2013) notes that “journalists wondered whether they had become so deeply embedded in the financial sector (and its political boosters) that they lost their critical distance” (p. 96). This may well be part of the reason.

This speaks to Raundalen’s (2015) study that interrogates how the output of Norwegian technology journalism relates to their working environment and social context. He explains that:

“press coverage of this... seems to be exempt from normal expectations of press ethics, such as impartiality, avoidance of editorial advertising, and maintaining an investigative and critical approach... newspaper reports about

any of these problems are rare, although most newspapers are brimming with articles on both consumer electronics and environmental issues" (p. 99).

Maxwell and Miller (2012) likewise highlighted a lack of regulation for this kind of journalism.

Through Raundalen's (2015) critical realist study, he found: "there is a self-reinforcing dynamic between the overarching discourse of technological optimism, the changed work conditions and increased pressure on journalists, the popularity of the consumption oriented-coverage, and the manufacturers' need to 'educate' the consumer" (p. 117). But he also finds some power here in that "big companies would not at all be able to sell their products as fast without the continuous support of the journalists" (ibid, p. 118). This is an interesting thought. At large, as it was in the literature review, the question here is, who watches the watchdogs (SustainAbility and Ketchum, 2002) when thinking about what and how they report?

One final observation from this study, which is instructive for this thesis, relates to the suggestion that technology, or consumer journalists, are broadly in the business of "lifestyle journalism' and what the world needs today more than anything is a change in our lifestyle" (ibid, p. 119). Lifestyle journalism lacked consideration in the brainprint literature. A definition reveals that it: "primarily addresses its audience as consumers, providing them with factual information and advice, often in entertaining ways, about goods and services they can use in their daily lives" (Hanusch, 2021, p. 2). So we may yet wonder if those doing this work would consider they are doing something other than what they are supposed to do.

On top of editorial content, Lewis' wide-ranging critique of "consumer society" (2013, p. 80) refers to studies that show advertising has been directly linked to childhood obesity, smoking and alcohol consumption – even encouraging people to work more so they can buy more throwaway items, or indeed, making people "unhappy" (ibid, p. 85). But, perhaps his most perverse observation, is that: "We are, in effect, subsidizing the costs of consumerism. The rising public cost of waste disposal alone constrains the capacity of local government to promote better education or healthcare" (ibid, p. 174). Why, he believes, this matters for news media in particular is the sector's close relationship with advertising and therefore the cultural behaviour that is being encouraged; journalism's own development as a 'commodity', its dependence on

consumption and its necessary disposability; and its situation in a wider media and communications industry that typifies these issues, emphasising “volume and convenience above quality or profundity” (ibid, p. 151) in selling the next product or service.

That “the growth of consumer culture has been made possible by a parallel growth in the advertising industry” (ibid, p. 53) is not in doubt. But he argues that “[a]dvertising has become a lead weight on our culture... It makes it difficult for us to appreciate some of the problems – notably climate change – it has helped create, and discourages us from seeking pleasure and meaning outside consumption” (ibid, p. 89). This may be what Schumacher (1975) meant when he described a “metaphysical disease” (p. 83) within our central values and where these come from. He begs us to consider “[what] is ‘enough?’” (ibid, p. 19).

Yet, Lewis’ (2013) arguments made here, in line with Maxwell and Miller (2017), may also undermine the potential for reader revenue models as an alternative to advertising-funded journalism – given this is still a commercial product with a requirement to ‘sell’ – and this issue remains unresolved. Even public-service news organisations need to attract an audience, which has its own environmental impact (BBC R&D, 2013). However, to leave it unresolved, “is to bow down to the idea that creativity must depend on the promotion of consumerism” (Lewis, 2013, p. 170). Social responsibility, if it is this evidenced here, may in fact be better described as “First World” (Maxwell and Miller, 2017, p. 25) or indeed, “neoliberal” (ibid) journalism.

To conclude here, using the theories of the press enables us to see that there may be a real theoretical problem when combining notions of responsibility and sustainability. It appears that corporate (social) responsibility in fact includes tensions that cannot be resolved – if the economic is prioritised over other competing concerns. Plotting these theories on axes representing social and economic freedom, as described but not depicted in Siebert et al (1976), also provides a space – for something socially free but more economically controlled – as per McElroy et al’s (2008) equations.

Social → Free ← Controlled	?	Social responsibility
	Authoritarian	Libertarian
	Controlled ←	Economics → Free

**Figure 22: Combining theories of the press and sustainability to show problems with corporate (social) responsibility – and a space for a socially free, economically controlled theory (Based on: Siebert et al, 1976; McElroy et al, 2008)**

We must note that Anderson’s (2023) call for ‘social change’ speaks to Fuchs (2008) suggestion that, even what we might think of as ‘environmental problems’, may inevitably have ‘social problems’ at their heart. Similarly, the Responsible Media Forum and Carnstone (2018) reflected that we were simply lacking a social “mechanism” (p. 21) for holding the media to account for its content – and that this would reflect a “social licence to operate” (ibid), when, or indeed, if such a thing is ever created.

If it is the social responsibility theory that has come to dominate, we may yet ask – how, and why, has this become the mentality of the age? This is where theories of values can go further in explaining this problem. Next we will discuss the most compelling theory in the media literature to fill this space – “sustainable journalism” (Berglez et al, 2017 p. xxii) – highlighting how this can be better framed using values theory (Schwartz, 1992) and the latest sustainability research (Rockstrom et al, 2023).

### 3.5 Using theories of values to inform a sustainable theory of the press

This section outlines perhaps the most compelling theory of the press put forward to meet sustainability concerns – and acting as an alternative to responsibility ideas – that is “sustainable journalism” (Berglez et al, 2017, p. xxii). Yet it too can be improved with a greater understanding of press theory, theories of values and the latest sustainability theory – to become a values-conscious, ‘safe and just’ theory of the press.

Berglez et al (2017) claim to have integrated the economic, environmental and social of sustainable development into a definition of ‘sustainable journalism’. They apply *Our Common Future* (Brundtland, 1987), stating that “sustainable journalism is journalism that meets the information needs of the present without compromising the ability of future generations to meet their own journalistic information needs” (p. xxii). Oddly, they don’t interrogate this definition in more detail.

One can see that this assumes that people have ‘information needs’ and that journalism is the thing that meets them, which is not necessarily proven. Many people have avoided news during COVID-19, for example (Reuters Institute, 2020). Lopez (2012) also criticises this as a “mechanistic worldview” (p. 12). Further, this edited collection largely addresses each issue in turn, so there remains a gap for something that integrates all three. These scholars do invite others to work together across these three areas, suggesting that further research might evidence how sustainable (development) journalism would work, so our practice is “prepared for the future” (Berglez et al, 2017, p. xv), including seeing how it could be operationalised, both commercially and editorially. Manger (2022) builds on Adjin-Tettey et al (2021) to extend these ideas, but both ultimately refer back to the rather limited starting definition of Berglez et al (2017).

Maxwell and Miller’s (2017) commentary on sustainable journalism further echoes those reservations found elsewhere, highlighting that very often sustainable journalism “does not refer to the environmental sustainability of journalistic practices... but the search for... financial support” (p. 20). Indeed, citing evidence from sustainability research Berglez et al (2017) argue it will be business that is at the

forefront of ensuring we make sustainable development a reality, driven by “economic motives” (p. xvii). This will be done by “... anticipating and treating the legal and organizational challenges of sustainability as opportunities rather than threats, firms may propel business innovation to new levels” (ibid). However, considering the wider issues raised with sustainable development, and the financial lens applied by those pursuing corporate responsibility, it’s not clear that an economic motive helps to address environmental or social issues in tandem.

Maxwell and Miller (2012) ultimately advocate for the role of regulation and ‘ethics’ across their work. These ethical questions are framed in terms of values, rights and consequences, where they ask: “what is valued, what entities qualify for moral consideration, and what matters most?... what are the duties and rules that protect valued individual and collective entities... what are the utilitarian considerations of actions and motives that affect the well-being or happiness of those valued?” (pp. 31-32). And yet, perhaps the most tricky thing about ethics, like responsibility, is the need for someone to believe they ‘should’. Perhaps unsurprisingly then, they find legal regulation to be the most effective means for action on issues that are very often global, complex and intertwined, although this depends on geography, as well as on the ethical frame, or the mentality of the age. They state that “ethics are just another word for nothing left to regulate” (ibid, p. 148), which of course implies – first, regulate.

They find much to criticise, but cite one good example of green governance, the Ecuadorian Constitution, which “guarantees the rights of nature” (ibid, p. 145), and is contrasted with the balance called for in *Our Common Future* (Brundtland, 1987). The former is said by Maxwell and Miller (2012) to “seek to enhance ethico-political commitment to the Earth and its inhabitants by making human rights subject to eco-centric values” (p. 146). They also suggest that care for the environment be embedded into journalistic codes of practice – which doesn’t sound unfeasible, but what of those in commercial, technical or operational parts of a news media business. Editorial, in theory, is only in charge (to some extent) of editorial decision-making. Yet Maxwell and Miller admit that much of what is generally proposed rests “on behavioral changes of buyers and sellers that cannot come without an underlying cultural and political commitment to confront the stark reality of anthropogenic climate change, pollution, and destruction of ecosystems” (ibid, p. 159).

This is where their urge for a system of values will be explicitly adopted into the approach of this research. This thesis positions the psychological theory of values (Schwartz, 1992) as a framework that not only finds the right place for a sustainable journalism theory – but also highlights corporate (social) responsibility within a potentially Anthropocene frame. Values are important because they ultimately deal with behaviour and behaviour change – something with which brainprint advocates are ultimately concerned. Though this study is focused on *outputs* of the news media, we may use values as an indicator of *inputs*.

Values have been identified (Kleanthous and Peck, 2006), alluded to (Peterson in Siebert et al, 1976; Wallerstein, 2004; Peck et al, 2004; Jackson, 2017) and criticised (Bonneuil and Fressoz, 2017; Maxwell and Miller, 2012) by authors included in this thesis. The idea appears compelling across disciplines. Further, the Responsible Media Forum has contributed to a new project on values in the media (Common Cause Foundation, 2024). But what are values and how can they be related to a sustainable press theory? And is the CSR theory adopted by industry and discussed in academia really such a theory?

Many in media academia will be highly familiar with the idea of “news values” (Harcup and O’Neill, 2001, p. 261) – but these have mainly been used to understand what makes a story. Using wider theories of values may help us understand more about what underlies our behaviour – and informs this research, in that such values may be observed in content and have the potential for *outcomes* and *impacts*.

Strange (1989), with more detail than Wallerstein (2004), argues that it is the prioritisation of general “values” (Strange, 1989, p. 5) in society that determines the importance of the relevant power structures that were outlined in the literature review. She sparingly summarises these as:

<b>Social values?</b>	
Justice	Freedom
Security	Wealth

Figure 23: Social values (Based on Strange, 1989)

She observes that, in a time that prioritises wealth, markets hold the balance of power over states, likely with justice coming in fourth place behind freedom and security.

Though he doesn't credit Strange (1989), these values map directly onto Schwartz's (1992) highly influential and widely tested psychological "theory of basic human values" (Schwartz et al, 2012, p. 663). Represented below (though usually in a circle), are typically 10 values, grouped into four, which are remarkably consistent across populations and time.

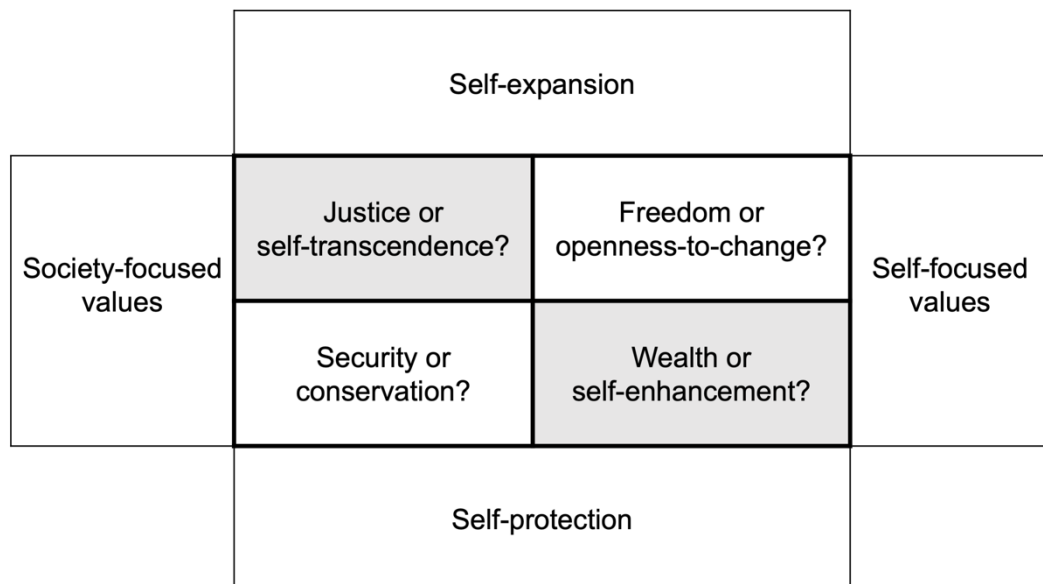


Figure 24: Basic human values (Based on: Strange, 1989; Abdallah, 2022, amending Schwartz et al, 2012)

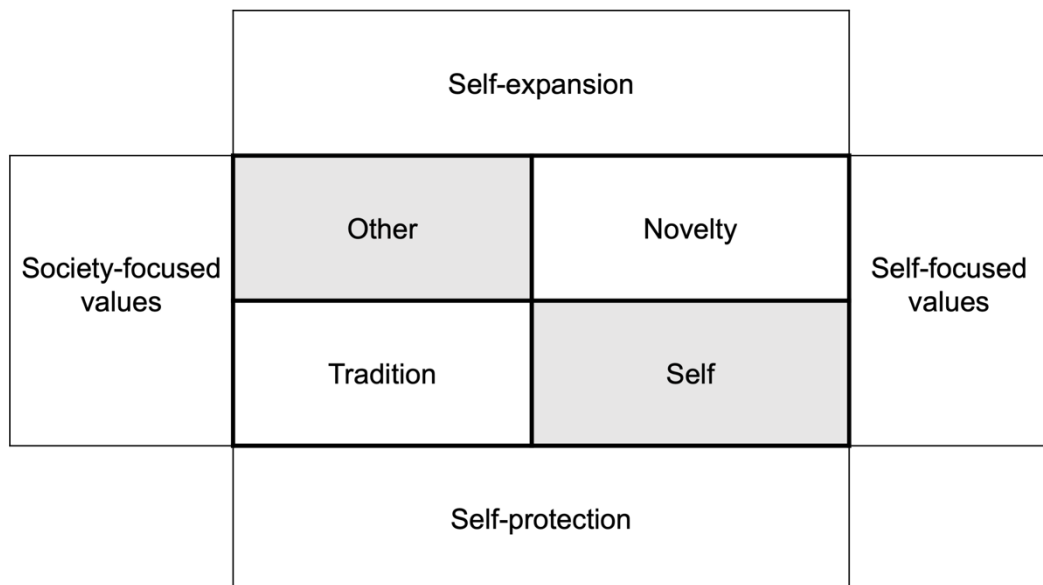
These can be divided along a number of axes: openness to change versus conservation, and self-enhancement versus self-transcendence; self-expansion versus self-protection, and self-focused versus society-focused (Abdallah 2022, amending Schwartz et al, 2012).

Adopted by the Public Interest Research Centre (PIRC), Holmes et al (2012) explain that "values are universal" (p. 18) so everyone is capable of being motivated by any; different ones can be engaged over a lifetime or even daily; those represented as being close together are more likely to be prioritised together; while those shown as opposites on each axis are likely to be prioritised at the other's expense. Holmes et al also highlight two further categorisations, values that are intrinsic, or "inherently rewarding to pursue" (ibid, p. 21) and those that are extrinsic, or "centred on external approval or reward" (ibid). These are exemplified by the transcendence versus enhancement axis in Figure 24. Those who prioritise the former over the latter have

been found to be both happier and more environmentally responsible (Sheldon and Kasser, 2008).

Holmes et al (2012) explain that “values are an important driver of behaviour” (2012, p. 25) but are not the only thing that drives us. Why our behaviour might not meet our values is attributed to things like: relevance in a particular situation, issues with competing values, “context and social norms” (ibid, p. 26), and the control we feel we have. They further suggest that If we experience opposites at the same time, this can create “conflicting feelings” (ibid, p. 27) that may lead to rejection of messages. They note the role that the media may have in influencing the values that may be prioritised in a given culture.

Schwartz’s (1992) work was further simplified by economics professor Tim Jackson (2017) who observes that: “What we’ve created in consumer capitalism is an economy that privileges, and systematically encourages...” (Jackson, 2017, p. 136) novelty. This conception is re-presented in Figure 25 below.



**Figure 25: Basic human values (Based on: Abdallah, 2022, amending Schwartz et al, 2012; Jackson, 2012, amending Schwartz et al, 2012)**

He explains that “[w]e’ve done this, in part, because the economy that we’ve created is best served by selfish, novelty-seeking behaviour” (ibid). We can see a link here between the kind of economics being prioritised and the potential values that are encouraged.

Adding weight to this, Holmes et al (2012) from the PIRC further observe that:

“repeated engagement... is likely to strengthen [values so e]xposure to the institutions of consumer culture may also represent a form of ‘policy feedback’. A great deal of commercial advertising and marketing appears to impact upon societal values by promoting materialism and stimulating the desire for security, conformity or self-enhancement” (p. 30).

This notion of ‘feedback’ speaks well to the media system model developed in the literature review and discussed again at the start of this chapter. We may also observe ‘novelty’ may be akin to the ‘new’ in Harcup’s (2014) typical “news cycle” (p. 201) discussed alongside this.

Further, Simms and Murray (2023) commissioned values proponent Tim Kasser (Kasser et al, 2020) to assess whether “materialistic values” (p. 5) in advertising are encouraging behaviour that drives environmental destruction and he concluded:

“This body of empirical evidence therefore supports the conclusion that if humanity hopes to make progress in addressing and reversing climate and ecological degradation, it would be prudent to rein in and change the practices of the advertising industry” (ibid).

For this, he analysed advertising for tobacco, beef, cars and flying – what we may come to think of as the products, with associated behaviours – of our age. These are in fact not too far from the list of products that the World Health Organization (2024a) says are killing people. Though Simms and Murray (2023) shy away from aligning these issues with the news media, who publish adverts, they do notice media billionaires (Khalfan et al, 2023) and highlight specific news-media titles that “consistently provide platforms that undermine climate science and question the need for action” (Simms and Murray, 2023, p. 198). They also point to alternative funding models, such as taxing advertising rather than readers, and in fact highlight that brand, versus product, advertising is currently tax deductible in the UK.

Considering again our model of theories of the press, alongside the values models, in Figure 26 below we may yet see that the social responsibility theory – for both social freedom and economic freedom – may broadly align with the top-right values of “novelty” (Jackson, 2017, p. 136), “openness to change” (Schwartz et al, 2012. 669),

more broadly “freedom” (Strange, 1989, p. 5), and perhaps the “mentality of the age” (Peterson, 1976, p. 81) and thus even, “business as usual” (Anderson, 2023, np).

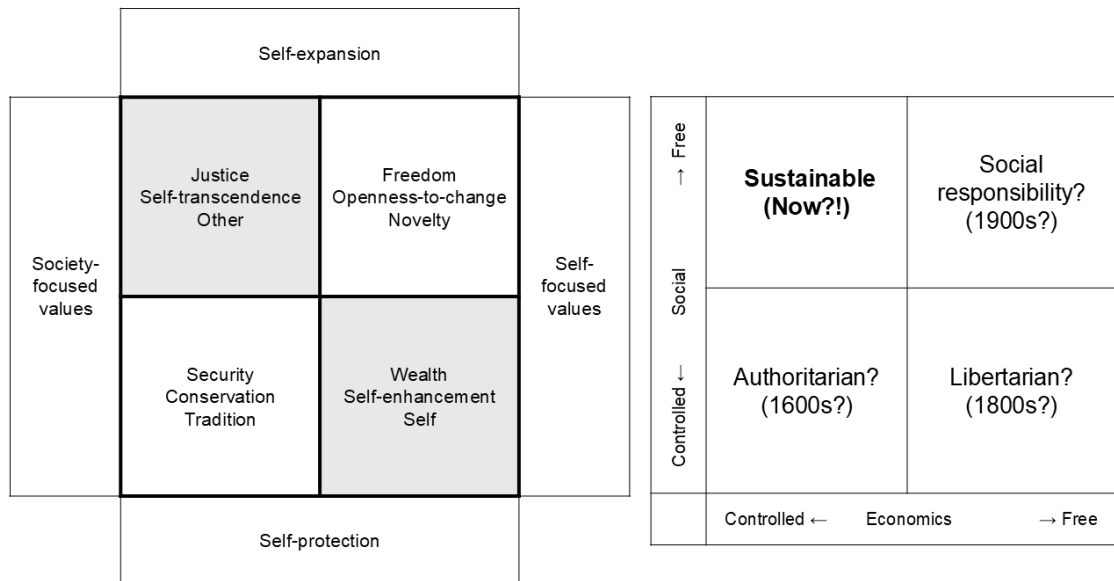


Figure 26: Visualising brainprint theories based on Strange (1989), Schwartz (1992), Jackson (2017) and Abdallah (2022) alongside sustainability-informed press theory based on Siebert et al (1976)

We can also see the missing theory is one that accepts values of ‘self-expansion’, while also valuing society, which may be called “self-transcendence” (Schwartz et al, 2012, p. 669), in which they include “benevolence” (ibid) and “universalism” (ibid), and which may also represent “justice” (Strange, 1989, p. 5), or be considerate of the “other” (Jackson, 2017, p.13). What may yet fill this gap, representing or requiring a change in mentality, and indeed, may represent the 1968 bifurcation (Wallerstein, 2004) given its roots, is a truly sustainable theory of the press.

The above should help us to realise the usefulness of this thesis’ definition of cultural emissions, helping us to see that this output could be about any topic, with a potentially positive, negative or indeed, perhaps neutral brainprint, depending on the theory and values that underpin it. But, in the ways described above, values can change too, and none are inherently negative. Indeed, Common Cause Foundation, which spun out of the PIRC work on values with support from WWF-UK, has found that people are likely to assume that other people have more negative values than their own (2021).

This therefore calls for research that considers output, particularly looking for economic and environmental tensions like those potentially found between editorial and advertising, as evidence of drives towards sustainability, and perhaps an indicator of these other underlying values and press theories too. The next section will finally combine the latest theories of sustainability, and what we have discussed about the press and values, to offer a theoretical contribution, and guide the final discussion and conclusion.

### 3.6 Visualising a cyclical system of brainprint within a 'safe, just and equitable' space to inform research approach

Turning to truly sustainable journalism, what makes for perhaps uncomfortable consideration is something that Maxwell and Miller first state in the final pages of their 2012 book, that "strong versions of sustainability challenge precious doctrines of liberal democracy that valorize a voice for all at all times and promote the growth of media technologies as ever-expanding universes of tolerance and merriment" (p. 164). This is perhaps the first voice given to the suggestion that it *may not be sustainable* to be in the business of 'infinite' publishing on a finite planet. While they know it to be presently and historically environmentally destructive, journalism is justified by Maxwell and Miller (2017) as a necessity for "democratic politics, which depends on the existence of relatively autonomous investigative news media" (p. 23), but they point back at their fellow scholars when they add that "journalism studies rarely stops to ask how much journalism is enough" (p. 30). We may think back here to the suggestion that 'promoting sustainability' may be at odd with editorial priorities – but what if editorial priorities are in fact at odds with sustainability?

Today, the Sustainable Journalism Partnership at the Fojo Media Institute (2022) in Sweden is bringing people together who are working on these issues, and building a body of principles and practice – but this is an evolving area – with perhaps as many questions as answers. Perhaps the best articulation of 'sustainable media' comes from Jennifer Rauch's work on 'slow media' (2018):

"I define *sustainable media* as values and practices characteristic of a media culture able to indefinitely maintain biodiversity and a high quality of life while

avoiding the long-term depletion of natural and human resources... Many people have begun to envision ways of creating and using media that are slower, fairer, more material, cleaner, greener, and more mindful. This includes ways of using media *less*. From a sustainability perspective, growth is not a criterion for progress and proliferation of digital media cannot be limitless” (p. 7).

The most comprehensive sustainability theory available, which speaks to this definition, and which highlights the need for environmental caution, economic equity and social justice, is the “environmentally safe and socially just space” (Raworth, 2012, p. 4), or “*doughnut – which brings planetary boundaries together with social boundaries*” (ibid, p. 1, italics in original). Kate Raworth is an economist, but she based her work on Rockström et al’s (2009) “planetary boundaries” (PBs) (p. 472), or precautionary ceiling limits for environmental harm to the earth’s biophysical systems – interdisciplinarity in action. This ‘doughnut’ was also flagged by media academics Berglez et al (2017), with calls for more research deploying this framework.

PBs have proved hugely influential in global policy conversations – this is where ‘climate change’ and the measures of peak CO<sub>2</sub>e and the ceiling for temperature change were first solidified (Rockström et al, 2009). But there are actually nine:

<b>Planetary boundary</b>	<b>Explanation</b>
Atmospheric aerosol loading	How much soot, dust and other particles are clogging up the atmosphere, from things like car engines
Biogeochemical flows	Mainly about the chemicals in fertilisers that are used for growing crops, that then pollute our water
Biosphere integrity	How quickly we are making living things extinct
Climate change	Changes to how our global weather systems work
Freshwater use	How we use our precious clean water
Introduction of novel entities	New substances, new forms of old substances, and modified life forms made, <i>by us</i> , that have the potential to change the planet in almost unknowable ways
Land-system change	Changes in how we use our land, like turning woods in agricultural land for farming
Ocean acidification	How much carbon the sea can absorb
Ozone depletion	Destruction of the ozone layer that protects us from the sun’s rays

**Table 8: Planetary boundaries (Based on Rockstrom et al, 2009)**

Until 2023, scientists at the Stockholm Resilience Centre were still working towards operationalising many of these ideas, and getting general agreement on measures and ceilings. And so they have now been able to warn us that six of these nine boundaries are currently being crossed (Richardson et al, 2023). And, yet still, Steffen et al (2015) remind us that these ideas:

"do not dictate how societies should develop. These are political decisions that must include consideration of the human dimensions, including equity, [which are] not incorporated in the framework. Nevertheless, by identifying a safe operating space for humanity on Earth, the framework can make a valuable contribution to decisionmakers in charting desirable courses for societal development" (p. 736).

Raworth (2012) first brought together planetary boundaries, or the “environmental ceiling” (ibid, p. 12) with revised SDGs, called “social boundaries” (ibid, p. 1) or the “social foundation” (ibid, p. 4), without which, people’s lives may be undershooting, and not overshooting, what we can all reasonably expect:

<b>Social foundation</b>
Education
Energy
Food
Gender equality
Health
Housing
Income and work
Networks
Peace and justice
Political voice
Social equity
Water

**Table 9: Social foundation (Based on: Raworth, 2012)**

In line with Rauch (2018), these approaches suggest no special place for ‘economic development’ or ‘growth’, as do the SDGs, other than that ‘income and work’ is one of 12 features of the social foundation, and that many things, like food, are currently provided for in economic terms. “Humanity’s 21st century challenge is to meet the needs of all within the means of the planet,” Raworth explains (2024, np.). Hickel and Sullivan (2024) have recently evidenced through a needs-based analysis that good lives for all does not require economic growth and thus environmental destruction –

but planning for what we need. “Provisioning decent living standards (DLS) for 8.5 billion people would require only 30% of current global resource and energy use, leaving a substantial surplus for additional consumption, public luxury, scientific advancement, and other social investments” (p. 1) they assure.

Building on Raworth’s (2012) visual and adding Steffen’s vital call for equity, we may see what the space for a safe, just and equitable “cultural commons” (Lopez, 2012, p.12) may look like:

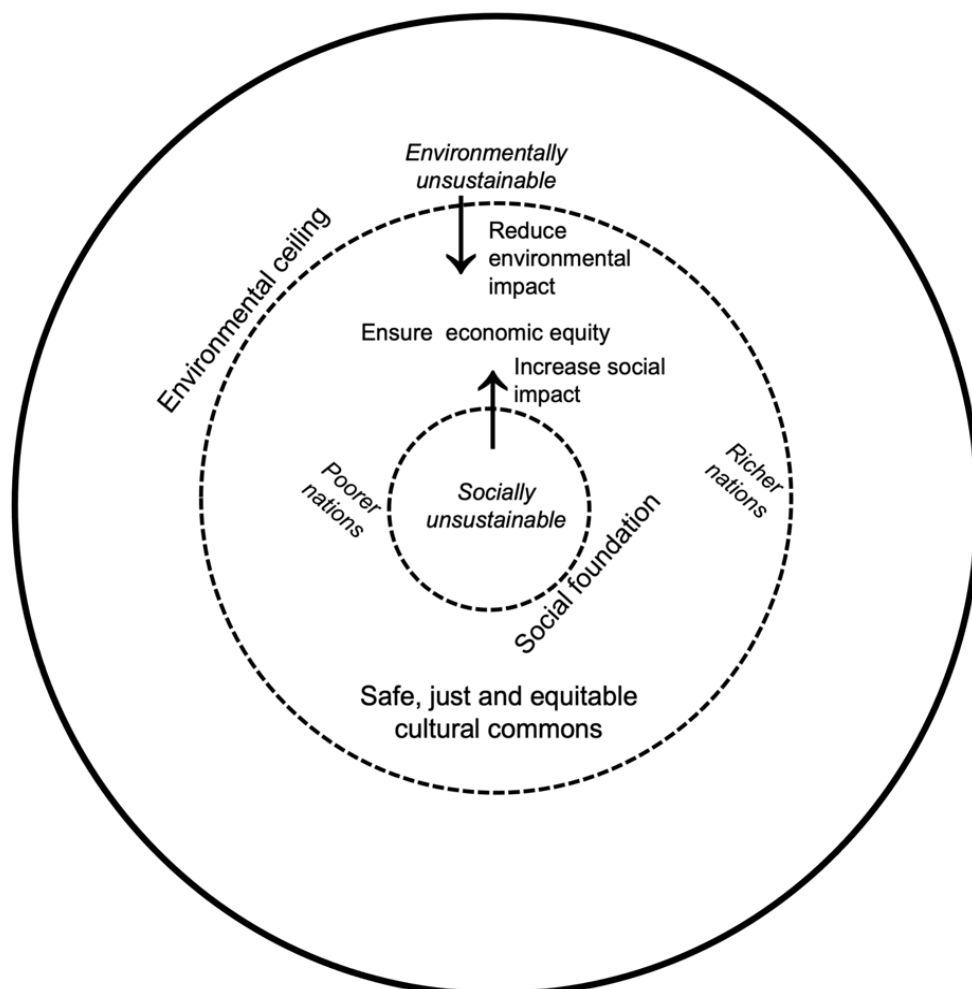


Figure 27: A safe, just and equitable cultural commons? (Based on: Rockstrom et al, 2009; Raworth, 2012)

Ultimately, Peterson (1976) asks us to ask ourselves – “[w]hat does society require of its press? (p. 87). This may be it.

Finally then, adding to this the cyclical, systems-level visual of cultural emissions and their brainprint (Figure 28) enables us to proceed to our study. This represents a model where we can look at *output*, or cultural emissions, in the context of sustainability, including the natural and the social, and potentially looking for a mechanism like *values* driving output, and brainprint driving *outcomes* or *impacts* that we may be able to observe as a result. We may observe in our study output that reflects values of sustainability, or we may yet, observe output that better reflects these other theories of values and the press.

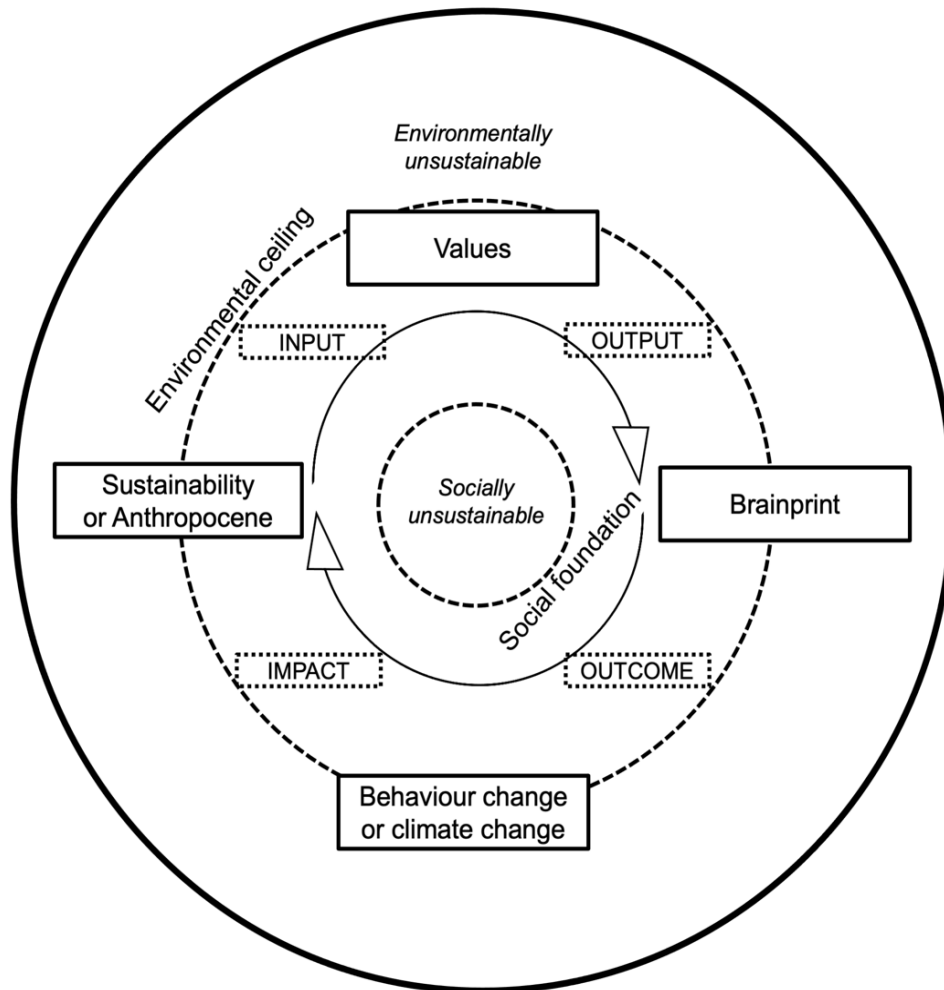


Figure 28: Theoretical framework of cultural emissions and potential brainprint linking input, output, outcome and impact

All of the above will thus inform the research approach – by enabling us to try to judge the output of the news media to see whether it appears to be contributing to sustainability efforts, or in fact, whether it is more aligned with the supposed ‘mentality of the age’ and recent ‘events’ of the Anthropocene.

## 4. METHODOLOGY

### 4.1 Introduction

This study seeks to address the research problem outlined in the introduction, along with the tensions found in the literature, and explored further in the theoretical framework, and to answer the research questions by devising a method for measuring the potential brainprint, or the effects of the cultural emissions, of news-media organisations. This includes advertising and editorial, over time, to help show the potential, cyclical *outcomes* and *impacts* of their work and how it may or may not be positive for sustainability.

Adopting critical realism as an ontological position (Bhaskhar, 1989), about *what exists*, enables us to deal with things happening in both the natural and social worlds, seeking to explain the structures, agents and mechanisms that may be at work, and to potentially call for change.

Adding to a long history in media research, it deploys a quantitative, comparative content analysis to look for tensions (Lacy, 1986; Rodgers, 2007; Adams-Bloom and Cleary, 2009; Gulyás, 2011; Hou and Reber, 2011; Jaehnig and Onyebadi, 2011; Ingenhoff and Koelling, 2012), and extends more recent work looking at environmental coverage to include all content units (Painter and Ashe, 2012; Ruiu, 2021; Gabbatiss et al, 2022, np). This has been done because sustainability is not just about the environment, in fact there is a particular tension between the economic and the environmental (Daly, 1993), and news media's cultural emissions are not just editorial (Henriques, 2007).

Baker (1994) criticises this approach for identifying only consequences and not causes – which is why attention was paid in the theoretical framework to highlighting the cyclical nature of brainprint and the adoption of values to frame the discussion. This thinking – and the detailed coding instrument created – offer a contribution to knowledge and future research.

The purposive sample of two UK newspapers, the Daily Mail and the Guardian, chosen because they have different economic structures, has been done to see if

there is evidence of such economic differences within content. Four time periods were chosen: 1972, 1992, 2015 and 2021 to see what happens to content during such environmental ‘events’, as well as any changes over time. It initially makes use of *Analyzing Newspaper Content* (Lynch and Peer, 2002), which proved a dependable starting point for content analysis, developed to conduct some of the largest-ever studies of US newspaper content, though limited to editorial. A pilot study was conducted on a small amount of the content gathered, with detailed insights provided in this chapter to demonstrate just how challenging ‘measuring everything’ can be, again, with a thought to future researchers.

A proxy for *space* has been created that should be considered a contribution to knowledge in this field, in terms of offering a standardised way for quickly judging the space given to content units on pages in news media and beyond. Added to this is an exploratory analysis of a smaller, representative sample of content from each publisher and time period, including only advertising and editorial, where a means has been created, informed by the theoretical framework, to judge the sustainability of different ‘items’. This is outlined in more detail in the following section.

Full details of the 84 key variables are in [Appendix 2](#), and content categories, along with how they were tested and finalised are provided, as well as justification for the final sample coded in detail. Items were coded as a searchable database and analysed in Excel. [Findings](#) are presented in the next chapter.

A key limitation of this approach is that it is the work of a single researcher, where ideally studies like this are done in teams (Lynch and Peer, 2002), meaning potentially subjective coding and analysis. Issues with this, not least the vast time taken, are discussed in more detail in the pilot, and [Discussion and conclusion](#) chapter. This study uses a multi-stage purposive sample, which was stripped back considerably after the pilot, also discussed in detail later, and this does have consequences for the generalisability of the findings. We must also note here the years chosen for analysis reflect environmental ‘event’ cycles, so the data does not reflect even time periods between each year.

Given this is a challenging, interdisciplinary issue, this study should be considered “exploratory” (Edwards, O’Mahoney and Vincent, 2014, p. vi) with regards to the ontology, epistemology and methodology, moving on research in all of these areas to

help provide better explanations, which may indeed be improved again (Gorski, 2013). The Discussion and conclusion chapter speaks to this.

## 4.2 Outlining the ontological position and methodological approach

This thesis started at the point of there being limited shared understanding that the ‘social world’ work of news media has a material, physical impact on the planet, or footprint, which lent itself to the consideration of materiality more deeply. This remains a key concept to keep hold of, but given the interdisciplinary issues at hand, or how the social world interacts with the natural, it is necessary to be able to understand these two worlds together.

This opportunity is presented by critical realism’s “double recognition” (O’Mahoney and Vincent, 2014, p. 3), offering a ‘third way’ to positivist and interpretivist approaches, both of which are criticised for offering “thin” (ibid, p 4) explanations of the world. The literature review highlighted a number of ontological layers:

<b>The destruction of the natural world</b>
<b>The social sources of this destruction</b>
<b>Some of the media industry’s contributions to this destruction</b>

Table 10: Ontological layers within this study

The footprint of the media industry has been broadly accepted. But debate remains about brainprint – the potential outcomes and impacts of media content, which this thesis calls its cultural emissions – and how this could be measured. – the potential outcomes and impacts of media content, which this thesis calls its

Critical realists’ beliefs about *how we know*, its epistemology, is theory dependent. Integrating the theories that inform this research, of systems of sustainability, the press and values, leads us to believe that the social responsibility theory of the press has been widely adopted in the media industry and society at large, ultimately valuing freedom, specifically economic and social freedoms, but appears to be at odds with sustainability. This will therefore be tested, by adopting the concept of brainprint from the literature, and seeking to understand if these potential effects, and thus the values that inform it, can be found in media output.

Yet, critical realism's view of *how we know* has, however, been accused of "philosophy in search of a method" (Yeung, 1997, p. 51) and while Bhaskar's conception of work done using critical realism is "the practice of social science as explanatory critique" (1989, p. 189), it doesn't specify a methodological approach.

To achieve the 'thick', explanatory critique called for by critical realism to answer the research questions, this thesis uses two comparative case studies over four key time periods, and has devised a detailed content analysis framework capable of coding the entire contents of a newspaper. As the social world is not "fully transparent" (Gorski, 2013, p. 662), comparing the content of different news media over time is potentially a meaningful way to make indirect observations of its social structures. Given the tension identified in the literature between economic and environmental imperatives (Maxwell and Miller, 2012), which may be seated in values (Schwartz et al, 2021), a purposive sample of organisations that have different economic models has been made to help tease out whether structures, agents or mechanisms (Fryer, 2020) at an organisational level may affect approaches to sustainability.

One goal of critical realism is "causal explanation" (Gorski, 2013, p. 659), for which theories of values, the press and sustainability from the theoretical framework will all come in useful. But, given the "laminated" (ibid, p. 665) nature of reality, we can also consider that further structures, agents or mechanisms may be influencing news-media output, which must be discussed in the Discussion and conclusion. Ultimately speaking to the purpose of explanatory critique, Gorski highlights:

"[i]f one can demonstrate a systematic connection between inaccurate beliefs and oppressive social structures, then one has not only explained the beliefs but also supplied a motivation for changing the structures. One has made the leap from facts to values" (ibid, p. 667).

And yet, "ontology is provisional and fallible" (ibid, p. 659), leaving room for further theoretical improvement.

A range of studies have looked at economic and editorial tensions within the news media, what we might call social or corporate responsibility, media CSR, or to some extent sustainable journalism, many based on foundational theoretical work done by Peterson (1976), who established a social responsibility theory of the press. We have

discussed at some length in the literature review and theoretical framework the limitations of this theory – not least that it may in fact reflect highly unsustainable values ultimately driving the Anthropocene – but it may be present within the news-media organisations that are the subject of this study.

Lacy (1986), Rodgers (2007), Adams-Bloom and Cleary (2009), Gulyás (2011), Hou and Reber (2011), Jaehnig and Onyebadi (2011), Ingenhoff and Koelling (2012) and Olkkonen (2018) all use content analysis to review editorial or organisational content produced by news media organisations in relation to such issues. Only the latter deploys it for qualitative analysis, while mixed methods that include content analysis are also used in this field (see: Blankenburg, 1995; Lind and Rockler, 2001; Beam, 2003).

Content analysis came out of early 20th century developments in mass communication and, relatedly, propaganda (Riffe et al, 2019) studies. Researchers were initially interested in studying the effects of such activity to change people's attitudes and behaviour. Lab-based experiments produced some evidence of the power of the media to influence people, but its effects were likely exaggerated due to the context of the studies, versus real-world conditions, where people can ignore or choose, and other characteristics, like cultural background, are at play. In the latter half of the century, content analysis remained an important tool to understand the impact of these 'other things', such as other reasons for media use and other effects beyond attitude change. Lacy and Rosenstiel (2015) justify the use of content analysis in this field, particularly used, as they do, for understanding the quality of editorial output in relation to organisational factors, but support its use generally to understand content and its relationship to other variables (ownership, investment). However, Baker's broad critique of such "positivist" (1994, p. 1) methods urges researchers to do more than count what is countable and warns against simply reviewing past data to identify consequences, rather than causes.

Speaking to Baker's concern, Riffe et al (2019) argue that the conditions of the selection and presentation of communication content must also to be considered – the time, place, organisation, people and processes (and limits of those) involved – they call this "content as consequence" (p. 10). Because it is done 'after the fact' of production, the authors suggest that content analysis can, for news and corporate information, be done to understand the conditions that precede the content, without

being obtrusive and thus potentially causing a change in those conditions. Understanding the context of the news media organisation itself, along with using its outputs, may help us better understand content as both a cause of change and an effect of pre-existing conditions that produce the communication. This is the very cycle of brainprint laid out in the literature review and theoretical framework.

Mass communication research in general is criticised by Riffe et al (2019) for lacking consideration of context, which is deemed necessary by the authors for testing research questions and hypotheses, and for the purpose of building explanatory theories. Another legitimate goal of quantitative content analysis is a simple description of a problem, which can then also function as an initial phase in a research programme – but they suggest that few attempt to do this. McElroy et al (2008) similarly argue sustainability research has lacked context. It is through the use of the latest sustainability theory, as well as press theories and values theories, that context shall be drawn out in this study.

Ultimately, referring to the wider scientific process, Riffe et al (2019) suggest the goal here is "theory-building and -testing" (p. 20). Along with creating new theories, content analysis can also generate data to test existing theories, or elaborate them to include greater understanding of content cause or effect. It is by reducing communication to data that it becomes manageable enough to categorise and understand. This thesis tests a number of theories: that content analysis can be used to observe brainprint, that issues of sustainability may be observed as part of this brainprint, and that there may be differences in both of these, when looking at different organisations with different economic structures over time.

### 4.3 Research design

In order to identify cases for analysis, a sample must be done. Similar studies (Adams-Bloom and Cleary, 2009; Gulyás, 2011; Hou and Reber, 2011; Olkkonen, 2018) select 'top' five or 10 companies to analyse, using ratings, revenues, or industry analyses of such variables. Blankenburg (1995) uses a large, existing industry survey to select three comparable titles, while Jaehnig and Onyebadi (2011), in contrast, use the UK's *The Guardian* newspaper as a 'trailblazer' against which to compare "major, publicly held, listed US companies" (p. 7).

In the UK each year, the communications regulator, Ofcom, asks a representative sample of people aged 16-plus about their news consumption habits and lists the “top 20 news sources” (2020, p. 19). These can be grouped by medium, ownership structure and funding source, but doing so presents some challenges, such as, where companies operate a number of businesses across different platforms. Discounting those in Ofcom’s survey that are not traditionally producers of journalism (for example, search engines like Google), there are a number of approaches that could be taken for sample selection. Adams-Bloom and Cleary (2009) limit their study to broadcasters; Gulyás (2011) and Hou and Reber, (2011) focus on the size of the media companies without considering medium or ownership; Ingenhoff and Koelling (2012) selected largest companies by revenue across five countries and purposefully identified different ownership structures for comparison; Olkkonen (2018) specifically excluded publicly funded organisations because they have different responsibilities in relation to her study.

This study purposively includes companies with different economic structures for comparison, but limits the sample to the most popular *publishers*, partly because of the stricter regulation applied to broadcasters as highlighted by Olkkonen (2015, 2018), but also because content analysis can be both expensive and time consuming (Wimmer and Dominick, 2011). For the purposes of this study, these are the Daily Mail and Mail on Sunday, owned by Daily Mail and General Trust (DMGT), and the Guardian and Observer, owned by Guardian Media Group (Edge, 2022), which is owned by the Scott Trust. Below is some key information about each group – with financial data taken from 2019-2020 because full details are available for each – after which, DMGT stopped reporting to Companies House as Associated Newspapers, instead providing generic figures for all its titles under the DMG Media division (ibid). After the table, some more recent changes at these companies are outlined for completeness.

Key data	Daily Mail and General Trust (DMGT) owner of Associated Newspapers or DMG Media	Scott Trust Endowment Fund (STEF) owner of Guardian Media Group (GMG)
Ownership (2021)	DMGT was a public limited company listed on the London Stock Exchange, chairman and majority shareholder Jonathan Harmsworth, 4th Viscount Rothermere, great-grandson of the 1st Viscount Rothermere Harold Harmsworth, who founded the Daily Mail with his brother. The news titles were reported under Associated Newspapers, now DMG Media.	GMG, whose core business is Guardian News & Media (GNM), is a private limited company 100% owned by the Scott Trust Endowment Fund (STEF), an "anomaly among UK newspapers in that... its losses are thus underwritten by a rich endowment" (Edge, 2022). Chairman of STEF is Ole Jacob Sunde, also chair of Scandinavian news-media company Schibsted. GMG is certified B Corporation.
News group titles (2021)	Daily Mail, The Mail on Sunday, plus Mailonline, Metro and The i	The Guardian, The Observer, plus Guardian.com
Availability	Freely available website, daily paid-for newspaper, both ad-supported.	Freely available website, daily paid-for newspaper, both ad-supported, plus one-off or regular donations
Monthly web visits (July 2021)(Tobitt, 2021)	157 million	129 million
Weekly print circulation (2020) (Edge, 2022)	11,986,008	842,691
Share (%) of 31.3m total sales	38.3	2.7
News group turnover (2019-20, £m) (Edge, 2022)	657	223.5
EDITDA (2019-20, £m) (Edge, 2022)	64.9	(6.9)
MARGIN (%)	11.4	-3

Table 11: Key organisational data for the Daily Mail and Mail on Sunday, owned by Daily Mail and General Trust, and the Guardian and Observer, owned by the Scott Trust Endowment Fund (cont. overleaf)

Key data (cont...)	Daily Mail and General Trust (DMGT) owner of Associated Newspapers or DMG Media	Scott Trust Endowment Fund (STEF) owner of Guardian Media Group (GMG)
Revenue streams (DMGT, 2021a; GMG, 2021, STEF, 2021)	<ul style="list-style-type: none"> <li>• DMG Media: subscriptions, circulation, advertising</li> <li>• DMG Events: events attendance and sponsorship</li> <li>• Joint-ventures and investments, DMG Ventures: RMS (insurance risk, sold 2020-21); Landmark Information Group and Trepp (property information); Hobsons (edtech, sold 2020-21); Genscape (energy information, sold in 2019), Cazoo (used car sales platform, listed 2020-21), Yopa (online estate agent); Kortext (digital textbooks)</li> </ul>	<ul style="list-style-type: none"> <li>• GMG: subscriptions, circulation, advertising, events, donations, philanthropic funding</li> <li>• Joint-ventures and investments, GMG Ventures: Channel M Television Limited, Ascential (business intelligence)</li> <li>• The Scott Trust Endowment Fund: invested in emerging markets equity, fixed income, hedge funds, private equity and venture capital funds, worth £1.1bn</li> </ul>
Sustainability commitments (DMGT, 2021a, 2021b; GNM, 2008; GMG, 2021, STEF, 2021)	<p>DMGT (2021a): reports on GHG emissions pointing to compliance with relevant legislation; explains drop in Scope 1, 2 and 3 emissions due to COVID-19 and reduction in UK coal use; installed solar panels, LEDs, sensors and EV charging.</p> <p>DMGT (2021b): first-ever sustainability report, covering 2019-2020, including indicators on reduced GHG and water in printing, free advertising given during the pandemic and value of employee volunteering hours, no commitments on emissions. Discusses climate "risks and opportunities" (pp.14-16) including print becoming "socially unacceptable" (p. 15), plus unclear related concern that "future UK government intervention, whether through taxation or other means, may result in the production and/or distribution of newspapers becoming significantly more expensive or not viable" (ibid).</p>	<p>GNM: independently audited 'Living Our Values' sustainability reports since the early 2000s. GNM (2008) notes issue with and criticism of advertising relationships, counts mentions of 'global warming' and acknowledges editorial content can influence people's behaviour.</p> <p>GMG (2021): reports on GHG emissions pointing to compliance with relevant legislation; overall emissions down due to building use, business travel and commuting during COVID-19, gas use up due to ventilation; committed to reaching 'net zero' carbon emission by 2030 – specific commitment to eliminate two thirds and offset the rest.</p> <p>STEF (2021): commitment to divest from fossil fuels made in 2015 and vast majority removed.</p>

The Daily Mail and General Trust was removed from the London Stock Exchange in 2022 after all shares were bought by Lord Rothermere and the company was thus taken private (DMGT, 2024). In September 2024, its titles held the top-three print circulations across the UK (Metro, Daily Mail and Mail on Sunday). The Guardian stopped reporting to the Audit Bureau of Circulation in 2021 but these are believed to be below 100,000 (Tobitt, 2024). In 2021, the company reported that 'donations' are now larger than advertising revenues and near-equal print, meanwhile more than 30 per cent of its total revenue and more than 50 per cent of its digital reader-revenue came from outside the UK (GMG, 2021).

Purposive samples are criticised as you cannot make generalisations from a non-probability sample (Riffe et al, 2019), yet they have been found to be very widely used in content analyses in the journalism field (Riffe and Freitag, 1997), where this review of *Journalism & Mass Communication Quarterly* studies published from 1971 to 1995 found that 68.1% used purposive samples and 9.7% used convenience samples. Building on Riffe and Freitag (1997), Riffe et al (2019) say: "Purposive sampling uses a non-probability sample for logical or deductive reasons dictated by the nature of the research project. Studies of particular types of publications or particular times may be of interest because these publications were important or the time played a key role in history" (ibid, p. 76), a justification for the initial selection of cases and time periods for this research project.

This study reflects "multistage sampling" (ibid., p. 83) because an initial, limited purposive sample has been made for logical deduction purposes, in order to make a deep comparison between two companies, followed by a further census of editorial outputs from four periods between 1972 and 2021, because these time periods represent important environmental moments. These are:

- 1972: the first-ever global environmental summit was convened – the United Nations Conference on the Human Environment – out of which came the United Nations Environment Programme (UNEP), which to some extent coordinates global responses to what appear as environmental challenges (United Nations, 1973)
- 1992: the United Nations Conference on Environment and Development, or the Rio 'Earth Summit', was held on the 20th anniversary of the 1972 event. It

is where the United Nations Framework Convention on Climate Change (UNFCCC) was established (United Nations, 2024)

- 2015: the UNFCCC COP21 ‘Paris Agreement’ committed almost 200 signatories to “limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels” (United Nations, 2015b).
- 2021: The COVID-19 pandemic led the United Nations to postpone the COP26 climate talks in Glasgow (UNFCCC, 2020). But 2021 finally saw (most) world leaders make it to Glasgow to thrash out what we needed to do next for the planet. It was billed by many as critical for getting countries on track with Paris commitments but has been branded a “failure” (Hales and Mackey, 2021).

A broad overview of the comparison is:

Overview of comparisons in study								
	1972		1992		2015		2021	
Guardian	Editorial	Advertising	Editorial	Advertising	Editorial	Advertising	Editorial	Advertising
Daily Mail	Editorial	Advertising	Editorial	Advertising	Editorial	Advertising	Editorial	Advertising

**Table 12: Overview of comparison in study: publisher, year, item type**

It is legitimate to introduce a ‘control’, which the researcher considers an influencing factor, that is outside of the content analysis (e.g. organisational structure) – but it may be that further, many unknown factors are influencing the content. Riffe et al (2019) find the (re)development of such a model an exciting prospect, but the practicalities around ensuring the control has internal validity are daunting. Similarly, a number of justifications exist regarding external validity in relation to the nature of the content – that it may have an impact on a wide audience or that it may have a role in society – such as mass-market news media organisations.

That both those chosen for this study are legacy ‘print’ news media companies will enable for closer inspection of what specific mechanisms may be influencing any differences in approach to sustainability. Yet, CR does not require, as in positivist studies, that “everything bar one variable is the same” (Ackroyd and Karlsson, 2014,

p. 32), the critical thing is the study of the “mechanism(s) that are at work and how they work themselves out in particular places” (ibid).

Interestingly Ackroyd and Karlsson use advertising as an example here, in that they suggest “[it] is thought to be crucial to the economic functioning of market societies... the effectiveness of advertising in motivating consumers to buy products will affect not only producers and consumers, but also the entire fabric of social relations linked in the market... advertising messages can have cultural byproducts because of social roles or stereotypes they communicate” (ibid, p. 144). They add: “Similarly, news coverage of political controversy is examined because it may influence public policy affecting millions. The political ethic of most Western societies is that an informed citizenry, acting through democratic institutions, determines policy choices. Clearly, then, the way these choices are presented has the potential to influence the agendas and opinions of these citizens” (ibid).

A quantitative content analysis is being proposed to understand brainprint, the potential effects of the cultural emissions of news media, which is its content. The unit of analysis is content units, including stories, advertisements, listings and content promotion items in print newspapers over four two-week periods (1972, 1992, 2015, 2021). These years have been chosen because of relevant environmental conferences happening during these times. Riffe et al (2019) highlight the challenges associated with coding for “multiform communication” (p. 53) because of the potential for there to be incoherence between the two, which may be hard to reconcile even if (or perhaps because) they are studied separately and brought together later. Yet, this content analysis is firstly, bringing such content together to study and also looking for such incongruence, particularly between journalistic and commercial messaging.

That UK newspapers have a far larger audience online today (as seen Table 11) is something dealt with in the discussion. What physical newspapers do still offer us is a daily snapshot of something which is intended to be read, and which is fixed in time, so we can look back and consider changes over time. Aside from those limitations already outlined, another of such quantitative content analysis is that it can “only describe the content rather than predict or explain effects” (Weerakoddy, 2015, p.160) – this is where the theoretical framework will be used in the Discussion and conclusion, to help make visible potential *inputs*, *outcomes* and *impacts*.

The researcher used the Association of Internet Researchers' guidance on "ethics of care" (Franzke et al, 2020, p. 5), recommended by UK Research and Innovation, to complete a detailed ethics submission. The concern was in the potential collection of personal data of people named within newspaper content who would not be expecting such future use. The university ethics board did not consider this a serious risk.

#### 4.4 Content analysis pilot

A pilot study began in September 2022 to May 2023 with the ambition to understand whether it is possible to quantify the brainprint of a newspaper by analysing what kinds of content it contains and how much 'prominence' is given to different things. It was theorised that doing this over time can add even greater understanding, how much has the type of content and prominence changed over time? Further, a comparative study could enable us to see differences at an organisational level. All of this work would then allow the researcher to understand how economic and environmental issues have been dealt with over time, speaking to the tension within the literature on sustainable development, as well as theoretical issues raised about the press theory and values that may underpin the news media at large.

The pilot tested content categories, levels of measurement and their associated coding categories, particularly to try to avoid the subjectivity that can be built in to content analysis (Weerakoddy, 2015). This required the selection of a small amount of content to be analysed, and comparison with the relevant literature, before the creation of operational definitions (ibid). It is suggested that a second coder is required to perform a reliability check on 10 percent of the coded material to ensure "inter-coder reliability" (ibid, p. 158) but this was not part of the funding of this project.

This soon became a question of 'how *quickly* can you measure everything?', as well as, 'how quickly can you measure everything so that, *no matter what it is*, it can be compared to anything else?'. This question of speed, or lack of, was greatly compounded by the inaccessibility of full-page copies of old newspapers.

Along with what we mean by 'content' and what we mean by 'prominence', which will be discussed later in this section, this study is challenging for many reasons, some of which include: accessibility of old copies of newspapers, quality of accessible copies,

changes in size and format, diversity of potential content for comparison and the choice of variables within such content.

### *Accessibility, quality and format*

Through university subscriptions, many newspapers are available to researchers in a text-only format, which reasonably easily allows for research that considers *what* was said, particularly about a specific thing, using relevant keywords. What may be harder to discern from this kind of research is what was said, in the context of everything else, and less still, what was given greater prominence at any given time.

The selected copies were ultimately obtained through a combination of sources, via a new service provided for free for a limited period by the researcher's local council library (Liverpool City Council) called PressReader and the British Library in London (collected 21 to 25 February 2022), along with collection on the day they were published for most of the 2021 editions.

What turned out to be the most reliable source of full-page visuals of both newspapers was the British Library's microfilm archive, committed as it is to providing access to these, although they are now dealing with their own understandable storage issues. Over the course of the research period, some of these titles went from being available 'open access' from filing cabinets in the Newsroom, to having to be ordered from the stores in the basement at St Pancras.

The 'Manchester Guardian', as it is called by the British Library for consistency, is available from 1821 to date, on microfilm with all of its supplements, while the Daily Mail is similarly available here from 1896 to date. 'The Observer', today largely considered the *sister* title of The Guardian, was founded much earlier than its sibling, as Britain's first Sunday newspaper in 1791 (Britannica, 2024c, np), and only joining the Guardian Media Group in 1983. It remains a separate title for archiving purposes. 'The Mail on Sunday' only launched in 1982, likely symbolising something of a 'battle for Sunday' at this time, given The Guardian's purchase in the following year.

Both Sunday titles are available in full on microfilm – however all four titles saw a recent lag between being published and being archived – as archivists battled to catch up with their work following the COVID-19 pandemic. Archiving on microfilm also

means they are not available in colour, so some copies of the Daily Mail are supplemented through PressReader, where the Daily Mail is more extensively available than The Guardian.

The microfilms, particularly the older editions, have some pages that are hard to read, likely partly evidencing advances in printing over time, as well as, likely, microfilm techniques too. To access the pages for analysis, each one has to be individually captured and emailed as a PDF, with a page code created by the researcher for easy identification, which is a cumbersome process. Other archives, such as ProQuest Historical Newspapers, can supplement this process where available for the relevant time period.

### *A model for measuring everything?*

A number of studies that analyse some aspect of newspaper content over time have been set out above, but what proved invaluable when embarking on this task was a 'how-to' guide called *Analyzing Newspaper Content* (Lynch and Peer, 2002) from the Readership Institute. It was funded by news executives and enabled researchers to conduct some of the largest-ever studies of this kind at the Media Management Center of Northwestern University at the turn of the millennium.

That this body no longer exists and key links to its work now lead to dubious sources (see: [www.mediamanagementcenter.org](http://www.mediamanagementcenter.org) and [www.readership.org](http://www.readership.org)) neatly demonstrates a problem with our digital world – nothing *is*. Nobody said anything. Everything is now. This phenomenon rather plays into the newness of news, but does not assist those people, researchers or otherwise, who want to know what was said yesterday, last year or last century. An initial warning in this text, which was not well-heeded, was how time-consuming this process can be. The *Analyzing Newspaper Content* guide (Lynch and Peer, 2002) advised immediately dismissing all adverts from the study and dealing separately with what it calls 'content promotion' and 'listings', which are editorial but not 'stories'. It broadly suggested not to measure everything – particularly focusing on lead 'quadrants' when trying to assess prominence, along with flagging stories that appear on the front page or a section front. These content units are defined as:

Types of 'content unit' or 'item'	Definition
<b>Advertising</b>	Content that is funded by external organisations, including advertisements and other content sponsored by external organisations – excluded from the <i>Analyzing Newspaper Content</i> (Lynch and Peer, 2002) guide, despite the acknowledgement of its presence
<b>Content promotion</b>	Information about the edition, the newspaper and its brands, including house adverts – limited to content that doesn't direct people to specific pages of the newspaper
<b>Editorial</b>	Content written by the publisher for the communication of specific stories, for the purposes of this study that includes all 'jumps' that lead the reader to specific pages, but does not include general 'refers' to things inside or contents listings
<b>Jump</b>	"A story is said to have 'jumped' when it is continued on another page – usually with a tag such as 'see Tree Page 8' at the end" (ibid, p. 16) . Where this is the case, these are usually included within the final totals of the original referring page and only as individual rows if they appear in the original sample of pages, but if so, final page totals are not included in final columns to avoid double counting. What this allows for is 'following the logic' of the newspaper if it is read faithfully and any instructions to go to another page are followed.
<b>Listing</b>	"[E]ditorial content that is not a story, not a paid advertisement, presented as a collection of numbers and other information and is not in complete sentences" (ibid, p. 9)
<b>Suppressed content*</b>	Refers to issues where at source the contents was obscured with a warning that said 'Content has been suppressed for editorial and/or legal reasons'

**Table 13: Definitions of 'content units ' or 'items'**

\*Suppressed content (SC) appeared in two editions of the Daily Mail downloaded from Press Reader, though only one ended up in the more detailed sample (Daily Mail, 2015a). This means we do not know what the story is, though it was obviously printed at the time. The other edition was included in the wider sample, which the researcher was able to get in the original print – the story relates to the theft of personal data of “world leaders, Hollywood A-listers and billionaire tycoons” (Mail on Sunday, 2021b, p. 1) from a jewellery firm. This story, and its subsequent obscuring, is no doubt interesting.

The guide suggests an entire story (including jump pages), as well as all pictures, may be measured in square inches, reflecting their understanding – given the target audience of the guide and the time it was produced – that the user would have access to physical copies. It offers non-exhaustive recording templates as a basis for reviewing each of the three items that it considers editorial in one shape or form, which have been reviewed and updated for this study.

This pilot *attempted* to go beyond some of what was suggested by the guide – firstly by including adverts for comparison, secondly by attempting to consider content promotion and listings in a comparable way to stories, and finally, by going deep into measurements of space without having access to physical copies. This included: area of entire 'content unit' with things like teaser information, area of headline and area of body copy.

Although not necessarily front and centre for this study, following the guide's lead, in this pilot, the researcher also attempted to gather: source of story, number, type and demographics of source, and visibility and demographics of people included in photographs. These become more relevant when considering the brainprint in more detail.

Additionally, other categories revealed themselves through the sample-gathering and coding process, such as: name, expertise and demographics of journalist, and whether the piece was part of a named feature, which appears to indicate some kind of importance aside from a named section. For photographs, the presence or absence of nature, cars and technology in general also felt relevant to capture for this study.

This was done for 20 pages of one copy of each newspaper for the pilot, not least because these were 2021 issues and thus available in printed format so easier to measure and mark. This was successful, in the sense that stories, content promotion, listings and advertisements can be captured and compared in this way. But this proved exceptionally time-consuming. Not least because this iterative data-capture process evolved to include 216 data fields captured in Excel.

Given the decision to measure everything' a full list of content topics was needed for the pilot, with the aim of coding and comparing all content 'types'. This was created by combining and refining two editorial category frameworks, one from the Reuters Digital News Report (2022) (n=16) and one from Thomas (2016) (n=32), who completed a rigorous content analysis of economics coverage in British TV news during the course of his thesis, while also taking a critical realist approach.

Thomas provides a detailed basis for his news coding, developed and redeveloped "to introduce as much nuance as possible to the understanding of news agendas" (2016, p. 382). His work is based on large studies done by Barnett et al (2000; 2012), whose coding was similarly iterated and reiterated. For this thesis, the researcher approached the Reuters Institute research team to ask about the provenance of their topics, which are useful as they are current, applied across media formats and used in many countries, yet they include things like 'fun', which is absent from Thomas' list. They responded that their latest categories are based on lists compiled over time for their annual global audience surveys, as well as drawing on the information

preferences work of Boczkowski and Mitchelstein (2013), along with historical studies such as Gans' 'news values' (2004), which were based on the original conception of Galtung and Ruge (1965).

Yet, while Gans' study of US TV news, for example, may be enduring, it is not hugely practical, in that his six categories are summarised as 'ethnocentrism', 'altruistic democracy', 'responsible capitalism', 'small-town pastoralism', 'individualism' and 'moderatism'. Both of these also inform later seminal works on understanding media content, such as Harcup and O'Neill (2001) and Shoemaker and Reese (2014), yet these too are more geared towards describing 'what makes something news', rather than practical topic categories for what you can see in a newspaper (see for further example: Harcup and O'Neill, 2016).

Thomas' (2016) categories and descriptions are extensive, including narrowing some items to UK-only stories, while then having more general topics that are applicable to international stories too. Thomas also explained that he added topics based on the current news agenda (like Scottish Independence) because this was making headlines during the period of his study. He did not include subtopics, instead using descriptions to make clear the variety of things that may be included in certain categories. Reuters' approach was much more simple, likely because its list must be understood by members of the public who respond to these topics via a survey. Similarly, Reuters added 'Coronavirus' to its list because of the news agenda.

A process of 'topic matching' was done to see where alignment and disagreement existed between the two sets – broad topics like 'economics', 'crime', 'education', 'environment' and 'sports' appear to be enduring – but a lot of nuance can be lost in top-level topics only. Reuters, for example, has a topic called 'international news', while Thomas' framework allows for international news to be specified down to many different areas. For this thesis, in order to keep hold of any nuance, it was decided that further topic specification would be done via subtopics. Subtopics were captured as they arose in the above initial category-categorising process, as well as revealing themselves through the sample-gathering and content-coding process, such as 'woke' in the 'political' category, which is a preoccupation of the media at present, and doesn't fit into more traditional subcategories, such as 'policy' or 'process'.

For the purposes of this pilot, the researcher combined all of the categories into a final list – but allowed for two topics and two subtopics to be chosen per content item, so as not to lose detail in the first instance. See these in Table 14 – subtopics are supplied in [Appendix 2](#).

<b>Topic</b>	<b>Definition</b>
Brand	Aspects of the newspaper related to the publisher
Culture	Centred on things considered more 'high brow' forms of entertainment
Economics	Centred on micro, meso and macro economic issues
Education	Centred on education issues
Environment	Centred on environmental issues
Foreign affairs	Centred on another country, region or global issue
Fun	Centred on light-hearted or amusing things
Health	Centred on human health issues
Home affairs	Centred on things happening in the UK, except those with a more specific topic category
Lifestyle	Centred on personal consumption and other personal issues
Local	Centred on a smaller geographical area than the UK as a whole
Media	Centred on the media industry rather than its contents
Political	Centred on political issues
Popular entertainment	Centred on things considered more 'low brow' forms of entertainment
Religion	Centred on religious issues
Science	Centred on science issues
Social justice	Centred on social justice issues such as disability or race
Sports	Centred on sports
Technology	Centred on technology
Transport	Centred on transport

Table 14: Topic codes to be assigned to all content units

**Advertising ‘categories’** – advertising items were given a topic as described above, for comparison with editorial items, but there was also the opportunity to make use of standard advertising industry categories to add further, specific detail to these content units. The World Advertising Research Center (WARC, 2024) lists 19 major advertising categories:

<b>WARC major advertising categories</b>
Alcoholic drinks
Automotive
Business & industrial
Clothing & accessories
Financial services
Food
Household & domestic
Leisure & entertainment
Media & publishing
Non-profit, public sector & education
Pharma & healthcare
Politics
Retail
Soft drinks
Technology & electronics
Telecoms & utilities
Tobacco
Toiletries & cosmetics
Transport & tourism

**Table 15: WARC major advertising codes to be assigned to all advertising content units in addition to topic (WARC, 2024)**

But the industry has a further, extensive list of subcategories that were accessed via its business intelligence website as an Excel spreadsheet, which also demonstrate both idiosyncratic or telling choices, and inevitable gaps. This speaks to the suggestion (Ceasar and Hodgson, 2009) that this part of the media industry measures itself extensively. Below is a list of the number of minor advertising categories deployed per major category by WARC.

<b>Major category</b>	<b>Minor categories (# large to small)</b>
Technology & electronics	234
Food	211
Toiletries & cosmetics	191
Household & domestic	188
Financial services	167
Business & industrial	136
Retail	119
Leisure & entertainment	116
Transport & tourism	91
Automotive	87
Media & publishing	75
Clothing & accessories	67
Telecoms & utilities	64
Soft drinks	44
Pharma & healthcare	40
Alcoholic drinks	38
Non-profit, public sector & education	37
Tobacco	7
Politics	2

Table 16 WARC minor advertising categories (WARC, 2024)

One further set of data was included here, relating to “Advertised Emissions” (Kite et al, 2022, p. 1), which uses the WARC codes to assign emissions to advertising categories. Advertised Emissions multiplies the advertising spend by sector, by the return on investment (ROI), by the greenhouse gas (GHG) emissions per £1 output. This is represented in million tonnes CO<sub>2</sub>e. It does not include the use phase (ibid) of the products advertised, meaning a real underestimate of total GHG emissions. Advertised Emissions were noted to have risen by 11 per cent, from 186 million (Co<sub>2</sub>e) in 2019 to almost 208 million in 2022. They suggest “business as usual” (ibid, p. 8) will see this rise to 273 million by 2030 – but that this needs to be cut to less than 100 million. The authors make many recommendations for advertisers and publishers – and news media could easily take them up on working with lower-emissions sectors, as the Guardian has demonstrated with its commitment to rejecting fossil fuel ads (Waterson, 2020).

#### 4.5 Content analysis pilot findings – measuring space and sustainability

The pilot demonstrated that it was possible to take all content units found in a newspaper and attribute comparable aspects: size, frequency and contents, to each

item. Some, such as 'advertising category', were attributed only to advertising. Others, such as 'named author' were attributed only to editorial. It was judged that identifying the expertise and demographics of sources was almost impossible, so this was not taken forwards, but demonstrates an issue with news reporting that is worthy of further interrogation. The researcher continued to try to capture the ultimate source, but this was often challenging because it was simply not clear.

### *Issues with measuring space*

What proved extremely challenging, as described above, was measuring the size of content units quickly and precisely, both in terms of word counts and dimensions – so a proxy for space was created – by extending the initial method of the guide. The guide suggested logging the starting quadrant, suggesting that the top left was the most likely to be read and so the most prominent, followed by the top right, bottom left and then bottom right. In order to try to get a proxy measure for the entire space taken up by a story, these quadrants on a single page were thus given a score based on this prominence:

4	3
2	1

**Figure 29: A methodological contribution for measuring space**

For this research, as well as logging the starting 'quadrant score' (4 being the highest, 1 being the lowest), if a 'content unit' spanned one or more of these quadrants, the score was totalled. For example: a story starting in quadrant 4 and also touching on 3 and 2 would get a score of 9. This means a content unit touching all four quadrants,

though not given a full page, would get a total ‘space score’ of 10. To distinguish this from a full-page ‘content unit’, judged to be the most prominent as it has its own full page, these were given a score of 25, or 50 if a double-page spread.

<b>Space score</b>	<b>Definition</b>
1	Starts and finishes in the bottom right
10	Touches all quadrants but not a full page
25	Full page
50	Double-page spread

Table 17: Example ‘quadrant score’ method used for judging space given to each item

The above method enabled reasonably quick judgements of space and thus comparability of size across items. Challenges came when a content unit was *only just* in any quadrant, so a blanket decision was taken to count that it was in this quadrant. Though this method ‘works’, given one quadrant can have a number of items in it, the total page scores, if added up, would not reflect the total page figures applied to single content items. This also does not capture word counts, something it was decided not to pursue due to time taken, though there may be a way to easily estimate these using digital technologies.

The *Analyzing Newspaper Content* (Lynch and Peer, 2002) guide suggested that story ‘teasers’, often found on the front page, and ‘jump’ pages, found in subsequent pages, be treated differently to editorial. This would mean the former being logged separately as ‘content promotion’ and the latter’s information being bundled up with the information captured about the first page related to the relevant story. This pilot has successfully created a means to capture both, meaning logging each item separately, and all as part of the space associated with a single piece of editorial. But this, again, is very time-consuming for a single PhD researcher. This means a compromise had to be made – between sufficiently representing the space given to each content item – and the time taken to capture that information.

## 4.6 Content analysis

### *Revisiting the sample*

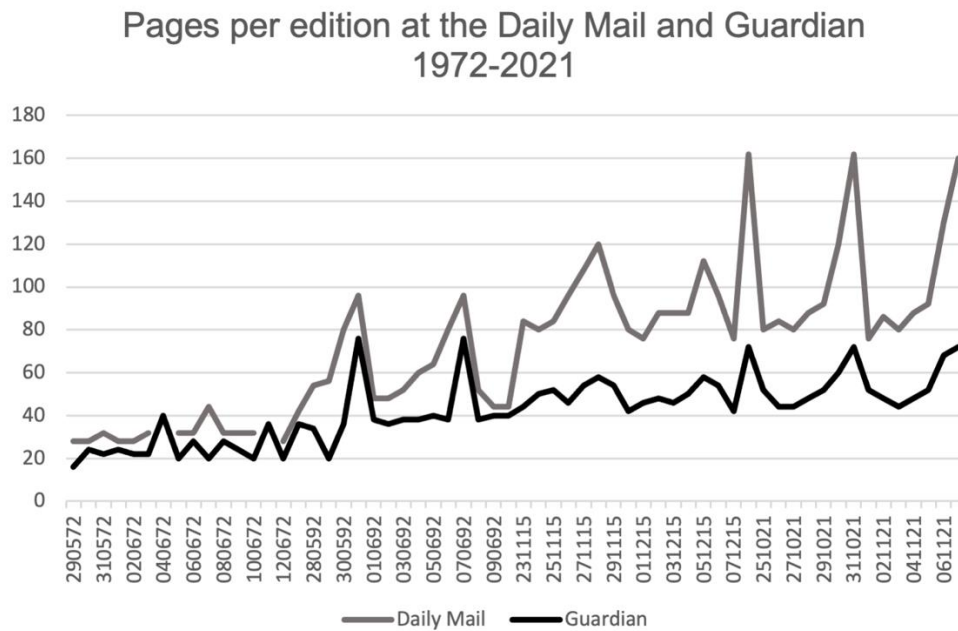
Over the four time periods, the intention of this exploratory content analysis was to code all items of content in each newspaper over the seven days prior to the relevant global environmental conference, on the day itself, and over the seven days afterwards (n= 120). The idea was to gather indicative data about how each newspaper's brainprint or cultural emissions appear in relation to this event and each other – and what may have changed over the years. Below was the planned schedule (Table 18), with the column in bold representing the day of the relevant conference, and the rows with either 'D' Daily Mail or 'G' Guardian noting the page counts. Though many editions were almost surprisingly intact at source, those in orange had some missing pages. Those with two figures in the relevant box were issues where the page numbers were different to the pagination – because an advertising page had been added in.

Number of pages in each edition of each newspaper in sample: 2021, 2015, 1992, 1972 (n=120)															
2021	Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su
<b>Date</b>	<b>241021</b>	<b>251021</b>	<b>261021</b>	<b>271021</b>	<b>281021</b>	<b>291021</b>	<b>301021</b>	<b>311021</b>	<b>011121</b>	<b>021121</b>	<b>031121</b>	<b>041121</b>	<b>051121</b>	<b>061121</b>	<b>071121</b>
<b>D</b>	162	80	84	80	88	92	120	162	76	<b>86/84</b>	80	88	92	<b>130/128</b>	160
<b>G</b>	72	52	44	44	48	52	60	72	52	48	44	48	52	68	72
<b>2015</b>	M	T	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su	M
<b>Date</b>	<b>231115</b>	<b>241115</b>	<b>251115</b>	<b>261115</b>	<b>271115</b>	<b>281115</b>	<b>291115</b>	<b>301115</b>	<b>011215</b>	<b>021215</b>	<b>031215</b>	<b>041215</b>	<b>051215</b>	<b>061215</b>	<b>071215</b>
<b>D</b>	84	80	84	96	108	<b>120</b>	96	80	76	88	88	88	112	96	76
<b>G</b>	44	50	52	46	54	58	54	42	46	48	46	50	58	54	42
<b>1992</b>	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W
<b>Date</b>	<b>270592</b>	<b>280592</b>	<b>290592</b>	<b>300592</b>	<b>310592</b>	<b>010692</b>	<b>020692</b>	<b>030692</b>	<b>040692</b>	<b>050692</b>	<b>060692</b>	<b>070692</b>	<b>080692</b>	<b>090692</b>	<b>100692</b>
<b>D</b>	42	54	56	80	96	48	48	52	60	64	80	96	52	44	44
<b>G</b>	36	34	20	36	70	38	36	38	38	40	38	76	38	40	40
<b>1972</b>	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su	M
<b>Date</b>	<b>290572</b>	<b>300572</b>	<b>310572</b>	<b>010672</b>	<b>020672</b>	<b>030672</b>	<b>040672</b>	<b>050672</b>	<b>060672</b>	<b>070672</b>	<b>080672</b>	<b>090672</b>	<b>100672</b>	<b>110672</b>	<b>120672</b>
<b>D</b>	28	28	32	28	28	32	<b>X</b>	32	32	44	32	32	32	<b>X</b>	28
<b>G</b>	16	24	22	24	22	22	40	20	28	20	28	24	20	36	20

Table 18: Number of pages per edition of each newspaper in sample

<sup>3</sup>D = Daily Mail / Mail on Sunday, G = Guardian / Observer, bold column = start of environmental conference

Top-line observations were captured on an Excel spreadsheet for all editions across all time periods as the newspapers were being gathered and filed (price, sections, supplements, potentially relevant content units), and are discussed in the [Findings](#).



4

**Figure 30: Graphs of pages per edition of each newspaper in sample**

Counting only the number of pages in each newspaper in this initial sample, pagination has grown considerably over the past 50 years. The spikes in the graph above represent peak pagination on Sundays – and we can see particular variation between weekdays and weekends when looking at later Mail on Sunday editions – while the pagination of the Guardian newspaper is relatively stable from the 1990s to today. Though we must also remind ourselves at this point that the gaps between each time period are not even (20 years, 23 years, six years).

One further issue was presented with Sunday editions – firstly in that, prior to 1982, the Daily Mail did not have a Sunday edition and the Guardian only bought the Observer in 1983, though it existed before as a separate title. Relatedly, the researcher tested the method for analysis on the first edition of the latest year due for analysis – which was a Sunday. This means, unlike other years, Sunday was being analysed here, when it certainly couldn't be for some of the other years.

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<sup>4</sup> UNWEIGHTED

Given the time the sample collection and then the coding had taken during the pilot, it was decided to significantly strip back the sample to be coded in full – in two ways. Firstly, on the number of editions – it was decided that the first and the last edition in each period would be enough to give indicative data about the contents of each newspaper in each period. Secondly, on the number of pages – it was decided that 20 pages of each title was enough. The logic for this was that, in 1972, if you picked up a copy of the Guardian, you were most likely to find one with 20 pages, but even as little as 16 pages were deemed suitable for the reader of a daily newspaper to get all of their news that day. Ultimately in later editions, pages after this are often dedicated to non-news items.

We already know that the size of the Guardian’s pages has reduced over time, while the Daily Mail has remained broadly the same since the 1970s. An alternative decision at this point could have been to only look at front pages (n=120), but these are highly unlikely to reflect the amount of advertising in a newspaper, for example.

This decision means earlier editions are overrepresented in terms of the percentage of their pages included, if not the total number of pages included. A weight must also be added to the first edition of the Guardian sampled because it only had 16 pages (20/16 = 1.25). This meant the sample stood at:

<b>Number of pages in each edition of each newspaper in smaller sample: 2021, 2015, 1992,1972 (n=16)</b>		
<b>2021</b>	<b>Su</b>	<b>Su</b>
<b>Date</b>	241021	071121
<b>D</b>	<b>20</b>	20
<b>G</b>	<b>20</b>	20
<b>2015</b>	<b>M</b>	<b>M</b>
<b>Date</b>	231115	071215
<b>D</b>	<b>20</b>	<b>20</b>
<b>G</b>	20	<b>20</b>
<b>1992</b>	<b>W</b>	<b>W</b>
<b>Date</b>	270592	100692
<b>D</b>	20	20
<b>G</b>	<b>20</b>	<b>20</b>
<b>1972</b>	<b>M</b>	<b>M</b>
<b>Date</b>	290572	120672
<b>D</b>	<b>20</b>	<b>20</b>
<b>G</b>	<b>16</b>	20

**Table 19: Number of pages per edition in smaller sample**

However, because of the ‘Sunday problem’, it was also decided that additional days would be added to the 2021 sample:

<b>Number of pages in each edition of each newspaper in revised smaller sample: 2021, 2015, 1992,1972 (n=20)</b>				
<b>2021</b>	<b>Su</b>	<b>M</b>	<b>Sa</b>	<b>Su</b>
<b>Date</b>	<b>241021</b>	<b>251021</b>	<b>061121</b>	<b>071121</b>
<b>D</b>	20	20	20	20
<b>G</b>	20	20	20	20
<b>2015</b>	<b>M</b>			<b>M</b>
<b>Date</b>	<b>231115</b>			<b>071215</b>
<b>D</b>	20			20
<b>G</b>	20			20
<b>1992</b>	<b>W</b>			<b>W</b>
<b>Date</b>	<b>270592</b>			<b>100692</b>
<b>D</b>	20			20
<b>G</b>	20			20
<b>1972</b>	<b>M</b>			<b>M</b>
<b>Date</b>	<b>290572</b>			<b>120672</b>
<b>D</b>	20			20
<b>G</b>	16			20

Table 20: Number of pages per edition in revised smaller sample

Though at the time of data collection this appeared to solve a problem, this decision meant the second set of 2021 editions started on a Monday and ended on a Saturday – which means another longer newspaper included at the weekend. Within all of the editions (n=20) and pages listed above (n=396), 1746 items were ultimately coded in full:

<b>Items coded</b>	<b>Count</b>
<b>Editions</b>	20
<b>Pages</b>	396
<b>Advertising (A)</b>	215
<b>Content promotion (CP)</b>	219
<b>Editorial (E)</b>	1071
<b>Jump (J)</b>	127
<b>Listing (L)</b>	113
<b>SUPPRESSED CONTENT* (SC)</b>	1
<b>GRAND TOTAL</b>	1746

Table 21: Number of editions, pages and items coded in full

When thinking of comparability over time, there are issues with using either the ‘Sunday set’ or using the later issues added. The Sunday editions of the Daily Mail were much longer than all of the other editions in the sample, so a smaller percentage of pages were analysed, and the teams producing them and intended audience may well be different. However, they do offer consistency in terms of the day they were produced for and comparable pagination between the two editions. Edition codes used and references are as follows:

<b>Edition codes</b>	<b>Reference</b>
G290572	Guardian, 1972a
D290572	Daily Mail, 1972a
G120672	Guardian, 1972m
D120672	Daily Mail, 1972m
G270592	Guardian, 1992a
D270592	Daily Mail, 1992a
G100692	Guardian, 1992m
D100692	Daily Mail, 1992m
G231115	Guardian, 2015a
D231115	Daily Mail, 2015a
G071215	Guardian, 2015m
D071215	Daily Mail, 2015m
O241021	Observer, 2021a
M241021	Mail on Sunday, 2021a
G251021	Guardian, 2021a
D251021	Daily Mail, 2021a
G061121	Guardian, 2021l
D061121	Daily Mail, 2021l
O071121	Observer, 2021b
M071121	Mail on Sunday, 2021b

Table 22: Edition codes and equivalent references in revised smaller sample

### *Coding*

This exploratory content analysis of each newspaper's brainprint ultimately contained 84 variables (see: [Appendix 2](#)) that may be useful for identifying potential brainprint, sustainability issues within this brainprint, changes over time and differences between publications. These will be further considered in the discussion for evidence of values (*input*) and potential *outcomes* and *impacts* as per the theoretical framework.

This figure was reduced from the 216 data fields in the pilot study. Some variables are largely functional, such as item and page codes, though both proved enduring from the start to the completion of data gathering, making review and analysis of particular pages and items reasonably straightforward. Several of these variables also have further lists to choose from, also detailed in [Appendix 2](#).

Items have been coded and are fully searchable in an Excel database following the logic:

Variable	Identifier
Page	EDDDDDD-PXXX
Item	EDDDDDD-IXXX

Table 23: Logic for naming pages and items

The two key means for quantifying items coded with any of the above variables are thus:

Operator	Definition
Item count	Number of items coded with a particular variable
Space score	Sum of quadrant score of items coded with a particular variable

Table 24: Definitions for two key quantified operators

### *Recoding to quantify sustainability*

As already discussed, topics for news-media content were surprisingly hard to come by in a standardised form. But what also became clear during the content analysis proper was that these large buckets may be quite poor at helping us understand what is ultimately inside. In particular, though ‘economics’ and ‘environment’ do often come as standard editorial topics, neither is inherently geared towards either ‘economic sustainability’ or ‘environmental sustainability’ (or of course, ‘social sustainability’). New variables were therefore needed, which were tested on a small sample of editorial items, then used on a stratified sample of all advertising and editorial items from each publisher over each time period (Ahmed, 2024).

The categories, ‘economic sustainability’, ‘environmental sustainability’ and ‘social sustainability’ (Barbier, 1987) as identified in the Theoretical framework are now widely understood. Definitions of these were developed using the work of economist Kate Raworth (2012; 2024) and environmental scientists (Steffen et al, 2015) particularly, building out the ‘safe, just and equitable’ theoretical construct visualised in the final section of the Theoretical framework.

Themes include:

	<b>Indicator of unsustainability (-1)</b>	<b>Indicator of sustainable output (0 not present, 1 partial, 2 sustainable)</b>
<b>Economic</b>	Short-term, profit, exploitation, wealth, inequality, cuts	Long-term, equity, redistribution, economic caution
<b>Environment</b>	Pollution, overconsumption, growth, high-impact lifestyles	Conservation, renewable energy, emissions reduction, low-impact lifestyles
<b>Social</b>	Inequality, discrimination, exploitation, social control, conflict	Inclusion, wellbeing, justice, social freedom, rights

Table 25: Definitions of sustainability and unsustainability informed by: Barbier, 1987; Daly, 1993; Steffen et al, 2007; McElroy et al, 2008; Rockstrom et al, 2009; Raworth 2012; Anderson et al, 2020; Rockstrom, 2021; Rockstrom et al, 2021; Chancel et al, 2022; Khalfan et al, 2023.

A scale was used for each category, from -1 to 2, where -1 is 'unsustainable' in one area, 0 represents 'not present', 1 represents 'partial or narrow' and 2 represents 'sustainable'. Alternatively, it was considered that, following McElroy et al's (2008) suggestion and Raworth's (2012) logic, environmental sustainability reflects a reduction in harm (-), while social sustainability is additive, where more is better (+), potentially meeting at 0 or sustainable. But this was not used in the coding as it presented oddities in the arithmetic. McElroy et al (2008) also make the case for a binary view of sustainability, *is it sustainable, or not?* But this limited the quality of the observations. Barbier (1987) and Daly (1993) particularly emphasise the likelihood of 'trade offs', meaning that ultimately 'the economics wins'.

Each item was evaluated including a short commentary explaining the decision, with one further variable to highlight if it is considered any 'missing' aspects represented a real 'omission'. For example, an advert selling a car likely will not refer to the environmental damage it does, but would we reasonably expect it to? Yet, absence of relevant discussion could be meaningful, so this was included as a measurable indicator.

#### 4.7 Critical reflections on the content analysis

The above represents a real attempt to faithfully 'measure everything' in a newspaper to try to give a clearer understanding of its cultural emissions, offering the ability to compare items or content units over time, across types, topics, publishers and time

periods, and more (see: [Appendix 2](#)). It particularly builds on well-tested, practical guidance from Northwestern University (Lynch and Peer, 2002) and tries to answer many calls for greater understanding of these background things (Toennesen et al, 2013) that make up 'output', extending expert approaches like that of Boykoff et al (2021) at their invitation. Attempting to do this presented challenges, but even the initial pilot process offered many insights that inform the research approach and could be interrogated further by future researchers.

One can legitimately surmise from this initial research task that it is certainly time-consuming to try to understand what things have been given more or repeated space over time in our national newspapers. Though it was also acknowledged in the literature that this would likely be difficult, for reasons both technical and of sheer volume, the reality seems to render calls for the need to 'watch the watchers' both vital and yet rather impotent.

The initial plan soon became unwieldy partly because pagination increased from just 16 and 28 in the first editions of the Guardian and the Daily Mail chosen for analysis (Guardian, 1972a; Daily Mail, 1972a), to the last, which were 72 and 160 pages respectively. So, if 50 years ago, this was 'enough' to inform the reader about 'everything going on in the world' – what has changed? Can considering this itself prompt further insights on the news media's cultural emissions?

The latter editions often also came with extensive additional materials, such as magazines. One thing to note here is that, what the Daily Mail largely does that the Guardian did not is to include many of its 'supplements' as part of the pagination of the newspaper. Instead of this, for many years the Guardian included many additional supplements of varying size (such as G2 and the Guide). On Saturdays in 2015, you could receive more than 400 pages (of varying sizes) in your Guardian bundle, for less than twice the price (£2.70) of the usual weekday paper (£1.80).

All except the Mail on Sunday, due to its more recent launch, have changed format over the years, with the Daily Mail moving from 'broadsheet' to tabloid in 1971. Interestingly, so-called broadsheet newspapers varied in size during the 19<sup>th</sup> century, but by the 20<sup>th</sup> century had become standardised to 15-inches width by 22-inches length. Tabloids were, then, half this size. All of this presents a challenge when

comparing time periods – much more could fit on one page in 1972 – while newspapers had much smaller pagination and limited supplements.

The Guardian, notably, went instead from broadsheet to the ill-fated, design-first Berliner format in 2005 (followed by the Observer in 2006) and claims to have become the first full-colour British newspaper at this time too (see: Guardian News & Media, 2017). According to The Media Leader (2005, np), the newspaper experienced the largest year-on-year decline of any title in the month before the Berliner relaunch.

Both titles then moved together to the more widely used tabloid format in 2018 – with each of the subsequent redesigns said to have reduced word counts in favour of white space and images (Quinn, 2018, np). This means smaller pages as well as fewer words per story. At this time, it was suggested that redesigns are no longer about selling more newspapers, but saving money, not least after the Guardian's £80 million Berliner printing-press investment. Recently, the Guardian has used Trinity Mirror's printing presses, after starting its "three-year cost-saving plan" (Sweney, 2017, np).

Perhaps interestingly, the printed dimensions of both newspapers were often slightly different to what is shared as standard by each newspaper online (Speckle, 2024a; 2024b). For example, the printed area is bigger on a double-page spread when something bleeds across the entire page, like a photograph, meaning the actual area of a newspaper may be bigger than an average of a single page multiplied by the number of pages. Supplement availability and size has also varied considerably over the time period.

Generally, the layout of content units made measuring *everything*, particularly relating to stories, very time-consuming. The total area, headline, body copy and images often had to be broken down and measured in separate chunks due to the layout, increasing the likelihood of error. Photographs, whether in stories, or advertisements, are particularly likely to be an unusual shape. Sometimes parts of the story go outside the normal edges of the page – Gwyneth Paltrow's arm provided a particular puzzle on the front page of the pilot issue of the Daily Mail (Daily Mail, 2021a, p. 1). These things were considered outside the total area, for ease and because they are unlikely to add a significant amount to the overall total.



**Photograph 1: Gwyneth Paltrow's extraneous arm (Daily Mail, 2021a)**

Some content units have a box around them, making measurement relatively straightforward. Many do not have drawn edges, prompting a need to decide what is the edge of this item. Similarly, many stories are not laid out square and so present challenges for measurement. Much of a newspaper is in fact white space, indeed, The Guardian has actively embraced this in its history – so decisions need to be made about what is in and what is out when looking at columns, lines and overall content unit measurements.

Often there are items overlaying items – for example, words overlaying images, images overlaying images or images cut out of body copy – this can in some cases mean the area of the images is technically larger than the area of the content unit, or more generally that you are double-counting space. It was decided to try to be faithful to the overall space, so not to double-count, which can involve subtracting the picture area from the body copy area, for example, for ease. Informational aspects of a story – things like ‘see page...’ and bylines are taking up space but are not necessarily editorial. These were counted as body copy for the purposes of the pilot. When such page furniture appears in boxes, this begs the researcher to decide whether to add this box to the body-copy area, or simply the text in the box.

Assessing the content of content units was no more straightforward than the space taken up. Here, it was necessary, and sometimes more useful, to capture different

kinds of information for different kinds of content unit. Only stories, for example, would typically have an 'author', 'source' and 'origin'. Considering this 'origin', a term provided by Lynch and Peer (2002), indicates that journalism seemed to exist in simpler, better-funded times when the how-to guide was produced. The guide's examples of origins of a story were 'wire/news service', 'staff', 'reader' and 'unknown', but this was more complex in practice, particularly given the sources. Statements made on the BBC's Andrew Marr show proved a rich seam of 'stories' for Monday morning newspaper journalists in the pilot newspaper, as did comments made on social media, which the guide may have considered in the first or third category, but which seemed of significant enough volume to warrant its own category. Where the story was a collection of sources from different places, the first one cited was considered the source of the story. See [Appendix 2](#) for definitions.

Analysing sources proved incredibly tricky because many 'quotes' were taken from social media, other publications, public records sometimes only apparent in nature, apparent statements made by people without attribution, and there was even attribution to mystery sources.

'Treatment' was coded only for editorial, but was easier to assign due to the reasonably standard signposting of newspaper content. See [Appendix 2](#) for definitions. Some things that appeared as a 'named feature', particularly those relating to COVID-19, were in fact collections of stories only brought together for ease or simplicity. A judgement needed to be made about whether these counted as separate stories – which included considering whether the headline could stand alone from the main headline, or whether the story was written by a different author.

Strangely, though the media regulator Ofcom does an annual survey into 'news consumption in the UK', they do not define 'news', or other areas they ask the public about, which includes 'international', 'local/regional' and 'current affairs' content across all platforms (see: Ofcom, 2022, np). And what was clear from the process of deciding topic categories is that editorial items can be extremely difficult to categorise – for example – a story about the a man who died at the age of 51, whose older sister died at university, both of whom were the children of a former Conservative minister, who was an heir to the Guinness brewing fortune, and so there is suggestion of a family 'curse'. Politics? Popular entertainment? Fun? Though it is not an

uncontroversial decision, 'royal' stories were judged to be in the 'political' category because this family has considerable constitutional duties (Morrison, 2021).

For categorising advertising content units using these topics, which was a key goal of this thesis, so the prominence of the topic can be judged as a whole, these categories were not wholly comfortable either. For example, it is unlikely, though perhaps not impossible, that an advert would be about 'foreign affairs'. Ultimately the *Analyzing Newspaper Content* guide encouraged the user to ask 'what is this really about? What is the main point?' – it is with this spirit that the researcher categorised and recategorised (where appropriate) content units.

Though the WARC categories are internationally recognised and used, these were not without issue. There are, for example, no 'Building society' categories within 'Financial services', despite their continued, though much-depleted, existence in UK banking. Banks advertising nothing in particular are likely to be 'Finance brand building' within 'Financial services'. As noted in the theoretical framework, this kind of advertising, of brands rather than products, are tax deductible (Simms and Murray, 2023). 'Driving schools' are assigned to 'Non-profit, public sector & education', not 'Automotive'. 'Recruitment' is generally found in 'Business & industrial', except 'Public-sector recruitment', which again is found in 'Non-profit, public sector & education'. After clarification from WARC, it was determined that something like an advert for gin sold by the UK supermarket Marks & Spencer would go in the 'Retail' category, while if it was from the gin manufacturer, it would go in 'Alcoholic drinks'. Similarly, a high-street store advert for electronics, or a supermarket fuel advert, would go into 'Retail'.

Fuel itself goes into 'Telecoms & utilities', which means, for example, that fuel for driving cars does not go into the 'Automotive' category. Despite the omission of fuel, that automotive is the highest-emissions category according to the Advertised Emissions coding (Kite et al, 2022) adds real weight to Bonneuil and Fresco's (2017) suggestion that the norm (Walker et al, 2023) of owning a car is doing almost unrivalled damage to the planet.

It is notable that there remains a 'Tobacco' advertising category, given a series of laws that have been enacted since the 1960s in the UK to ban such advertising from TV, and later print advertising and billboards (Action on Smoking and Health, 2024).

Of course, WARC categories are used globally, and, interestingly, some of the later impetus for the legal changes in the UK came from the 2003 Framework Convention on Tobacco Control (FCTC). This was the first-ever international treaty drawn up by the United Nations' World Health Organization (2024b), where 181 countries have agreed ultimately to halt sales (and deaths) associated with smoking. A UK government evidence review stated: "The balance of evidence thus supports the conclusion that advertising does have a positive effect on consumption" (Anderson et al, 1992, p. 22).

As per Table 16, despite the variety of sectors the WARC advertising categories contain, of the more limited categories, and with potential for further specification, is 'Non-profit, public sector & education' – which currently has just 37 minor categories. This became of interest when categorising ads from human rights and environmental charities, which rather clumsily have to be located in the 'Third world' subcategory. This term, at the time it was conceived, was essentially political, referring not to those in the capitalist 'first world', or the communist 'second world', but those who were part of the "Non-Aligned Movement" (Britannica, 2024b, np). Though this 120-strong coalition was necessarily made up of many developing countries, it did not necessarily start with notions of poverty we many think of today. That the WARC categories are global means this category feels extremely odd as this concept is only relevant, though increasingly frowned upon, in certain areas of the world.

One challenge to the attempt to understand this 'entire brainprint' may be – 'why not simply look for the thing you are most concerned with?' – which may crudely be understood as 'environmental reporting'? This is no doubt easier and has been done in a variety of ways, already given some space in the literature review. We will remember that the Media and Climate Change Observatory has created monthly briefings on coverage of 'global warming' and 'climate change' since 2017. However Boykoff et al (2021) have questioned their own approach, asking whether observation of 'more' coverage means 'better'. They call for studies looking at newspapers, including issues of 'placement' of stories, outside the US.

Noticing this issue, Painter and Ashe (2012) looked for climate scepticism in national newspapers in Brazil, China, France, India, the UK and the US, and including key environmental moments. Ruiu (2021) studied British newspaper coverage of climate change over three different time periods (1988-1997, 1998-2007, 2008-2016),

categorising it into ‘mockery’, ‘uncertainty’, ‘neutrality’, ‘alarming but controllable’ or ‘out of human control’ and found a “‘confusing image’ of climate change” (ibid, p. 488).

A Carbon Brief study (Gabbatiss et al, 2022, np) did an analysis of climate-related editorials in UK national newspapers, as they judged this to reflect the newspaper’s general view, looking for the top issues being discussed in relation to energy transition. The articles were first coded with a meta-frame, either for ‘more action required’, ‘less action required’ or ‘mixed’, then for further thematic information contained in the editorial, such as whether the argument made suggested the science was uncertain, or settled. When discussing energy systems, the three most popular topics were nuclear, fracking and renewables, which were then divided into ‘pro’, ‘anti’, or ‘mixed’ meta-frames. These were then thematically coded for things like suggesting that the solution meant economic costs, or economic benefits. These may yet prove useful, as environmental coverage will inevitably form part of the sample.

For their editorial analyses, Lacy (1986), Beam (2003), Rodgers (2007), Blankenburg (1995), and Lacy and Rosenstiel (2015) all present detailed means for creating coding instruments to try to understand aspects of news-media content. Yet, a contribution of this study is that it seeks not simply to understand how much or what kinds of environmental reporting have been done over time, but also the prominence of this issue, compared to everything else, to try to give more shape to this thesis’ definition of potential brainprint.

Most pertinently, given the tension in the literature between economics and the environment, this must include economics reporting and commercial messages. Capturing ‘everything’ will give you some idea of just how swamped environmental reporting may be by content about TV, whether that’s stories or listings, or how environmental stories do not appear with the same reliability of horoscope pages, for example. After the initial coding was done, a further ‘safe, just and equitable’ score was added, with indicators developed for economic, environmental and social sustainability, which is designed to overcome these issues with topics and advertising industry categories.

Of course, most people never read a newspaper cover to cover – and that is even more true in the 21<sup>st</sup> century than it was in the last. Yet, newspapers are still published every day in the UK, and many other countries, offering the daily opportunity for

people to pay to find out 'what is going on in the world'. So, if they did, what would they learn? If they have done so for the past 50 years, what have they learned? And even if they skip certain items, what message does the type of content the newspaper contains and the prominence given potentially give the reader about the importance of these things?

In all, the decisions around sampling proved particularly worrisome and should certainly inform future research. That print newspaper circulations continue to decline means this approach would also need to be reconsidered for how to best combine with online publishing. The topics and space score, however, proved enduring across items, publishers and time and may provide a useful starting point for the future.

The following chapter details the findings in full, starting with considering space and count of all items at large, then looking in more detail at particular topics, then finally, comparing the economic and environmental, and the editorial and advertising, at the Daily Mail and the Guardian, finishing with the sustainability scoring outlined above.

## 5. FINDINGS

### 5.1 Introduction

This chapter presents the key findings in relation to the four research questions drawn together at the end of the Literature review. These are:

RQ1) How can brainprint be identified in the contents of news-media output?

RQ2) How can this brainprint be related to issues of sustainability?

RQ3) What does this identification reveal about changes in potential brainprint over time in relation to sustainability issues?

RQ4) What does this identification reveal about the influence that different economic structures of news-media organisations may have on brainprint?

The findings are based on a comparative content analysis of two newspapers with different economic structures, the Daily Mail and the Guardian, at four key environmental moments: 1972 during the first-ever global environmental summit, the United Nations Conference on the Human Environment; 1992 during the United Nations Conference on Environment and Development, or the Rio 'Earth Summit'; 2015 during the UNFCCC COP21 meeting; during the postponed COP26 climate talks in Glasgow.

Building on ideas brought out of the Literature review and developed in the Theoretical framework, key things that will be focused on include the suggestion that 'the economics wins' in battles for sustainability. This means advertising is an important feature of this analysis, along with the similarities and differences between the chosen organisations. It uses prompts found within the sample to highlight theory in action. Given this is an exploratory analysis that borrows from environmental notions of 'emissions' and footprint to identify cultural emissions and brainprint, further environmental metaphors are introduced where they may help to interpret the findings.

The final section tests a sustainability score, which demonstrates particular problems with news topics and highlights a critical tension with advertising, but ultimately indicates the Guardian's editorial is the most sustainable.

## 5.2 Overview of data

The data was gathered from editions of each newspaper either in print, from Microfilm at the British Library in London or via subscription to PressReader. It was coded and analysed in Excel. Top-line data was gathered for all editions throughout the two-week periods (price, sections, supplements, content unit of interest). The more detailed content analysis coded all items in the first 20 pages (P) of 16 editions, eight from each newspaper, marking the day seven days before and seven days after each conference. An additional four editions were coded in full for 2021 to see if there was a need to account for this period starting and ending on a Sunday, bringing this total to 20 editions.

These items, called content units were coded with 84 variables (see: [Appendix 2](#)) developed during the content analysis pilot. They were each given a type: ‘advertising’ (A), ‘content promotion’ (CP), ‘editorial (E), ‘jump’ (J), ‘listing’ (L) plus there was one item that was unavailable via PressReader for legal reasons, called ‘suppressed content’ (SC); a ‘space score’ to measure size; either one or two ‘topics’ and ‘subtopics’; along with further variables that give an idea of prominence and other qualities of these items.

	<b>P</b>	<b>A</b>	<b>CP</b>	<b>E</b>	<b>J</b>	<b>L</b>	<b>SC</b>	<b>Total</b>
<b>ALL ITEMS</b>	396	215	219	1072	127	113	1	<b>1747</b>

Table 26: Total items coded

After careful consideration, the four extra editions were not included in the detailed sample.

	<b>P</b>	<b>A</b>	<b>CP</b>	<b>E</b>	<b>J</b>	<b>L</b>	<b>SC</b>	<b>Total</b>
<b>ALL ITEMS</b>	316	191	182	976	112	110	1	<b>1572</b>

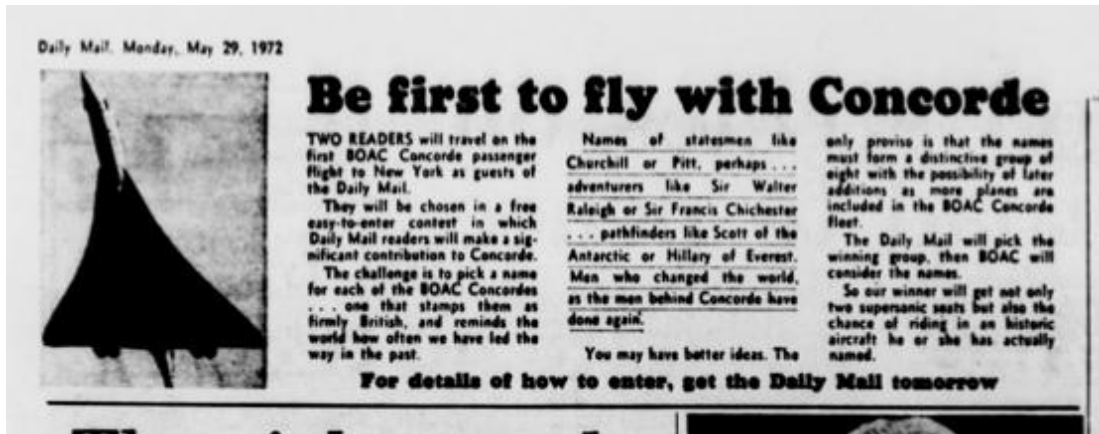
Table 27: Total items included in detailed sample

Finally, a weight has been added (unless otherwise stated) to the first edition of the Guardian as it only had 16 pages, meaning the totals are in effect:

	P	A	CP	E	J	L	SC	Total
<b>ALL ITEMS</b>	320	193	187	1003	114	117	1	<b>1615</b>

Table 28: Total items including weight

Highlighting just one item to demonstrate the potential power of the catch-all approach taken, below is perhaps the most interesting piece of content promotion found in the sample, ultimately labelled as a Competition, from the Daily Mail (1972a, p. 3):



Photograph 2: A piece of 'content promotion' for Concorde showing the value of counting 'everything' in cultural emissions (Daily Mail, 1972a, p. 3)

This was a competition to name the joint-venture British and French Concorde planes, and get two tickets for the first flight. This technology raised clear tensions between technological development and environmental impact, including discussions about noise and the release of nitrogen dioxide (NO<sub>2</sub>), which is harmful to the ozone layer, the repair of which became a rare uniting global environmental issue and success story. In a study of editorial alone, this would have slipped through the net. We can also find a clear conflict of interest with this item, which is revisited in the subsection on Economics.

### 5.3 Findings for RQ1) How can brainprint be identified in the contents of news media output?

This first section deals with how we may understand potential brainprint in the contents of news-media output. Using the first two of the key quantified variables for all items – *count* of each kind of content unit and *score* of each content unit, which is

a proxy for the space it takes up – we can start to see how we might categorise each cultural emission to ultimately try to understand how these qualities may influence people, or its brainprint.

Overall since the 1970s, both newspapers have always contained daily sections on news, comment, financial news, entertainment – most often TV and puzzles – and sports. The newspapers are, therefore, broadly similar at the top level, despite economic and other differences. Horoscopes, rather intriguingly, have been a staple at the Daily Mail since the 1970s, when space was at more of a premium, into the 2020s.

We may be used to sports dominating the back pages of newspapers – but in 1972 and 1992 – the back page of the Guardian was dedicated to news. In later editions, back-page sports sections are often extended, and most recently the Daily Mail has had special sponsored sports supplements.

By 2015, the Daily Mail has lost its dedicated international news section, but its Femail section for women remains. In later editions there are also many lifestyle pages that seem by their contents to be targeted at women. The Guardian had a page for women in the 1990s within the GuardianSociety supplement that does not survive today.

### *Key findings on item count*

Below shows the *count* of each kind of item coded in total for each publisher.

<b>Publisher</b>	<b>A</b>	<b>CP</b>	<b>E</b>	<b>J</b>	<b>L</b>	<b>SC</b>	<b>Total</b>
<b>Daily Mail</b>	82	83	346	53	43	1	608
<b>Guardian</b>	111	104	657	61	74		1007

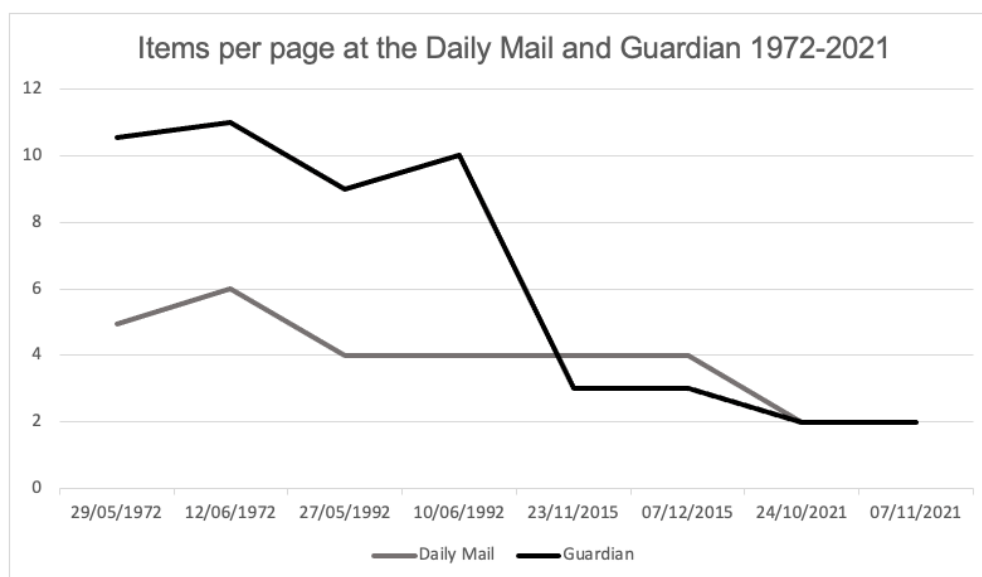
Table 29: Total items coded of each type for each publisher

Over the periods and editions considered, significantly more content units were coded for the Guardian (1007) than the Daily Mail (608) – almost twice as many cultural emissions over time. This represents significantly more editorial content units (657;346) and more advertising units too (111;82), as well as slightly more content promotion, where items promoting the brand are placed (104;83) and jumps (61;53), which are items where the reader is encouraged to seek out a particular item, usually from the front page.

There were 'high points' of cultural emissions at both titles in the 1970s, where the Daily Mail includes almost 100 items in the opening 20 pages, and the Guardian more than 200. Into the 1990s, the Guardian almost sustains this figure, despite increased pagination. There then appears a radical drop off at the Guardian, where in 2015 the number of cultural emissions is 65 and 69 for each edition respectively.

The lowest figure in terms of cultural emissions in the sample is at the Observer in 2021 (35), representing another near-halving of the number of items in the opening pages in less than 10 years, alongside the Mail on Sunday (36) in the same year.

Taking all items and dividing them by the number of pages reveals:



5

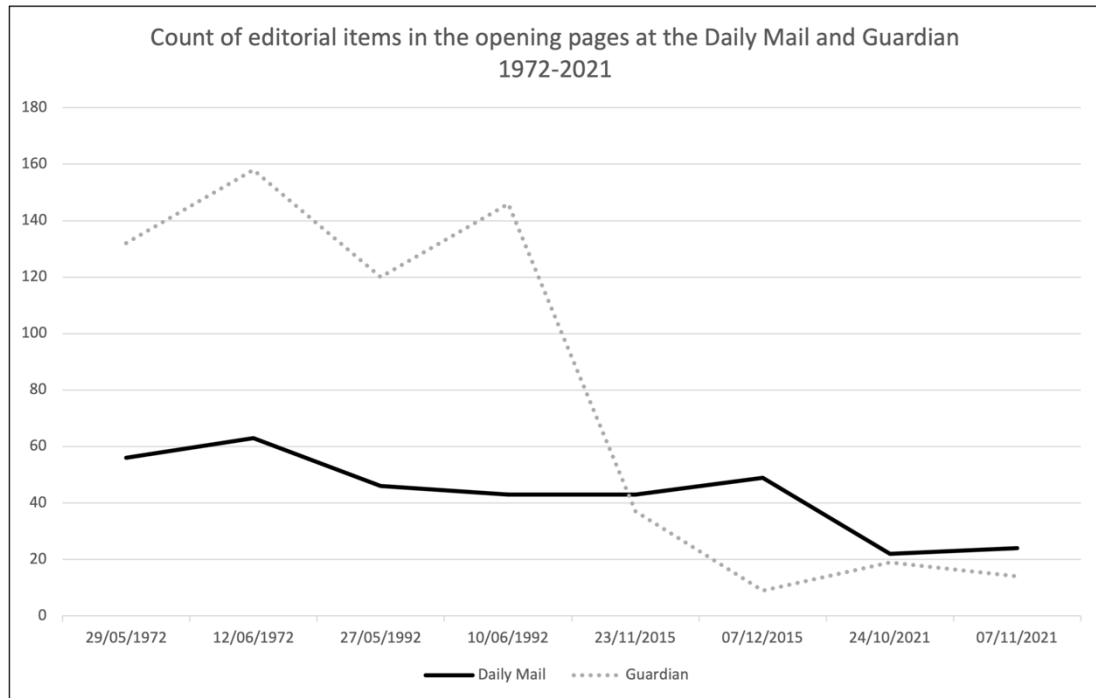
Figure 31: A graph showing a drop in the number of items per page at both titles

Broadly, we can see fewer items per page in the opening pages of each newspaper over time, alongside a coming together, where both now have similarly few items per page (2).

The highest number of editorial items coded was found in the Guardian in 1972 (158), the lowest in the Guardian in 2021 (17). The highest number of editorial items at the Daily Mail was found in 1972 (63). This is a stark reduction in the number of editorial

<sup>5</sup> WEIGHTED

items in the opening pages (see Figure 32) – a drop of around half at the Daily Mail and a drop to around one-fifth at the Guardian from 1972 to 2021. This means that today, you are likely to see far fewer different items of editorial in the first 20 pages of a newspaper, and indeed, fewer items of advertising.



6

Figure 32: A graph showing the drop in editorial cultural emissions at both titles

The joint-highest number of advertising items coded was found in the Daily Mail in 1972 and the Guardian in 2015 (19). The lowest at the Daily Mail was in 2021 (2) and the lowest at the Guardian in 1972 (7).

These findings on item count likely evidence the observation discussed in the methodology that increased pagination has opened up the possibility to spread more items over more pages. Combined with more recent page design changes at the Guardian, this seems to have had the effect of increasing the overall size and significantly reducing the variety of items in the opening pages of each newspaper. In terms of brainprint, this may mean a narrowing of the reader’s focus, but perhaps more depth in understanding of issues.

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<sup>6</sup> WEIGHTED

Looking at these items as a percentage of the total items coded, demonstrating the mix of cultural emissions, we can see that the Guardian has more editorial and slightly less advertising as a share of all content units. In total, just over half of all items in the Daily Mail editions were unique editorial items, compared to just over two-thirds at the Guardian.

<b>Publisher</b>	<b>A (%)</b>	<b>CP (%)</b>	<b>E (%)</b>	<b>J (%)</b>	<b>L (%)</b>	<b>SC (%)</b>
<b>Daily Mail</b>	13.5	13.7	56.9	8.7	7.1	0.2
<b>Guardian</b>	11.0	10.3	65.2	6.1	7.4	0

Table 30: Total items coded of each type for each publisher as a percentage of total items

This suggests that economic concerns, like those of advertising and content promotion, have taken priority over editorial at the Daily Mail compared to the Guardian. This could have implications for brainprint, in that people reading the Daily Mail over time are likely to have been more exposed to commercially driven messages.

### *Key findings on item space*

We can now turn to look at the space given to different items (sum of total quadrant score across all pages including jump to later pages in score of the original item) in the first 20 pages of each edition.

<b>Publisher</b>	<b>A (%)</b>	<b>CP (%)</b>	<b>E (%)</b>	<b>L (%)</b>	<b>SC (%)</b>
<b>Daily Mail</b>	14.8	9.7	71.4	4.1	0.1
<b>Guardian</b>	13.4	7.8	73.9	4.9	0

Table 31: Total space coded for each type for each publisher as a percentage of total items

In the table above, there is slightly more space dedicated to advertising as a percentage of all space than the percentage of total items counted at both newspapers. Conversely, the percentage of space dedicated to content promotion is smaller than the total count of items at both newspapers. Given advertising is where third-parties sell themselves and content promotion is where the brand sells itself, this presents an interesting brainprint challenge when considering whether number of items or size of items is 'better' for something like sustainability.

Jump pages appear particularly important here as, with their space combined with the ultimate item they refer the reader to, they significantly add to the percentage of space taken up by editorial particularly. Below is a summary of when these jumps appeared, showing a real spike in use of them in 1992 editions, particularly at the Guardian.

<b>Publisher</b>	<b>1972</b>	<b>1992</b>	<b>2015</b>	<b>2021</b>
<b>Daily Mail</b>	9	23	13	8
<b>Guardian</b>	12	37	7	5
<b>Total</b>	21	60	20	13

Table 32: 'Jumps' per year at both titles

If the reader does follow the logic suggested by the newspaper and jumps to one or more additional pages of editorial content, these represent an important source of editorial space, potentially offering room to explore further context, and meaning a larger cultural emission and potential for brainprint. But the reader may also miss many other items on their way.

If the reader does not follow this logic, they may only get part of the information, and a reasonable amount of space is being used, particularly on the front page, to no great effect. Of the total items coded as 'Front page' (184, unweighted) 42 per cent were jump items that referred the reader to another page in the newspaper, 72 of which were editorial items, three were content promotion and two were advertising. This suggests these are an important way for the publisher to indicate to the reader something they think is important to see.

There are a number of meaningful examples of this phenomenon. The Guardian in 1992 (1992m) had a large number of jumps – instructing the reader to go to later pages in the newspaper. Following the logic in this case meant the reader would have read a significant number of additional pages from its Social Justice section. Inside this section, as was common for other Guardian sections at this time, are pages of job advertisements geared to this section's topic. This indicates that some of its readers were expected to be working in social justice jobs – an interesting way to tie together cultural emissions, brainprint and subsequent action – and that this was a source of revenue for the publication, where more readers means potentially more applicants, thus demonstrating the value of such advertisements to those who place them.

In 2021, the Daily Mail (2021a) included a jump on the front page instructing the reader to go to its football supplement, sponsored by Screwfix (Daily Mail, 2021a). Following this logic meant the reader would have read a significant number of advertising pages, which are counted as jump pages from the original 'refer'. For Screwfix, its logo appears 10 times on a 16-page centre-fold pull-out of ostensibly high-quality content about football, plus three ads including promotion of its website. Given their placement on the front page, this appears to demonstrate to readers some level of importance of these content units which could have potential for brainprint.

### *Key findings on space versus count*

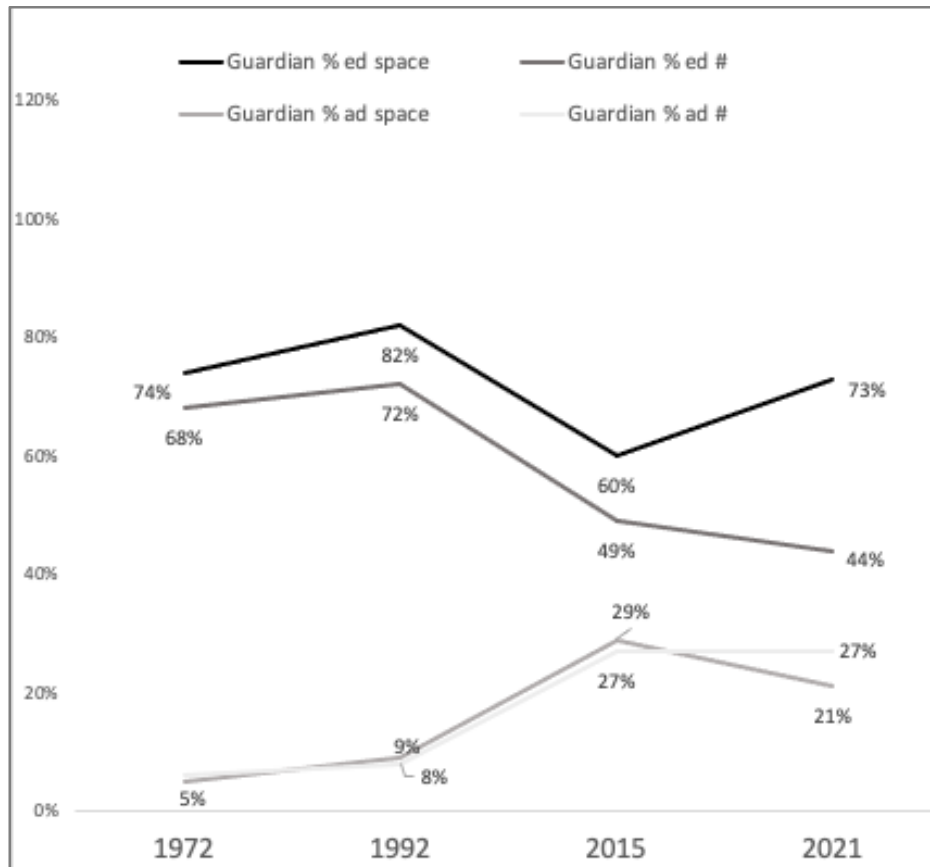
There are a few potential relationships indicated by comparing *count* and *space* that may be of interest:

- Larger item *count* and smaller *space* score (more items and smaller space given to each item) e.g. Guardian (1972a)
- Smaller item *count* and smaller *space* score (fewer items and smaller space given to each item) e.g. Guardian (2021l)
- Smaller item *count* and larger *space* score (fewer items and larger space given to each item) e.g. Mail on Sunday (2021b)
- Larger item *count* and larger *space* score (more items and more space given to each item) e.g. Guardian (1992m)

The above relationships can be considered more deeply, such as how page size, page layout (such as pictures and white space) and the number of jump pages influence these relationships. We can also consider the potential merits of more items *or* more space. Where there are more items, we may imagine more variety, and where there is more space, we may imagine more room for context, or indeed, pictures. It may be that 'more of both' sounds most ideal, which is perhaps best reflected in the 1992 edition of the Guardian listed above. This tussle between space and count informs the following descriptions and analysis of the data gathered.

### *Key findings on advertising versus editorial*

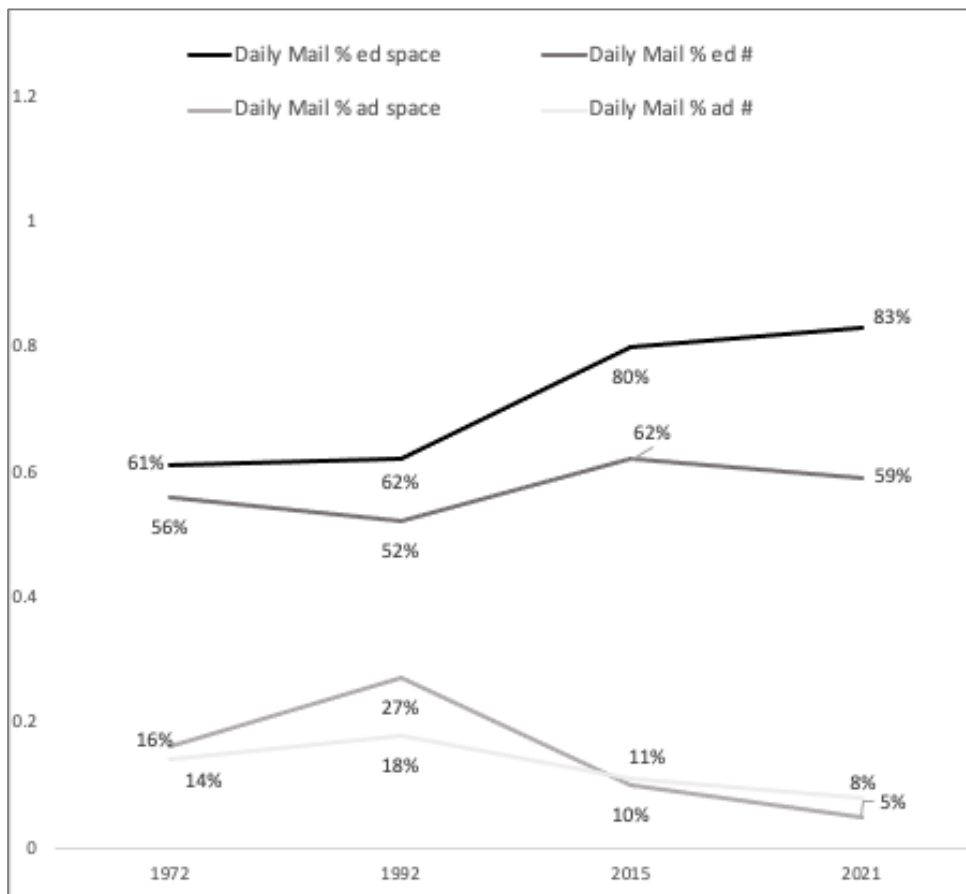
The next two graphs show the counts and space scores for both advertising and editorial items per year, split out by publisher and expressed as a percentage of the total count and space for that edition. The top two lines on each graph represent editorial space and count of editorial items, while the bottom two lines represent advertising space and count of advertising items.



**Figure 33: A graph showing the battle of cultural emissions between advertising and editorial at the Guardian**

At the Guardian, we can see what appears to be a high point for editorial space (1992, 82 per cent) alongside a near-low point for advertising space (9 per cent) in the sample. Similarly, where there is a high point for advertising space (2015, 29 per cent), there is a low point for editorial space (60 per cent). There appears a significant drop for editorial space from 1992 to 2015, though this rebounds in 2021. Editorial items, meanwhile, appear to experience relative decline during the period.

Where we see a significant divergence between the two lines representing editorial (2021), there are many fewer items given far greater space. Both advertising space and items, meanwhile, chart a broadly upward trajectory.



**Figure 34: A graph showing the battle of ‘emissions’ between advertising and editorial at the Daily Mail**

The Daily Mail has a high point for editorial space (2021, 83%) alongside a low point for advertising space (5%) in the sample. Its high point for advertising space (1992, 27%) comes at a near-low point for editorial space (62%). That these do not come in the same year at each publisher (Daily Mail, 1992; Guardian, 2015) should be of interest. Broadly editorial space in the opening pages of the Daily Mail charts an upward trajectory, while editorial items are relatively stable throughout the period, at between 52 and 62 per cent of items logged per year.

There is real complexity with defining, let alone measuring, output ‘quality’ (see for example: Picard, 2000), but we may consider here that higher amounts of space and/or items dedicated to editorial could reflect quality of stories via their length (space) and/or diversity of topics covered (count). There is a clear drop off at the Guardian in the count of editorial items in the opening pages over time, which could perhaps indicate a drop in quality, but likely not on its own. The Daily Mail appears rather more steady in terms of the number of editorial items, while the space given to

it increases over time. This notion of 'quality' was not something that surfaced within the wider literature on brainprint, but could fit rather neatly with environmental ideas around air quality and emissions, where we would be striving for less pollutants from specific sources to improve air quality in general.

We can observe that at high points for advertising, more than a quarter of all space in each newspaper in the first 20 pages is directly linked to influencing the reader's wider purchasing behaviour. This should be considered a key indicator of potential brainprint and subsequent action that would not be identified in editorial-only studies. We may also consider that, while we assume that advertising 'pays for' editorial – where there is most advertising space, there is least editorial. This may be obvious considering things from a space perspective – but concerning if the former comes at the expense of the latter – in terms of the potential impact of the news-media's cultural emissions.

Similarly, we can also see that sometimes as little as 60 per cent of a newspaper's opening pages are dedicated to the work we assume it does, editorial, particularly at the Daily Mail. Both newspapers' lowest point for advertising in the sample is around 5 per cent of space (Guardian, 1972; Daily Mail, 2021). We may consider those other things going on at each of these times that may influence this – but ultimately – how each is surviving, particularly in later years, without what is generally considered a newspaper's main source of revenue. Having a lack of funds suggests there might be an impact on the money allocated for editorial work.

### *Summary of results in relation to RQ1*

These indicative findings highlight potential relationships between space given to and count of items, and relationships between editorial and advertising, all offering interesting starting points for considering the measurement of brainprint for RQ1.

The Guardian, overall, had many more cultural emissions coded in the sample meaning potentially many more opportunities for brainprint, but these drop from a high in the 1970s to around a fifth in the 2020s. From around 10 and five items per page in the 1970s in the Guardian and Daily Mail respectively, both now have around two items on average per page. This also means the space given to items is now significantly larger, which suggests a drop in variety of items but perhaps more space

for context. Each measure, of count or space, may be important indicators for brainprint and sustainability.

jump' pages, where the reader is referred to another item in the newspaper, take up significant space on front pages and appear a meaningful way for the publisher to highlight what may be important for the reader to see, an indicator of potential brainprint. Key examples coded for each publisher suggest Social Justice has been an important topic for the Guardian, while the Daily Mail jump' referred the reader to a piece of advertorial. Each of these suggest priorities and thus potential brainprint with implications for sustainability, the latter appearing particularly to align with prioritising of the Economic.

Where there are high points for advertising space in the sample, there are low points for editorial, meaning at certain times, around a quarter of all items in the opening pages of each newspaper were dedicated to items specifically designed to sell. Advertising must be considered a key sustainability indicator due to its link with wider purchasing behaviour. Adding content promotion items, where the publisher promotes itself, sees this proportion of commercial messaging increase. Adverts generally took up more space relative to the count of items, content promotion less, supporting the suggestion that space and count may both be important to consider.

Building on these observations, the next section makes more specific links between brainprint measures and sustainability. It brings out particular topics that surface as important using space, count and topic variables, as well as notable findings for both editorial and advertising items.

## 5.4 Findings for RQ2) How can this brainprint be related to issues of sustainability?

This next section initially seeks to demonstrate how the topic coding can be used to help give more clarity on the mass of cultural emissions and the potential brainprint of news media in relation to sustainability. This has been done across all items partly to demonstrate that other items matter, aside from editorial that has been the focus of many previous studies, and therefore highlight what these other items, considered

specifically and in sum, may mean for brainprint and ultimately sustainability. These are also initially considered in total, rather than split by publisher. One reason to do this is that it reminds us that the cultural commons highlighted in the Theoretical framework into which these cultural emissions go is a shared space. The equivalent natural world phenomenon is neatly highlighted in the June edition of the *Guardian* from 1972:



Photograph 3: "Papering over a local flaw" (*Guardian*, 1972m, p. 3)

When discussing China's position at this time, which appeared to be focused on solving any of its own pollution problems itself, Anthony Tucker, then science correspondent, said:

"Simply because contaminants enter world-encompassing natural systems they can rarely be considered as purely national concerns."

### Key findings on topics of all items

As already outlined, one of the key ways within this study that the different content units can be compared is by assigning them a topic. The topic categories were discussed in the Methodology and developed from editorial categories – but assigning them to all content types (e.g. a Halifax mortgage advert given the topic Economics and subtopic Housing) can help us see what takes up the most space in total. Both the space and count have been weighted to account for the 16 pages in the first edition of the *Guardian* sampled.

Though there is very limited political advertising – the top topic in terms of space across all years, editions and content types was Political, followed by Economics, then Lifestyle, Brand, where content promotion units are assigned, then Popular Entertainment. Top in terms of item count was Brand, followed by Economics, Sports, Foreign Affairs then Political.

TOPIC (ALL ITEMS)	Space score	Rank	% of space	Item count	Rank	% of items	Differential
Political	1708	1st	16.6	162	5th	10.0	6.6
Economics	1202	2nd	11.7	174	2nd	10.8	0.9
Lifestyle	871	3rd	8.5	97	9th	6.0	2.5
Brand	870	4th	8.5	184	1st	11.4	-2.9
Popular Entertainment	736	5th	7.2	113	7th	7.0	0.2
Foreign Affairs	688	6th	6.7	164	4th	10.2	-3.5
Environment	662	7th	6.4	107	8th	6.6	-0.2
Social Justice	636	8th	6.2	37	13th	2.3	3.9
Sports	603	9th	5.9	166	3rd	10.3	-4.4
Home Affairs	577	10th	5.6	118	6th	7.3	-1.7
Transport	392	11th	3.8	56	11th	3.5	0.3
Media	373	12th	3.6	47	12th	2.9	0.7
Culture	337	13th	3.3	59	10th	3.7	-0.4
Education	137	14th	1.3	29	16th	1.8	-0.5
Technology	124	15th	1.2	13	18th	3.5	-2.3
Health	117	16th	1.1	30	14th	1.9	-0.8
Fun	101	17th	1	30	14th	1.9	-0.9
Religion	85	18th	0.8	21	17th	1.3	-0.5
Local	29	19th	0.3	5	19th	0.3	0.0
Science	13	20th	0.1	2	20th	0.1	0.0
SUPPRESSED CONTENT	3	21st	0.1	1	21st	0.1	0.0
<b>TOTAL</b>	<b>10264</b>		<b>100</b>	<b>1615</b>		<b>100</b>	

Table 33: Showing what topics dominate 'count' and space across all item types

That items about the Brand, such as the masthead, pricing, information about corrections, and trailing of items within the newspaper, represent the highest number of items (items=184 or 11.4%, space=870 or 8.5%) may be unsurprising, but indicates some prioritisation of the commercial needs of the publisher over other things.

That the top topics are different when looking at either space or count demonstrates that considering only count of items or space given may not be sufficient to give a full understanding of the news-media's cultural emissions and thus potential brainprint. An equivalent natural-environment idea we might consider of interest when thinking of RQ2 is the issue with short-lived versus cumulative emissions (Allen, 2015). When it comes to the environment, carbon emissions live for a long time in the atmosphere and accumulate, contributing to global warming via the effect this has, yet methane emissions, which are short lived and less concentrated, also have significant, perhaps larger, warming potential.

As in the natural environment, these two content measures may not be unrelated, if we consider those topics that are near the top for both, appearing to represent a priority via both frequency and size of cultural emissions. Key topics identified in this way are: Political (#1 space; #5 count), Economics (#2 space; #2 count) and Brand (#4 space; #1 count).

Where something has a lower count of items relative to its score for space, such as Lifestyle in the table above (items=97 or 6.0%, space=871 or 8.5%), reveals fewer items in the sample given more space. Calculating the difference between the space score and item count reveals Political, Lifestyle and Social Justice have the greatest difference between the space given relative to the items. We know that the latter contains an outlier related to a jump' to a section from the front page, but they are all given more space relative to the number of items, which may be indicative of some level of priority.

Looking at the count of items categorised into each topic per year over time appears to demonstrate this trend towards a reduction in the variety of topics covered in the opening pages. These are split out into all items and editorial only, for comparison:

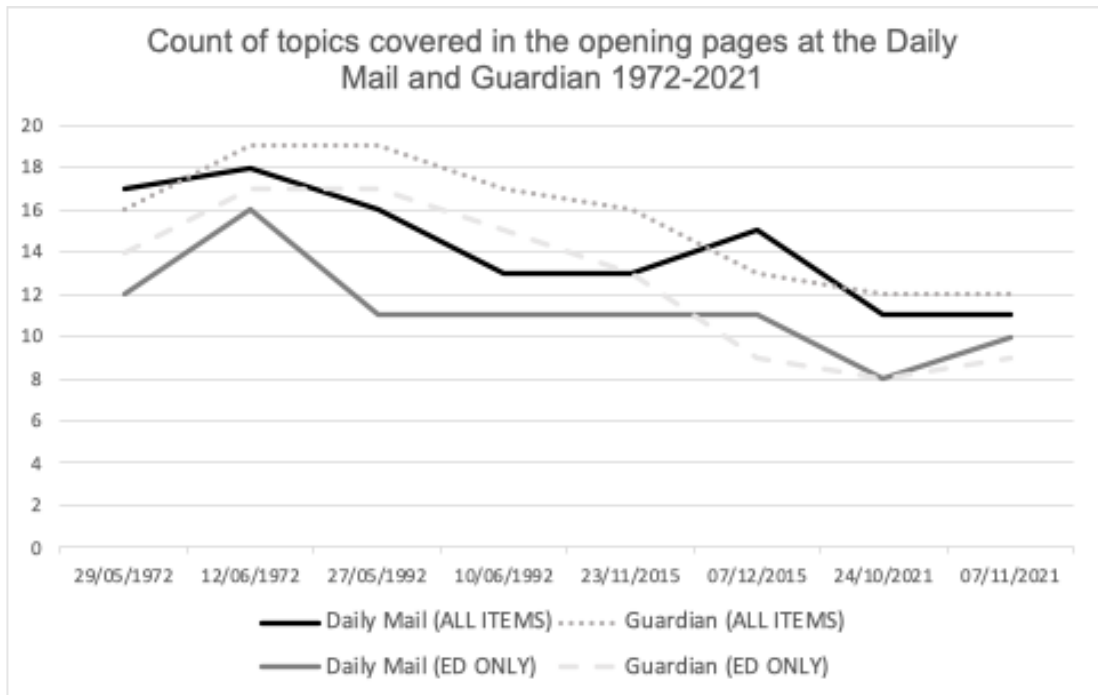
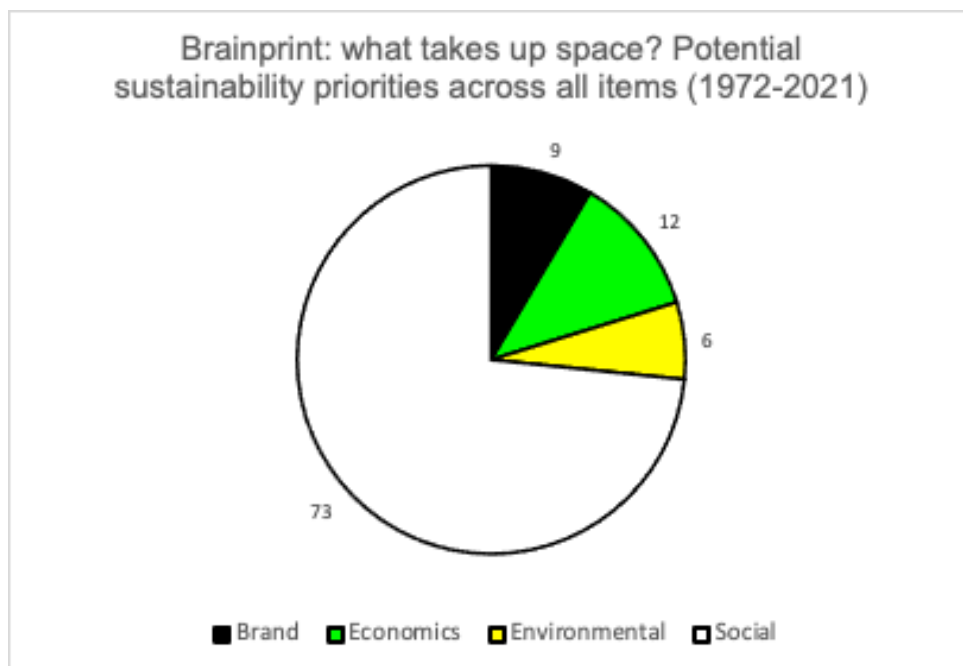


Figure 35: A graph showing a drop in the count of topics covered in the opening pages at both titles over time

These don't represent huge drops – but noticeable – when thinking about the variety, or what looks like increasing homogeneity, of cultural emissions.

Thinking specifically about the three 'sustainabilities' (Barbier, 1987) of the economic, environmental and social outlined in detail the Theoretical framework, what we may broadly observe by grouping these different topics together is that the vast majority of the contents of a newspaper is about the social world, which is argued to be both the source of and solution for our current environmental challenges. If we assign the Economics topic to the economic, the Environment topic to the environmental, all other topics to the social, and retain the Brand topic to see those things the publisher has prioritised, we can see:



**Figure 36: A graph showing a potential way to judge sustainability priorities using topics across all items**

The social here represents 73% of total space, with the Political topic alone taking up more than 16% of space and 10% of items in the sample. Economics represents more than 11 per cent of space and 10% of items. We may yet believe that economics is simply a part of the social, the economy did not create itself after all, meaning social issues would take up 85% of space. Or indeed, that economics bolsters the fortunes of the industry in general, so this would be better placed with publisher priorities. Environment takes up just 6% of space and items in this sample. This is the seventh-largest amount of space and the eight-largest item count across all items and editions, which given the time periods chosen, indicates some level of priority of this issue going into and out of these conferences.

Of course, just because these stories are flagged in these particular topics and thus category does not necessarily mean they are dealing with the issues being discussed in a sustainable way. The next sections deal with this problem in more detail, with the final section going some way to offering a solution. Yet what we can see is that, outside of a small amount of specific ‘environment’ content that may be positive for environmental sustainability, there seems to be vast space given to content that could be influencing people’s behaviour in a way that is at odds with sustainability. This is clearly not the ‘balance’ it is suggested must be strived for when it comes to sustainability.

### *Key findings on editorial topics*

Removing the data for other content units to show only those dedicated to editorial items reveals more – not least that other content units are increasing the overall diversity of topics covered at both titles. This also changes the topic order in terms of space given to: Political, Economics, Foreign Affairs, Social Justice and then the Environment. Foreign Affairs is now top in terms of count of items, followed by Political, Sports, Home Affairs and Economics. But Political and Economic remain dominant, particularly in terms of space.

<b>Topic (editorial only)</b>	<b>Space Score</b>	<b>RANK</b>	<b>% of space</b>	<b>Items</b>	<b>RANK</b>	<b>% of items</b>	<b>Differential</b>
Political	1696	1st	22.7	130	2nd	13	9.7
Economics	729	2nd	9.8	92	5th	9.2	0.6
Foreign Affairs	653	3rd	8.7	145	1st	14.5	-5.8
Social Justice	612	4th	8.2	29	12th	2.8	5.4
Environment	614	5th	8.2	80	7th	7.9	0.3
Popular Entertainment	603	6th	8.1	86	6th	8.6	-0.5
Home Affairs	577	7th	7.7	104	4th	10.4	-2.7
Sports	483	8th	6.5	122	3rd	12.2	-5.7
Lifestyle	467	9th	6.3	33	10th	3.3	3
Media	320	10th	4.3	37	9th	3.7	0.6
Culture	259	11th	3.5	43	8th	4.3	-0.8
Transport	148	12th	2	33	10th	3.3	-1.3
Education	83	13th	1.1	22	13th	2.2	-1.1
Religion	79	14th	1.1	15	15th	1.5	-0.4
Health	68	15th	0.9	18	14th	1.8	-0.9
Local	29	16th	0.4	5	16th	0.5	-0.1
Fun	17	17th	0.2	4	17th	0.4	-0.2
Technology	17	18th	0.2	3	18th	0.3	-0.1
Science	13	19th	0.2	2	19th	0.2	0
<b>Total</b>	<b>7467</b>		<b>100</b>	<b>1003</b>		<b>100</b>	

**Table 34: Showing what topics dominate 'count' and space across editorial only, showing Political dominating space followed by Economics**

Here again we can see via the differential that Political and Lifestyle are the two topics consistently given more space compared to the count of items coded in that category.

In fact, Media also appears here to get more space relative to the count of items. This issue is picked up in more detail later. That Economics is given the second-largest combined space over time, across all items and in editorial specifically, is of particular interest for this thesis, suggesting a general prioritising of economic over other concerns. The next section brings in key findings on advertising topics.

### *Key findings on advertising topics*

Looking only at advertising content units logged, we actually see greater homogeneity in the topics assigned to these items – dominated most years by Lifestyle, Economics and Transport in both space and count.

Topic (advertising)	Space score	Rank	%	Item count	Rank	%	Differential
<b>Lifestyle</b>	<b>393</b>	1 <sup>st</sup>	<b>27.2</b>	<b>59</b>	1 <sup>st</sup>	30.7	-3.5
<b>Economics</b>	<b>392</b>	2 <sup>nd</sup>	<b>27.2</b>	<b>55</b>	2 <sup>nd</sup>	28.6	-1.5
<b>Transport</b>	<b>243</b>	3 <sup>rd</sup>	<b>16.8</b>	<b>21</b>	3 <sup>rd</sup>	10.9	5.9
<b>Technology</b>	<b>107</b>	4 <sup>th</sup>	<b>7.4</b>	<b>10</b>	5 <sup>th</sup>	5.2	2.2
<b>Popular entertainment</b>	<b>69</b>	5 <sup>th</sup>	<b>4.8</b>	<b>7</b>	6 <sup>th</sup>	3.6	1.1
<b>Education</b>	<b>54</b>	6 <sup>th</sup>	<b>3.7</b>	<b>6</b>	8 <sup>th</sup>	3.1	0.6
<b>Media</b>	<b>53</b>	7 <sup>th</sup>	<b>3.7</b>	<b>4</b>	10 <sup>th</sup>	2.1	1.6
<b>Health</b>	<b>49</b>	8 <sup>th</sup>	<b>3.4</b>	<b>11</b>	4 <sup>th</sup>	5.7	-2.3
<b>Culture</b>	<b>42</b>	9 <sup>th</sup>	<b>2.9</b>	<b>7</b>	7 <sup>th</sup>	3.6	-0.7
<b>Social justice</b>	<b>21</b>	10 <sup>th</sup>	<b>1.5</b>	<b>5</b>	9 <sup>th</sup>	2.6	-1.1
<b>Foreign affairs</b>	<b>10</b>	11 <sup>th</sup>	<b>0.7</b>	<b>1</b>	13 <sup>th</sup>	0.5	0.2
<b>Environment</b>	<b>7</b>	12 <sup>th</sup>	<b>0.5</b>	<b>4</b>	11 <sup>th</sup>	2.1	-1.6
<b>Sports</b>	<b>3</b>	13 <sup>th</sup>	<b>0.2</b>	<b>2</b>	12 <sup>th</sup>	1.0	-0.8
<b>TOTAL</b>	<b>1443</b>		100	<b>192</b>		100	

Table 35: Showing what topics dominate count and space across advertising only, showing Lifestyle and Economics dominating space and count, followed by Transport

Half of all space taken up by advertising in the sample either fits into the Lifestyle or Economics topic. This adds further weight to observations about the potential prioritising of the economic at the expense of the environment.

<sup>7</sup> WEIGHTED

Where something has a lower count of items relative to its score for space, such as Transport (items=21 or 10.9%, space=243 or 16.8%), reveals there are relatively fewer items given relatively more space. Calculating the difference between the space score and item count reveals Transport and Technology have the greatest difference between the space given relative to the items.

The single-largest subtopic in terms of advertising space is Motoring in the Transport topic, even though it is not in the top topic for space overall (which is Lifestyle). To demonstrate this, below in Table 36 are the top-40 subtopics for advertising items – with percentages calculated out of 1443 total space and 192 total items.

	Space	Rank	%	Count	Rank	%	Differential
Motoring	219	1st	15.2	19	2nd	9.9	5.3
Personal finances	155	2nd	10.7	24	1st	12.5	-1.8
Consumption	136	3rd	9.4	15	4th	7.8	1.6
Home	90	4th	6.2	17	3rd	8.9	-2.6
Business generic	90	5th	6.2	9	6th	4.7	1.5
Housing	54	6th	3.7	8	7th	4.2	-0.4
Cameras	50	7th	3.5	2	18th	1.0	2.4
Celebrations	50	7th	3.5	2	18th	1.0	2.4
Travel	49	9th	3.4	10	5th	5.2	-1.8
Luxury	45	10th	3.1	3	13th	1.6	1.6
Fashion	43	11th	3.0	6	8th	3.1	-0.1
Investments	38	12th	2.6	4	11th	2.1	0.6
Inequality	37	13th	2.6	5	10th	2.6	0.0
Books	29	14th	2.0	3	13th	1.6	0.4
Food	26	15th	1.8	6	8th	3.1	-1.3
Skills	26	15th	1.8	2	18th	1.0	0.8
Trains	25	17th	1.7	1	30th	0.5	1.2
Advertising	25	17th	1.7	1	30th	0.5	1.2
Social media	25	17th	1.7	1	30th	0.5	1.2
Internet	23	20th	1.6	3	13th	1.6	0.0
Ill health	20	21st	1.4	4	11th	2.1	-0.7
Schools	20	21st	1.4	2	18th	1.0	0.3
Jobs	16	23rd	1.1	3	13th	1.6	-0.5
TV	13	24th	0.9	2	18th	1.0	-0.1
Eyesight	13	24th	0.9	2	18th	1.0	-0.1
Landlines	10	26th	0.7	1	30th	0.5	0.2
Printers	10	26th	0.7	1	30th	0.5	0.2
Radios	10	26th	0.7	1	30th	0.5	0.2
Homelessness	10	26th	0.7	1	30th	0.5	0.2
Global	10	26th	0.7	1	30th	0.5	0.2
Universities	8	31st	0.6	2	18th	1.0	-0.5
Arts	8	31st	0.6	2	18th	1.0	-0.5
Disability	7	33rd	0.5	2	18th	1.0	-0.6
Wellness	6	34th	0.4	3	13th	1.6	-1.1
Coronavirus	6	34th	0.4	1	30th	0.5	-0.1
Hobbies	4	36th	0.3	2	18th	1.0	-0.8
Disease	4	36th	0.3	1	30th	0.5	-0.2
Age	3	38th	0.2	2	18th	1.0	-0.8
Horse racing	3	38th	0.2	2	18th	1.0	-0.8
Photocopiers	3	38th	0.2	1	30th	0.5	-0.3

8

Table 36: The top-40 subtopics for all advertising content units – showing Motoring as top overall

We can also see a large differential for Motoring using this table, meaning large adverts relative to the count, though Motoring is also second in terms of count. The second-largest subtopic was personal finances in the Economics topic, second overall for space, while the third-largest subtopic was Consumption in the Lifestyle category.

<sup>8</sup> WEIGHTED

This was a difficult subtopic to decide on, but was useful for items that appeared to simply be encouraging that, rather than anything in particular. All of this suggests dominance of the Economic, as well as other potentially unsustainable topics too, such as Lifestyle and Motoring.

Consumption, as previously mentioned, was an usually useful subtopic for adverts that were simply encouraging people to buy. This was quite well-aligned with ads for the shopping event Black Friday – with some examples below for illustration.

Date	Publisher	Contents	Topic (list)	Subtopic 1 (list)
23/11/2015	Daily Mail	Why wait until BLACK FRIDAY? DEBENHAMS FOUND IT at the BIG GIFT EVENT	Lifestyle	Consumption
23/11/2015	Daily Mail	7p off every litre of fuel	Transport	Motoring
23/11/2015	Guardian	BLACK TAG EVENT > HUGE SAVINGS MUST END SOON	Lifestyle	Consumption
23/11/2015	Guardian	The Black Tag Event is now on. Save up to £200 on selected HP laptops.	Lifestyle	Consumption
23/11/2015	Guardian	AMAZON'S BLACK FRIDAY DEALS WEEK IS NOW ON	Lifestyle	Consumption
23/11/2015	Guardian	MORE DAYS MORE DEALS	Lifestyle	Consumption
23/11/2015	Guardian	7p off every litre of fuel	Transport	Motoring

**Table 37: Consumption as a subtopic in advertising?**

While using the topics explained in the methodology enabled comparability with other content units contained in the sample, WARC advertising categories were also assigned to each item so the data can be aligned with advertising industry standards. These do not directly align with the topics created for this project, but sit alongside and can add another layer of detail.

One initially difficult set of advertising to place was where the brand didn't seem to be advertising anything at all. In the WARC advertising categories, they actually have many 'brand building' categories. This was therefore used for ads across various categories where the brand itself was the sales pitch. We may notice in the table below that many of these are large items (10+ quadrant score), which is likely indicative of 'brand building'.

Date	Publisher	Total quadrant score	If advert, brand	WARC major Advertising Category	WARC minor Category
07/11/2021	Mail on Sunday	25	Lloyds Bank	Financial services	INVESTMENT - BRAND BUILDING
07/11/2021	Observer	10	Halifax	Financial services	MORTGAGES - BRAND BUILDING
07/11/2021	Observer	25	Square	Business & industrial	OFFICE EQUIPMENT - BRAND BUILDING
24/10/2021	Mail on Sunday	10	Lloyds Bank	Financial services	SAVINGS - BRAND BUILDING
24/10/2021	Observer	10	Lloyds Bank	Financial services	SAVINGS - BRAND BUILDING
24/10/2021	Observer	10	Halifax	Financial services	MORTGAGES - BRAND BUILDING
07/12/2015	Guardian	2	HM Government	Non-profit, public sector & education	GOVERNMENT SOCIAL - BRAND BUILDING
23/11/2015	Daily Mail	3	Lloyds Bank	Financial services	CURRENT ACCOUNT BRAND BUILDING
23/11/2015	Guardian	10	Lloyds Bank	Financial services	CURRENT ACCOUNT BRAND BUILDING
23/11/2015	Guardian	3	first direct	Financial services	CURRENT ACCOUNT BRAND BUILDING
23/11/2015	Guardian	10	NatWest	Financial services	MORTGAGES - BRAND BUILDING
10/06/1992	Daily Mail	3	Norwich and Peterborough Building Society	Financial services	CURRENT ACCOUNT BRAND BUILDING
10/06/1992	Daily Mail	4	Halifax	Financial services	SAVINGS - BRAND BUILDING
10/06/1992	Guardian	1	Co-operative	Financial services	CURRENT ACCOUNT BRAND BUILDING

Table 38: Brand-building as a tax loophole for advertisers? (continues overleaf)

<b>Date</b>	<b>Publisher</b>	<b>Total quadrant score</b>	<b>If advert, brand</b>	<b>WARC major Advertising Category</b>	<b>WARC minor Category (cont...)</b>
27/05/1992	Daily Mail	10	Midland	Financial services	CURRENT ACCOUNT BRAND BUILDING
27/05/1992	Daily Mail	25	Britannia Building Society	Financial services	SAVINGS - BRAND BUILDING
27/05/1992	Guardian	1	first direct	Financial services	CURRENT ACCOUNT BRAND BUILDING
27/05/1992	Guardian	10	ABBEY NATIONAL	Financial services	CURRENT ACCOUNT BRAND BUILDING
27/05/1992	Guardian	2	Natwest	Financial services	BUSINESS BANK BRAND BUILDING
27/05/1992	Guardian	25	Newspaper Publishers Association	Media & publishing	MEDIA - BRAND BUILDING
12/06/1972	Daily Mail	10	REUNION PROPERTIES COMPANY	Financial services	INVESTMENT - BRAND BUILDING
12/06/1972	Daily Mail	1	Guardian Building society	Financial services	INVESTMENT - BRAND BUILDING
12/06/1972	Guardian	10	Provincial Building Society	Financial services	INVESTMENT - BRAND BUILDING
12/06/1972	Guardian	10	National Westminster Bank	Financial services	SAVINGS - BRAND BUILDING
12/06/1972	Guardian	3	Burnley Building Society	Financial services	MORTGAGES - BRAND BUILDING
12/06/1972	Guardian	4	Leicester Permanent	Financial services	MORTGAGES - BRAND BUILDING
12/06/1972	Guardian	3	Leicester Permanent	Financial services	MORTGAGES - BRAND BUILDING

Another reason WARC categories are of particular interest is because the *Advertised Emissions* report (Kite et al, 2022) from Purpose Disruptors uses this as the basis for judging which advertising categories are the worst in terms of emissions. This is perhaps the best example measure of the brainprint cycle – attempting to directly link content, consumption and consequences.

Below is a table using WARC's advertising sectors to re-code the items sampled – with Advertised Emissions included in the final two columns and with items listed in order of their share of emissions impact.

Major Advertising Category (WARC)	Space score	Rank	%	Item count	Rank	%	Difference	AE *	% of Total AE
Automotive	193	3 <sup>rd</sup>	13.4	14	4 <sup>th</sup>	7.3	6.0	69	33
Telecoms & utilities	33	10 <sup>th</sup>	2.3	4	11 <sup>th</sup>	2.1	0.2	46	22
Leisure & entertainment	39	9 <sup>th</sup>	2.7	7	9 <sup>th</sup>	3.7	-1.0	17	8
Media & publishing	60	7 <sup>th</sup>	4.2	10	6 <sup>th</sup>	5.2	-1.1	14	7
Technology & electronics	136	5 <sup>th</sup>	9.4	12	5 <sup>th</sup>	6.3	3.1	13	6
Transport & Tourism	NA	NA	NA	NA	NA	NA	NA	10	5
Food	13	13 <sup>th</sup>	0.9	2	14 <sup>th</sup>	1.0	-0.1	8	4
Retail	261	2 <sup>nd</sup>	18.1	29	2 <sup>nd</sup>	15.2	2.9	4	2
Government & non-profit	141	4 <sup>th</sup>	9.8	22	3 <sup>rd</sup>	11.5	-1.7	5	2
Household & domestic	17	12 <sup>th</sup>	1.2	7	10 <sup>th</sup>	3.7	-2.5	5	2
Financial services	297	1 <sup>st</sup>	20.6	45	1 <sup>st</sup>	23.6	-3.0	1	1
Business & industrial	63	6 <sup>th</sup>	4.4	9	7 <sup>th</sup>	4.7	-0.3	2	1
Pharma & healthcare	52	8 <sup>th</sup>	3.6	8	8 <sup>th</sup>	4.2	-0.6	3	1
Clothing & accessories	27	11 <sup>th</sup>	1.9	2	13 <sup>th</sup>	1.0	0.8	2	1
Alcoholic drinks	10	14 <sup>th</sup>	0.7	3	12 <sup>th</sup>	1.6	-0.9	1	1
Soft drinks	0	0	0.0	0	0	0.0	0.0	2	1
Tobacco	NA	NA	NA	NA	NA	NA	NA	0.4	0.02
Politics	0	0	0.0	0	0	0.0	0.0	0.2	0.01
<b>TOTAL</b>	<b>1443</b>		100	<b>192</b>		100		207.6	

9

Table 39: Aligning advertising items with Advertised Emissions to show Motoring is the worst category (Kite et al, 2022)

<sup>9</sup> WEIGHTED; \*AE = ad spend by sector x ROI x GHG emissions per £1 output (Purpose Disruptors, million tonnes CO<sub>2</sub>e, projected 2022, does not include use phase)

We will note that the WARC categories change the order of the top categories compared to those identified via topics:

<b>Top advertising topic in terms of space</b>	<b>Top WARC category in terms of space</b>
Lifestyle	Financial services
Economics	Retail
Transport	Automotive

Table 40: Comparing WARC advertising industry categories to topics

There are a number of reasons for this, which WARC clarified to the researcher, namely that things put into the Lifestyle topic would be split across WARC categories such as Retail, Food etc. Indeed, a fuel advert from a supermarket such as the one from Morrisons already discussed would go into Retail, while fuel itself goes into Telecoms & utilities. This means that fuel for driving cars does not go into the Automotive category. Further research could potentially align these categories to the wider sample of topics for a crude equivalent measure of editorial items.

Table 39 above appears to get the news media ‘off the hook’ in terms of advertised emissions as the top category in the sample is financial services, which looks to have minimal emissions. However, Jonathan Wise at Purpose Disruptors was contacted to ask whether ‘financed emissions’ (from the funding of fossil fuel projects by financial services companies) (Dennis et al, 2021) are included in their calculations. He said they are not because “there is a lag between it being required and it needing to actually happen (to do with the time it takes to put in place processes and systems to actually measure it)” (Wise, 2022). These emissions are not being counted by financial-services companies, so do not make it into the AE calculation. WWF-UK attempted to measure these Scope 3, so-called ‘indirect’ emissions, for UK financial intuitions and estimated them at 805 million Co2e for 2019 (Dennis et al, 2021). This is the kind of figure that may well alter the AE scoring. According to Purpose Disruptors (Kite et al, 2022), meat is also a worry for advertised emissions because is hard to track as it falls across a number of ad categories (supermarkets are Food, restaurants are Retail).

From the above, we can perhaps see that it is far easier to understand ‘what is this advert about?’ versus ‘what is this story about?’. Even this is perhaps indicative, when thinking of what people may be able to take away from the vast mass of cultural

emissions. Key findings relating to these topics will now be brought out, particularly considering advertising and editorial tensions, and in relation to their potential implications for sustainability. Those identified as 'key sustainability topics' were chosen because of the count of and space given, including both editorial and advertising items where relevant.

*Key sustainability topic: Political*

In terms of both overall and editorial space, the Political topic is given the largest amount of space by some distance in the pages sampled (space=1696) and the fifth-largest count of items. This is in spite of the fact that there was no political advertising captured in the sample.

The largest Political subtopic in terms of space was Controversy (items=35, space=505). It was striking just how many items appeared driven by 'controversy' alone, rather than Policy (items=10, space=64) or Process (items=10, space=88), for example. Scandal, perhaps more serious still, also has its own subtopic and significant space dedicated to it (items=7, space=275). The vast majority of space dedicated to such items comes in the latter half of the years sampled, spread across both titles. This may indicate that this topic, with a subtopic that presents some kind of debate or problem, is a good way to sell newspapers. It also shows the power that political actors have to command news coverage, and depending on what exactly they are discussing, or what aspect is focussed on, this could have implications for brainprint and any follow up action by the reader, sustainable or otherwise.

Yet, using the Political topic and subtopics alone can obscure what is being discussed. So where appropriate, these were coded with a further topic and subtopic. Most often, these Political items were coded with the additional Home Affairs topic (items=17), meaning Home Affairs issues are being discussed more often than the initial categorisation suggests. Given the significant space given to Political editorial items, the further topic and subtopic cannot be unimportant when trying to understand how cultural emissions may be linked to brainprint and ultimately sustainability.

Looking at the Royal subtopic alone, given the second-largest space of all subtopics coded (items=21, space=431), can quickly remind us of things that have dominated the headlines. In 1972 we saw the death of Edward VIII, in 1992 the newspapers were

in the midst of probing the state of Charles and Diana’s marriage, something that prompted questions of the press regulator discussed in the Literature review, and further discussed later in this chapter.

Royal editorial items in the Political topic were, interestingly, also used as a means to talk about the environment – so three of these items were coded with this as a second topic and subtopic. Including these, a total of nine items were given the initial topic of Political, with the second topic of Environment:

Date	Publisher	Contents	Treatment
07/11/2021	Mail on Sunday	Hitchens > Why I have just stopped supporting the Monarchy > Our Green Queen has just made a terrible mistake	Column
07/11/2021	Mail on Sunday	Protect farmers from cheap food imports, say Leave voters	News Feature
07/11/2021	Mail on Sunday	Camilla sees the downside of wind power in climate summit chat with Mr, um, Trump - sorry BIDEN! > A gigantic flatulent mess of incoherence and sanctimony	General news
24/10/2021	Observer	New trade deals 'are unfair on farmers and won't help emissions' > Why aren't we in prison, ask Insulate Britain protesters > All hail the net zero strategy – a year late and lacking in both ambition and funds	News feature
23/11/2015	Daily Mail	Climate change is to blame for Syria war, claims Charles... finally someone agrees with Charlotte Church	General news
10/06/1992	Guardian	The Court in the act	Leader
27/05/1992	Guardian	> PHOTO-opportunism Department. Do you remember David Curry...	Comment
29/05/1972	Daily Mail	> The Countess of Dartmouth is fast becoming famous for her warmth at a party she gave for environmentalists...	Column
29/05/1972	Guardian	Milk down the drain	General news

**Table 41: A table showing the Political editorial items that had Environment coded as a second topic**

We can see from the above that either simply coding these within the Environment topic or coding for the additional topic of Environment can betray the contents of the item. Several of these items were, for example, unsupportive of the environmental talks which were often part of their reason for covering the topic, so likely couldn't be considered 'positive' for environmental sustainability. Four of these items were commentary of some kind (column, comment or leader), but the others also have features of editorialising, rather than the strived for 'impartial' or 'balanced output' that

was interrogated in the section critiquing social responsibility theories of the press in the Theoretical framework.

*Key sustainability topic: Economics*

In terms of both overall and editorial space, Economics was the second-largest topic across all years. Below are the subtopics assigned to these items within this topic, in order of the *space* given to them:

<b>Economics subtopics</b>	<b>Space score WEIGHTED</b>	<b>Item count WEIGHTED</b>	<b>Item count rank</b>
Investments	283	6	5 <sup>th</sup>
Business specific	95	24	1 <sup>st</sup>
Welfare	55	2	
Privatisation	45	7	4 <sup>th</sup>
Trade	38	6	
Industrial dispute	35	9	2 <sup>nd</sup>
Debt	31	5	
Business generic	27	8	3 <sup>rd</sup>
Inequality	23	2	
Finance	22	2	
Housing	16	5	
Inflation	14	3	
Jobs	13	4	
Property	10	1	
Wealth	8	4	
Personal finances	7	2	
Governance	4	1	
Prices	3	1	

Table 42: A table showing the subtopics under the second-most popular topic – Economics

The significant space given to the Economics topic is not least because newspapers often have entire sections dedicated to it with, for example, full pages of share listings – discussed in more detail in the final section of this chapter that drills into sustainability comparisons. This is why Investments was the top subtopic in this category – particularly as this subtopic included two jumps to Money Mail sections from the front page of the Daily Mail (items=6, space=283).

The second-largest Economics subtopic in terms of space is Business Specific (items=24, space=95), which includes stories about particular businesses and hides much variety within, so second topics and subtopics were coded where appropriate. This included:

- Social Justice > Gender for a story about BT paying for staff HRT treatment (Mail on Sunday, 2021c)
- Popular Entertainment > Festivals for a story about a festival being staged by an actor and Lord Harlech, David Ormsby-Gore, who was from an aristocratic line of Conservative politicians (Daily Mail, 1972a)
- Sports > Gambling for a story about a shortage of sixpences following decimalisation (Guardian, 1972a)

One particularly interesting item in this category was one about the company behind Concorde (Daily Mail, 1972m):



Photograph 4: An editorial item from "the only newspaperman on Concorde's flight to Manila" (Daily Mail, 1972m, p. 4)

It reads:

"FROM ANGUS MACPHERSON, THE ONLY NEWSPAPERMAN ON CONCORDE'S FLIGHT TO MANILA... 40,000-mile Far-East sales tour... a perceptible tingle of adventure. But Concorde behaved perfectly. The 1,600-mile journey across the China Seas to Manila took just 92 minutes. At ten miles high we rode as steadily as if we were on rubber tyres – on the smoothest flight I have ever been on... one of the French sales team, gestured through a window at a gap in the clouds. 'Look at those islands shift. We might be in the cabin of Apollo, yes?' Earl Jellicoe, the Lord Privy Seal, who is leading

the Concorde expedition commented: 'It can get almost boring – an airline flight is a good thing to get over quickly...' 002 certainly does that... An order for four to six planes – worth between £80 million and £120 million – from the Japanese airline JAL is almost in the bag.”

The second topic and subtopic chosen for this was Transport > Flying. But we can see here the direct support being given by this newspaper to the aviation industry, which is found to be particularly detrimental to the environment and thus useful to this study. Indeed, given the content promotion > Competition noted in the first section (Daily Mail, 1972a, p. 3), we may yet observe this is some kind of commercial deal and also represents a blurring of editorial and advertising, another useful finding for this study.

The third-largest amount of space in the Economics topic is the subtopic of Welfare (items=2, space=55). Both items appear in the Guardian, and the space is mostly taken up by a large piece about the government's spending review, where cuts were being made to social security equal to that of the proposed increase in defence spending. War, though not explicit in this piece, has been directly linked to environmental destruction and is therefore useful to this study.

There were eight stories coded with an Economics topic and subtopic that were coded with a second Environment topic and subtopic.

Date	Publisher	Contents	Topic 1 = Economic, Subtopic 1	Topic 2 = Environment, Subtopic 2
24/10/2021	Observer	Now Christmas bin collections at risk as lorry drivers quit	Jobs	Waste
10/06/1992	Guardian	Water company complaints double	Privatisation	Water
10/06/1992	Guardian	PowerGen ready to back coal sell-off	Privatisation	Energy
12/06/1972	Guardian	Beef record	Trade	Food
12/06/1972	Guardian	Commodities > Wool mart buoyant on Australian news	Trade	Animals
29/05/1972	Daily Mail	Silent milkmen end 'wakey-wakey'	Business specific	Waste
29/05/1972	Daily Mail	Farms set up their own shop	Business specific	Food
29/05/1972	Daily Mail	> Bitter	Prices	Food

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**Table 43: A table showing the Economics editorial items with Environment listed as a second topic**

We can see a potentially interesting link here between the Privatisation subtopic and the Environment topic. The second story in the list relates to privatisation of the water companies, while the third relates to privatisation of British Coal. Neither foregrounds environmental concerns, though both feasibly could have. This indicates sustainability issues being buried or ignored in the sweeping nature of topics.

Similarly, the fourth story relates to beef imports, reflecting growing globalisation in spite of calls to control the associated environmental impacts, while the sixth story relates to growing use of single-use plastics by milkmen. Foregrounding the economic, the story states:

“The firm claims the sachets will cause less pollution problems than bottles. A quarter ton of plastic is expected to be thrown away for every three-quarters

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<sup>10</sup> UNWEIGHTED

of a ton of glass and one sixth of a ton of aluminium bottle tops... It hopes the sachets will save cash, but at present the cost difference is negligible.”

In terms of advertising, Economics was the second-largest topic in terms of both space (392 out of 1443 in terms of space and 55 out of 192 count), particularly representing a quarter of all advertising items. This means Economics is a dominant advertising category and thus a key source of income for these publishers. Most of these (24) were about Personal Finances, which can be highly unsustainable due to the banks’ investments in fossil fuels and more.

*Key sustainability topic: Environment*

Environment was the fourth-largest topic in terms of editorial space across both titles. Below are the subtopics assigned to this topic, in order of the space given to them:

<b>Environment subtopics</b>	<b>Space score WEIGHTED</b>	<b>Item count WEIGHTED</b>	<b>ITEM COUNT RANK</b>
Flood	163	7	3rd
COP26	105	6	4th
Farming	79	2	
Animals	63	17	1st
Earth Summit	31	8	2nd
Emissions Reductions	29	2	
Water	26	4	
Land	18	8	2nd
Pollution	14	5	5th
Weather	14	2	
Climate Change	10	1	
Energy	10	3	
Renewables	10	1	
United Nations Conference on the Human Environment	9	2	
COP21	7	1	
Attitudes	6	1	
Food	6	2	
Natural Disaster	6	2	
No further subtopic	3	1	
Drought	2	2	

Extinction	1	1	
Noise Pollution	1	1	
Waste	1	1	
TOTAL	614	80	

Table 44: A table of subtopics for editorial items in the Environment topic

From this, we can certainly see just how many issues we may be dealing with when thinking of the environment – and often where these issues cross over into other topics, such as Lifestyle or Economics (perhaps Farming, Food or Energy). This may indicate these issues would be better dealt with in those terms, if it is our lifestyles and the economic system that are the ultimate social sources of environmental harm.

Having chosen the time periods because of the environmental conferences – we cannot comment on whether environmental coverage is largely driven by such events and this is a potential limitation of this study. However, what we can see is the latest environmental conference is top among the conferences in the sample for both space and count – which seems to show growing coverage of these conferences over time.

What we can notice via the top subtopic – Flood – is how cultural emissions may be directly prompted by unscheduled ‘events’ bringing the Environment topic to the front page (see: page codes in Table 45). This is not surprising, as the criticism of the reliance on ‘events’ to prompt environmental coverage also extends to this kind of coverage too. Further evidence of this events focus is that mention was made in the sample to terror attacks in Paris overshadowing the COP talks in 2015. This indicates that issues that don’t have these very scheduled or unscheduled qualities are very much competing for space.

The below table demonstrates a further issue with this coverage, linked to our understanding of sustainability.

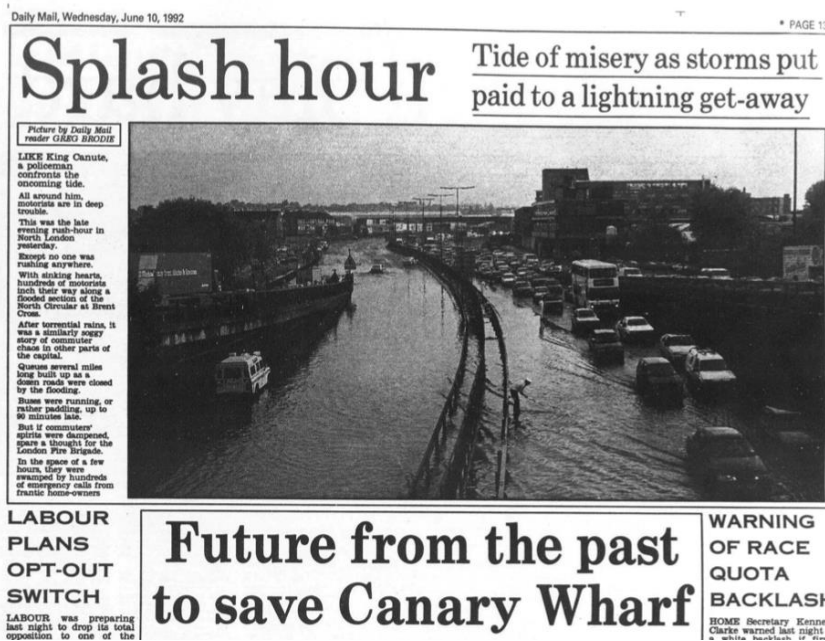
Date	Publisher	Page code	Contents	Comments on contents
07/12/2015	Daily Mail	D071215-P001	FLOODS SWAMP £48M DEFENCES	Focus on economics, that they spent money and yet the defences failed – mitigation doesn't work? Focus on Christmas – big spending time for the economy. No mention of climate change. In fact, Daily Mail column says it wasn't climate change.
07/12/2015	Daily Mail	D071215-P002	> FLOODS SWAMP £48M DEFENCES (Continued from Page One)	As above.
07/12/2015	Daily Mail	D071215-P004-P005	This is even worse than the floods 10 years ago... Christmas is cancelled'	As above.
07/12/2015	Guardian	G071215-P001	'We never thought that this could happen again'	Asks and debates whether this can be attributed to climate change. One source says you cannot attribute specific events, two emphasise that climate change is happening either way. Pull quote: "the weather we are seeing is not unusual for this time of year". Points to issues with getting insurance.
07/12/2015	Guardian	G071215-P002	Roads shut and bridges down after storm	As above.
07/12/2015	Guardian	G071215-P004-P005	Powerless but stoic, victims count the cost	As above.
10/06/1992	Daily Mail	D100692-P002	Deluge brings havoc to the rush for home	Flood in London stops traffic – unclear how serious though mentions "hundreds of emergency calls from frantic home-owners". See image below.
10/06/1992	Daily Mail	D100692-P013	Splash hour	As above.
10/06/1992	Guardian	G100692-P001	Helping hands...	Image-led story of woman being carried out of tennis ground due to London flood – no further discussion. Refer goes to report of match. Unclear how serious. See image below.
12/06/1972	Daily Mail	D120672-P004	Now looting gangs roam flood city	One of the deadliest floods in US history caused by unusual weather and a dam failure – but called "nature's violence". Points to estimated cost of damage. Focus on 'looters' but notes people helping each other.
12/06/1972	Guardian	G120672-P001	Flood toll 208 -500 missing	Called a "natural disaster" despite dam failure. Points to estimated costs of damage.

Table 45: A table showing the stories relating to the top Environment subtopic of Flood

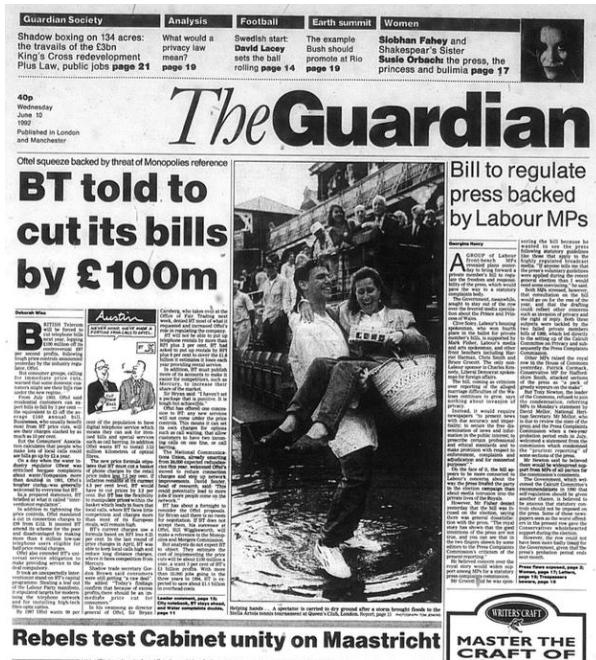
This mainly relates to the observation that stories like this somehow foreground the Economic in spite of their topic. Looking at the 1992 Flood editorial from across both titles:



Photograph 5: A Flood editorial item from the Daily Mail (Daily Mail, 1992m, p. 2)



Photograph 6: A jump from the original Flood Editorial item in the Daily Mail (1992m, p. 4)



Photograph 7: The same Flood editorial item in the Guardian (1992m, p. 1)

Even though both newspapers had just covered the 1992 Earth Summit, neither story is related back to this. Or indeed, reflective of why these things might be happening. In fact both are oddly amusing, so it is hard to judge how serious these floods were. And that is despite both of these newspapers covering the 1972 environmental conference, out of which came greater and growing understanding of these issues. That the Environment topic makes the front page when London is in trouble speaks to concerns about concentration of media ownership and thus the perceived importance of this location.

Something we can also see alongside this item is the rather enduring Media topic, which was mentioned already as one topic appearing to be given more space as compared to the count of items, as well as being a rather consistent topic at the Daily Mail particularly, having as many items in the count (n=19) as the Environment topic in the sample.

In the above Flood examples, alongside the Environment, the Guardian explains on its front page that there is a new “private members’ bill to regulate the freedom and

responsibility of the press, which would pave the way to a statutory complaints body” (1992m, p. 1), relating to excessive media coverage of Charles and Diana.

On the front page of the Daily Mail (1992m) that day, we can in fact find such coverage:



Photograph 8: The front page of the Daily Mail on the day of the Flood story – highlighting background issues of media accountability (Daily Mail, 1992m, p.1)

This two-page feature on Diana (Daily Mail, 1992m, pp. 1-3) comes alongside the Flood story (ibid, p. 2, 13), as well as a slightly different Media story to the Guardian’s, where the chairman of the then-Press Complaints Commission had issued a statement on media coverage of the ‘royals’, called “an emergency measure” (ibid, p. 2) outside of normal procedure. That the editorial item this comes alongside includes more pictures of William presumably taken by the paparazzi very much undermines the Guardian’s concern about a new statutory regulator.

NEW PRESS ROW FLARES

# I acted alone says watchdog who delivered 'instant justice'

By DAVID MORRIS and CAROL WOODLEY

PRESS "watchdog" Lord McGregor of Durris admitted yesterday that he acted on his own initiative in issuing a statement condemning an odious coverage of Princess Diana's marriage problems.

The chairman of the Press Complaints Commission said he had been unable to consult all 18 of its members before taking what he considered to be "an emergency measure".

The basis with which the statement was drafted after the commission had received the case.

Mr David Stone-Chapman, 67, who headed the commission's investigation of the Press Complaints Commission to meet until it could issue a proper investigation.

The chairman said he had issued the statement because he was "convinced that it was in the public interest to do so".

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## WHILE FOR THE DASHING YOUNG PRINCE, SLIDE COMES BEFORE A FALL



### Harry on the beaten track as sports day is taken by storm

PRINCE HARRY took to the grass at a sports day in the grounds of Sandringham, Norfolk, yesterday as the young prince watched his father, Prince Charles, and his mother, Princess Diana, enjoy the day. The prince was seen to be in good spirits as he watched his father and mother enjoy the day. The prince was seen to be in good spirits as he watched his father and mother enjoy the day.

## AS DIANA DECIDES TO MEND HER MARRIAGE, A SECOND FRIEND SPEAKS

# Why I helped author

Continued from Page One

...the commission's decision to issue a statement condemning the coverage of Princess Diana's marriage problems. The chairman of the Press Complaints Commission said he had been unable to consult all 18 of its members before taking what he considered to be "an emergency measure".



### Sombre guest at silver wedding

All his motorcade swept through London's streets yesterday, Prince Charles may well have been reflecting on his married life. The prince was seen to be in good spirits as he watched his father and mother enjoy the day.

**Support: Tony Newton**

**AROUND THE WORLD**

Location	Support
London	100
Paris	150
New York	200
Los Angeles	250
Hong Kong	300
Singapore	350
Manila	400
Bangkok	450
Jakarta	500
Calcutta	550
Delhi	600
Mumbai	650
Chennai	700
Hyderabad	750
Bombay	800
Madras	850
Coimbatore	900
Trichy	950
Madurai	1000
Tirunelveli	1050
Thiruvananthapuram	1100
Kochi	1150
Bhubaneswar	1200
Cuttack	1250
Bhubaneswar	1300
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Cuttack	1950
Bhubaneswar	2000
Cuttack	2050
Bhubaneswar	2100
Cuttack	2150
Bhubaneswar	2200
Cuttack	2250
Bhubaneswar	2300
Cuttack	2350
Bhubaneswar	2400
Cuttack	2450
Bhubaneswar	2500
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Bhubaneswar	4100
Cuttack	4150
Bhubaneswar	4200
Cuttack	4250
Bhubaneswar	4300
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Bhubaneswar	7900
Cuttack	7950
Bhubaneswar	8000
Cuttack	8050
Bhubaneswar	8100
Cuttack	8150
Bhubaneswar	8200
Cuttack	8250
Bhubaneswar	8300
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Bhubaneswar	9700
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Bhubaneswar	9800
Cuttack	9850
Bhubaneswar	9900
Cuttack	9950
Bhubaneswar	10000

Photograph 9: An article critical of the Press Complaints Commission, alongside Flood story, and pictures of one of the Royal children (1992m, pp. 2-3)

Though the above feels like a diversion from the Environment topic at hand – this is part of the point. When thinking about these background things that potentially make up brainprint and, given so many potential things to highlight each day, seeing what is highlighted tells us something. All of this indicates competing, and potentially contradictory, priorities that may have implications for brainprint. An example Media item is recoded in the final section of this chapter to further exemplify this.

This also represents another appearance of the well-worn Royal topic, which will be discussed in the Discussion and conclusion. A listing of all items coded within the Media topic (Table 54) is provided at the end of this section to exemplify these issues.

The fourth-top Environment subtopic was Farming, which is interesting. In fact, this mainly relates to a three-page piece (Mail on Sunday, 2021b) on a longstanding campaign from the Daily Mail to 'Save Our Family Farms'. This was also given an additional topic of Economics > Business Generic as it does focus quite heavily on the industry aspects of an ostensibly environmental item.

It includes a comment piece from multimillionaire farm owner and famed car driver Jeremy Clarkson, as well as a piece from the head of the National Farmers' Union Minette Batters – who would likely be considered a partisan voice. It includes a comment piece from someone who works on Clarkson's farm, who dismisses rewilding efforts:

“Government wants us to plant fields of flowers and clover to encourage wild birds. Is that a farmer's job? I went to college to learn how to grow wheat to feed the people of Britain” (Mail on Sunday, 2021b, p. 16)

Batters supports “climate-smart farming” (ibid, p. 17) and directly questions economic but not environmental literacy.

The fifth-largest Environment subtopic – Animals – gives some idea of the varying levels of what 'counts' as the environment. These were coded as such because Animals come from nature, more so than anywhere else, but the stories are often geared towards entertainment.

Date	Publisher	Contents
07/11/2021	Observer	Wild heirs of Britain's lost native honeybee found in woodlands of Blenheim palace
24/10/2021	Mail on Sunday	Pet lovers see red over silver and lilac dogs
07/12/2015	Daily Mail	THE Kennel Club, the institution that preserves the very notion of canine pedigree...
07/12/2015	Daily Mail	Bonnie tale to comfort pet lovers
23/11/2015	Daily Mail	Do fish really have fingers?
23/11/2015	Guardian	Rome brings in falcons to curb starlings droppings
10/06/1992	Daily Mail	Just a little stirrup cup!
10/06/1992	Guardian	> Not so horny
10/06/1992	Guardian	> Block on wood
27/05/1992	Guardian	Castle keeps birds in flight
12/06/1972	Daily Mail	Tiger quins are quite a handful for Zorra
12/06/1972	Guardian	> Wild life fear
12/06/1972	Guardian	> The cull isn't kindness
29/05/1972	Daily Mail	Smashing time
29/05/1972	Guardian	Bearing the weight of pain
29/05/1972	Guardian	> Fowl pest

**Table 46: Do Animals count as Environment?**

Given their volume, these kinds of stories appear to be of some interest, which indicates that editorial items about animals should mention environmental issues, if it was judged that this is a useful way to increase positive cultural emissions and potentially change 'outcomes' and 'impacts'. This issue, of measuring sustainability of items despite their topic, is taken up in the final section of these findings where one of these items was recoded using sustainability indicators.

Alongside those items coded with the first topic of Environment, there were 38 editorial items where Environment was coded as a second topic. Below, the Environment subtopics of these items are included to give more on the underlying detail of the story. Many editorial items, from Culture to Transport, include more or less overt environmental themes. This suggests studies of Environment topics alone must be missing vital sustainability indicators.

Date	Publisher	Contents	Topic 1	Topic 2 = Environment, Subtopic 2
07/11/2021	Mail on Sunday	Hitchens > Why I have just stopped supporting the Monarchy > Our Green Queen has just made a terrible mistake	Political	COP26
07/11/2021	Mail on Sunday	Protect farmers from cheap food imports, says Leave voters	Political	Food
07/11/2021	Mail on Sunday	Camilla sees the downside of wind power in climate summit chat with Mr, um, Trump - sorry BIDEN! > A gigantic flatulent mess of incoherence and sanctimony	Political	COP26
07/11/2021	Mail on Sunday	BA flights powered by green jet fuel set to take off next year	Transport	Emissions reductions
24/10/2021	Observer	Now Christmas bin collections at risk as lorry drivers quit	Economics	Waste
24/10/2021	Observer	New trade deals 'are unfair on farmers and won't help emissions' > Why aren't we in prison, ask Insulate Britain protesters > All hail the net zero strategy – a year late and lacking in both ambition and funds	Political	Emissions reductions
07/12/2015	Guardian	Stonehenge first built in Wales, scientists theorise	Culture	Land
23/11/2015	Daily Mail	Climate change is to blame for Syria war, claims Charles... finally someone agrees with Charlotte Church	Political	Climate change
23/11/2015	Guardian	Paris attacks cast shadow on climate talks	Foreign affairs	COP21
23/11/2015	Guardian	Crimeans left in the dark as saboteurs fell power lines	Foreign affairs	Energy
23/11/2015	Guardian	Myanmar > Landslide kills scores of miners at jade waste site	Foreign affairs	Waste
23/11/2015	Guardian	Light show sparkles in Tokyo park	Popular entertainment	Land
10/06/1992	Guardian	Summit news in brief > Indians protest over 'genocide'	Social justice	Earth Summit
10/06/1992	Guardian	> Say it with gold	Social justice	Earth Summit
10/06/1992	Guardian	Water company complaints double	Economics	Water
10/06/1992	Guardian	PowerGen ready to back coal sell-off	Economics	Energy
10/06/1992	Guardian	> Nuclear reaction	Foreign affairs	Energy

Table 47: Editorial items coded with Environment as second topic (continues overleaf)

<b>Date</b>	<b>Publisher</b>	<b>Contents</b>	<b>Topic 1</b>	<b>Topic 2 = Environment, Subtopic 2 (cont...)</b>
10/06/1992	Guardian	The Court in the act	Political	Food
10/06/1992	Guardian	Diary > THE ADMIRALS have been worrying about what to do with their redundant nuclear submarines...	Home affairs	Waste
10/06/1992	Guardian	> A horse is given early morning wash and brush	Social justice	Animals
27/05/1992	Guardian	Unholy row over friary sewage plant	Culture	Waste
27/05/1992	Guardian	> PHOTO-opportunism Department. Do you remember David Curry...	Political	Food
12/06/1972	Daily Mail	Dumping: Councils accused	Local	Waste
12/06/1972	Guardian	Beef record	Economics	Food
12/06/1972	Guardian	Power plant knocked out	Foreign affairs	Energy
12/06/1972	Guardian	Outburst by Chinese seen as threat to pollution charter	Foreign affairs	United Nations Conference on the Human Environment
12/06/1972	Guardian	7-hr moor search for walkers	Popular entertainment	Land
12/06/1972	Guardian	Commodities > Wool mart buoyant on Australian news	Economics	Animals
12/06/1972	Guardian	Conditions, the worst enemy, can still save Australia	Sports	Weather
29/05/1972	Daily Mail	> The Countess of Dartmouth is fast becoming famous for her warmth at a party she gave for environmentalists...	Political	United Nations Conference on the Human Environment
29/05/1972	Daily Mail	Silent milkmen end 'wakey-wakey'	Economics	Waste
29/05/1972	Daily Mail	Fearless old man' gored to death by bull	Popular entertainment	Animals
29/05/1972	Daily Mail	Misery weekend for shivering trippers	Lifestyle	Weather
29/05/1972	Daily Mail	Farms set up their own shop	Economics	Food
29/05/1972	Daily Mail	> Bitter	Economics	Food
29/05/1972	Guardian	All quiet on the pop front	Popular entertainment	Weather
29/05/1972	Guardian	Milk down the drain	Political	Food
29/05/1972	Guardian	Holiday traffic quiet	Transport	Weather

Key sustainability topic: Lifestyle

Lifestyle is one of the topics that was given a larger amount of space relative to the number of items (items=97 or 6.0%, space=871 or 8.5%). It is also another topic with potential environmental implications that would not show up in traditional environment-focused reporting initiatives. The sample includes the appointment of the Daily Mail's first-ever fashion editor – on the front and centre pages (1972m, p.1, 14-15)



Photograph 10: A refer on the front page announcing the Daily Mail's first-ever Fashion Editor (1972m, p. 1)



Photograph 11: Double-page centre-fold on new Fashion Editor (Daily Mail, 1972m, pp. 14-15)

This is an incredible moment to surface in the sample at this particular time. Just as environmental stakeholders were getting themselves together to agree shared problems and solutions, a major newspaper had appointed someone to regularly surface new fashion items, presumably for people to buy. That this kind of thing is front-page news is perhaps not surprising given it is the people who make the newspaper deciding what is important. It is hard to imagine that this would happen for an 'environment editor'.

Below is a selection of Lifestyle items including the subtopic:

Date	Publisher	Contents	Topic	Subtopic
07/11/2021	Mail on Sunday	NO BOOSTER... NO HASSLE-FREE FOREIGN TRAVEL	Lifestyle	Travel
07/12/2015	Daily Mail	Loo paper that costs as much as flight to Australia	Lifestyle	Consumption
23/11/2015	Daily Mail	Unexpected cheer in the bagging area!	Lifestyle	Consumption
23/11/2015	Guardian	Christmas gets off to a golden start	Lifestyle	Consumption
27/05/1992	Daily Mail	<b>Designer children with £1bn to spend</b>	Lifestyle	Consumption
12/06/1972	Daily Mail	<b>MY TIPS FOR FASHION FAME</b>	Lifestyle	Fashion
29/05/1972	Daily Mail	Hurrah! We're off to sunny Sideup by-pass	Lifestyle	Travel
29/05/1972	Daily Mail	How to make sure that *you* get a break too	Lifestyle	Travel
29/05/1972	Daily Mail	Clamp-down at Marbella	Lifestyle	Travel
29/05/1972	Daily Mail	'Staggering' cost of holiday illness	Lifestyle	Travel
29/05/1972	Daily Mail	Plane breakdown strands 120 tourists at airport	Lifestyle	Travel
29/05/1972	Daily Mail	Misery weekend for shivering trippers	Lifestyle	Travel
29/05/1972	Guardian	Suck it on sea	Lifestyle	Travel

Table 48: A selection of Lifestyle editorial items showing value of measuring 'everything' and suggestion for further research – contemplating Consumption subtopic

Editorial items in this subtopic were judged to be mainly about products and services, or people spending money at large. Coding the subtopic of Consumption, as seen in the editorial items above, was difficult to call, not least because a lot of adverts could easily be included in this category.

Another related subtopic in the Lifestyle topic was that of celebrations, like “Christmas gets off to a golden start” (Guardian, 2015a, p. 14) in the list. This appears like celebrating, but does indicate selling of the social aspects of life.

In terms of advertising, Lifestyle was the largest topic in terms of both space (393 out of 1443) and count (59 out of 192). This is more than a quarter of all of the advertising in the sample, with the general subtopic of Consumption the third-largest of all subtopics coded. These kinds of ads seemed to have a particular high point in 2015, particularly at the Guardian, but still remain in smaller number today. There was even a cigarette ad in the Guardian in 1972, unthinkable today. Seeing former consumption trends like this indicates, not least with legislation, how social norms can change.

<b>Date</b>	<b>PUBLISHER</b>	<b>CONTENTS</b>	<b>BRAND</b>
07/11/2021	Observer	<b>BIGGEST EVER BLACK FRIDAY</b>	BOOTS
24/10/2021	Observer	£10 WORTH OF ADVANTAGE CARD POINTS FOR EVERY £60 YOU SPEND IN STORE THIS WEEKEND ONLY!	BOOTS
23/11/2015	Daily mail	£5 OFF FOOD AT M&S WHEN YOU SPEND £35	MARKS & SPENCER
23/11/2015	Daily mail	WHY WAIT UNTIL BLACK FRIDAY? DEBENHAMS FOUND IT AT THE BIG GIFT EVENT	DEBENHAMS
23/11/2015	Guardian	BLACK TAG EVENT > HUGE SAVINGS MUST END SOON	CARPHONE WAREHOUSE
23/11/2015	Guardian	THE BLACK TAG EVENT IS NOW ON. SAVE UP TO £200 ON SELECTED HP LAPTOPS.	CURRYS PC WORLD
23/11/2015	Guardian	AMAZON'S BLACK FRIDAY DEALS WEEK IS NOW ON	AMAZON
23/11/2015	Guardian	MORE DAYS MORE DEALS	MORRISONS
10/06/1992	Daily mail	SMILE. 3 FOR THE PRICE OF 2.	BOOTS

27/05/1992	Guardian	WHAT PRICE POPULARITY?	INTERFLORA
12/06/1972	Daily mail	THE STRONG ONE	EUCRYL
12/06/1972	Daily mail	BRENTFORD'S QUALITY WITH A CONSCIENCE	BRENTFORD'S
12/06/1972	Guardian	DUNHILL INTERNATIONAL	DUNHILL INTERNATIONA L
29/05/1972	Daily mail	'THOSE AMAZING MITTONS'	CATHAY OF BOURNEMOUT H

Table 49: Consumption ads in Lifestyle topic

This topic in general speaks particularly well to the decision to try to 'measure everything' – and could in fact be the most important one for sustainability.

Two ads, coming alongside each other in the wider sample, highlighted challenging issues being balanced at the Guardian.



Photograph 12: "Big oil doesn't grease our wheels" (Observer Magazine, 2021, p.50)

There was a house ad in the Observer Magazine (2021, p. 50) that highlights that the organisation has committed to refusing fossil fuel ads



Photograph 13: "TODAYS' GOING TO BE WET & WINDY... FLY BRITISH AIRWAYS" (Observer, 2021b, pp. 12-13)

Yet, there is an advert in the Observer (2021b, pp. 12-13) for British Airways holidays, which was coded in the Lifestyle category. This indicates that the rejection of 'fossil fuel ads' does not stretch to industries that make use of the dirty fuel.

*Key sustainability topic: Transport*

A topic with significant environmental implications that wouldn't necessarily show up in environment-focused reporting initiatives was Transport. For all the editorial items with the first topic of Transport, below is the breakdown of subtopics:

Transport subtopic	Count of items	% of Transport items
Buses	1	1.8
Ferries	1	1.8
Flying	4	7.3
Motoring	39	70.9
Trains	8	14.5
Trams	2	3.6

Table 50: Transport editorial items showing dominance of Motoring subtopic

By far the largest amount of Transport editorial, more than 70%, was about Motoring.

Looking to the wider sample, Motoring has always had a significant presence at both newspapers, two dedicated sections per week in 2021 at the Daily Mail, along with a section sponsored by a company that was owned by the media group (DMGT, 2021).



Date	Publisher	Contents	Topic (list)	Subtopic 1 (list)
07/11/2021	Mail on Sunday	Commuters face 10 days of misery at Christmas	Transport	Trains
07/11/2021	Mail on Sunday	BA flights powered by green jet fuel set to take off next year	Transport	Flying
07/11/2021	Observer	Nearly 300 flights within UK taken by government staff... every day	Transport	Flying
23/11/2015	Daily Mail	<b>Rail gamblers lose £980m of YOUR cash</b>	Transport	Trains
23/11/2015	Daily Mail	> JOKE OF THE WEEK: SNP MP Peter Wishart said dryly of plans to spend £10 million converting an RAF plane for David Cameron...	Transport	Flying
23/11/2015	Guardian	Mirror, signal, sexist jokes? Women fail more driving tests than men	Transport	Motoring
10/06/1992	Daily Mail	Petrol soars to 245p a gallon	Transport	Motoring
10/06/1992	Daily Mail	> TALKING of excuses... the pilot of a Lufthansa flight...	Transport	Flying
10/06/1992	Daily Mail	Fast women play hard to get	Transport	Motoring
10/06/1992	Daily Mail	Clamper forces motorists to hand over her gold tooth	Transport	Motoring
10/06/1992	Guardian	> Tram project derailed	Transport	Trams
10/06/1992	Guardian	> Petrol up by 4.5p	Transport	Motoring
10/06/1992	Guardian	> Ban after 148 mph drive	Transport	Motoring
10/06/1992	Guardian	> Hustle and buses: fares soar and services suffer in the free-for-all	Transport	Buses
10/06/1992	Guardian	> Foot down in the slow lane	Transport	Motoring
27/05/1992	Guardian	> Jaguar's warranty leap	Transport	Motoring
27/05/1992	Guardian	Philosophy drives East-West journey	Transport	Motoring
12/06/1972	Daily Mail	Sentimental journey for steam fans	Transport	Trains
12/06/1972	Daily Mail	<b>£2 1/2m is the price for rail peace</b>	Transport	Trains
12/06/1972	Guardian	<b>Ford hits out</b>	Transport	Motoring
12/06/1972	Guardian	Appointment	Transport	Trains
12/06/1972	Guardian	2 die on 'danger' road	Transport	Motoring
12/06/1972	Guardian	Warden's woes	Transport	Motoring
12/06/1972	Guardian	<b>Quicker by rail</b>	Transport	Motoring

Table 51: A selection of Transport editorial items showing the value of measuring 'everything' and suggestion for further research (continues overleaf)

<b>Date</b>	<b>Publisher</b>	<b>Contents</b>	<b>Topic (list)</b>	<b>Subtopic 1 (list) (cont...)</b>
12/06/1972	Guardian	The Victor vanquished	Transport	Motoring
12/06/1972	Guardian	New hopes of rail compromise	Transport	Trains
29/05/1972	Daily Mail	Micki, queen of speed	Transport	Motoring
29/05/1972	Guardian	A village is back on the rails	Transport	Trains
29/05/1972	Guardian	Three into one won't go	Transport	Motoring
29/05/1972	Guardian	Experiment on two wheels	Transport	Motoring
29/05/1972	Guardian	Holiday traffic quiet	Transport	Motoring
29/05/1972	Guardian	> Cyclist killed	Transport	Motoring

Motoring dominates editorial items, with likely implications for sustainability.

Motoring adverts in the sample are represented below, which we already saw is the single largest advertising subtopic. The top Motoring advertiser was Volkswagen – with a total of three ads in the sample – across both titles in 2015.

Date	Publisher	Contents	Starting quadrant score	Total quadrant score on this page	If advert, brand
07/12/15	Daily Mail	Protect your car with Canopies UK	1	1	Canopies UK
07/12/15	Guardian	IT DOESN'T HAVE TO BE BLACK AND IT DOESN'T HAVE TO BE FRIDAY	4	25	Jeep
07/12/15	Guardian	The iconic Golf.	4	10	Volkswagen
23/11/15	Daily Mail	UP TO 40% OFF RAPID BREAKDOWN COVER AT GREENFLAG.COM	1	1	GreenFlag
23/11/15	Daily Mail	REASONS TO BUY A NEW SKODA OCTAVIA	4	10	Skoda
23/11/15	Daily Mail	7p off every litre of fuel	4	10	Morrisons
23/11/15	Daily Mail	Perfected over generations.	4	25	Volkswagen
23/11/15	Daily Mail	AS SEEN ON TV! Protect your car with Canopies UK	1	1	Canopies UK
23/11/15	Guardian	7p off every litre of fuel	2	2	Morrisons
23/11/15	Guardian	The surprisingly spacious Up!	4	10	Volkswagen
10/06/92	Daily Mail	If you took it off 30 years ago, we could take £50 off your motor insurance	1	1	Sunalliance
10/06/92	Daily Mail	Cheap insurance for Rallye Drivers	4	25	Peugeot
10/06/92	Guardian	Peugeot 106 Graduate. At £6110 the choice is academic.	4	10	Peugeot
10/06/92	Guardian	Motorist insurance	4	10	Swinton Insurance
10/06/92	Guardian	The Citroen ZX	4	25	Citroen
27/05/92	Daily Mail	SHOULDN'T YOU BE DRIVING THE CAR IN FRONT?	4	25	Toyota
27/05/92	Daily Mail	THE £15,895 VOLVO 940 S. PERFECT FOR THE NINE TO FIVE. IDEAL FOR THE UNDER TWELVES.	4	25	Volvo
12/06/72	Daily Mail	Norma beats police pursuer to win	2	3	Ford
12/06/72	Daily Mail	Emergency message	2	2	Peugeot, E.W. Barnes

Table 52: Motoring adverts captured in sample – including top advertiser Volkswagen – during 2015 emissions scandal

Interestingly VW Golf emissions rigging was known about in September 2015 – done to beat Clean Air Act requirements in the United States. The small print says its emissions information is under review and “revised values will be published if necessary” (see for example: Guardian, 2015m, p.2). It is hard to believe journalists, at the very least, wouldn’t have known about this at the time – the advert is on the second page of their own newspaper. We can also see the Black Friday shopping

event being used by Jeep to sell highly polluting SUVs to Guardian audiences at this time too (ibid, p. 14).

One reasonably difficult item to place was the Morrisons supermarket ad for money off car fuel – but it was deemed this was about saving money on driving, rather than food shopping. Another tricky ad is listed below. It appears as an editorial, but was ultimately judged to be advertising – relating to a ‘Daily Mail Woman Driver of the Year 1972’ area final sponsored by Ford, Esso and Pirelli. We can clearly imagine car manufacturers wanting more women driving in the 1970s and what better way to do it than a ‘battle of the sexes’?

banks... has been mounting in Parliament.  
 Tomms, the son of a Non-  
 section Air Force sergeant  
 said: 'It was a miracle that  
 he was still alive. It had  
 Holidaymakers joined fire-  
 men and police in the search.  
 yesterday after a furnace  
 exploded at a factory in  
 Edinburgh Way, Harlow.

## Norma beats police pursuer to win



**NORMA NICHOLLS**

**YOUNG** Norma Nicholls found herself hotly pursued by the law yesterday. But she kept her head and got clear away with first prize in the North East area final of the Daily Mail Woman Driver of the Year Contest.

Norma, a 19-year-old motor spaces and accessories representative from Leeds, finished with 114 penalty points fewer than her legal rival, West Riding policeman Darren Miller. Both now go forward to the final.

The starting point in the contest, at 6.15, Airedrome, near Darlington, came when Miss Miller collected 100 points for turning left instead of right.

She said: 'I take school children for their cycling proficiency tests and I'm worried by showing them left would be worse than I went out and did it myself. But I won't make the same mistake in the final.'

Norma, of Cloughley, Leeds, has been driving for only 18 months and yesterday's test against 20 rivals was her first competition.

She runs a van for her work, but her employers provided her with a Vauxhall Viva for the area final. They have been so good I really had to win, she said. 'Though I don't really think I would.'

Later, Norma and Darren Miller drove a lap of honour around the airfield between cars of a motor club sponsored by the Darlington and District Motor Club.



Norma's victory won her a set of Pirelli Cinturato tires, a year's membership of the RAC, a Daily Mail silver compact—and £10 for being the youngest competitor.

Miss Miller, 33, of Netherton, Huddersfield, won a compact. Each of the other competitors took home a pair of Pirelli slippers, a Max Factor beauty taster, a supply of Uniflo oil and cash for Esso petrol.

Next weekend, another area final in the Daily Mail's search for Britain's top woman driver will be held at Weston-super-Mare in Somerset.

The final of the competition, which is supported by Ford, Esso and Pirelli, with help from the Institute of Advanced Motorists and the RAC, is a rally from Blackpool to London in September.

Prizes for the winner and runners-up include a Ford Capri, an Esso Esprit, a Europa caravan presented by Caravans International, and other valuable awards including sets of Pirelli tires.

Photograph 15: Advertising or editorial? 'Daily Mail Woman Driver of the Year' (1972m, p. 10)

### *Background sustainability topic: Foreign Affairs*

Though Foreign Affairs are given the third-largest amount of editorial space over time and is top in terms of count of items, this topic is almost absent in the opening pages of the latest editions sampled. In total, 145 items with a total space score of 653 were identified, with the top subtopic by some way War/conflict/military (items=35, space=165, WEIGHTED). These items are unreflective of the environmental impacts of war and thus could have wider sustainability implications.

Interestingly, there was one item coded in this category (Guardian, 1972m) that is used as a way into talking about the first global environmental conference in 1972, so Environment is listed as a second topic:

"An acrimonious confrontation between China and the United States has developed at the United Nations conference on the human environment over the weekend. Yesterday the head of the Chinese delegation, Mr Tang Ke, made a vitriolic attack on the US for its conduct in the Vietnam War, and demanded that the conference should condemn it... The US delegation here is exceedingly touchy about any reference to Vietnam and even seemed to be on the point of walking out last week in response to some sharpish comments on ecological warfare and "ecocide" in Vietnam by the Swedish Prime Minister, Mr Palme."

This conversation reflects the unequal distribution of power already found in the United Nations and the share of historical environmental impacts.

We can in fact find in the data that another summit was happening at this exact time – between the US and Russia on the future of nuclear arms. Whether the environmental summit accidentally or intentionally happened at this time, this meant President Nixon was not at the 1972 environmental conference – and Foreign Affairs headlines were split with this alternatively important global issue. This again shows the many things, many of which may be important, that the news media is potentially choosing from to highlight each day.

The second-largest amount of space in the Foreign Affairs topic was given to stories that were more general stories about a specific Non-UK country (items=31, score=150). One (Guardian, 2015m, p. 15) was about the rise of the far-right in France. This reminds us there were terror attacks in Paris in 2015 immediately before the COP21 Conference, which perhaps unsurprisingly dominate the headlines, and speaks to this issue of competing choices.

The third-largest amount of space in the Foreign Affairs topic was given to the subtopic of Crime (items=4, space=91). If combined with Home Affairs > Crime, the issue of Crime at home or abroad amounts to a space count of 240, which would put it generally among the top subtopics. This is a longstanding preoccupation of news media, both reliable and shocking, but likely skewing our understanding of the likelihood of such things happening to us.

Though many were not given a second topic, Home Affairs > Colonialism was the top additional topic assigned to Foreign Affairs coverage. This is because at least nine stories in the Guardian, either more or less explicitly, referred to issues in countries, such as Cyprus, that were former British colonies, and only of interest for that reason. This was considered important to capture given the issues discussed in the Literature review in relation to inequality.

Six stories in the Foreign Affairs category were given the additional topic of Environment, including the one mentioned already. They were:

Date	Publisher	Contents	Treatment
23/11/2015	Guardian	Paris attacks cast shadow on climate talks	General news
23/11/2015	Guardian	Crimeans left in the dark as saboteurs fell power lines	General news
23/11/2015	Guardian	Myanmar > Landslide kills scores of miners at jade waste site	General news
10/06/1992	Guardian	> Nuclear reaction	NIB
12/06/1972	Guardian	Power plant knocked out	NIB
12/06/1972	Guardian	Outburst by Chinese seen as threat to pollution charter	General news

11

Table 53: A table showing Foreign Affairs items listed with the second topic as Environment

We can see all of these were from the Guardian and only some related to the environmental conferences taking place. Yet – though the stories have an underlying environmental theme – this is not always explicit. For example, the second story about Crimea’s energy system being attacked is ultimately about energy, and energy dependence, but this was not explored in the item. Presenting an incredible contrast given the 20-year time lag, the fifth story is about the US employing this same tactic to debilitate Vietnam.

The third story about Myanmar does make clear that it is the global economics of demand for jade, and the reliance on this trade in the country, that meant people lost their lives in this incident. We can see that NIB headlines give little away in terms of contents – speaking to this issue of balancing count and space.

### *Background sustainability topic: Media*

The Media topic is not one of the ‘top topics’ in the sample – which seems to make it a good candidate for being a background issue in the mass of cultural emissions. It is one topic where more space is given relative to the count of items, and is a rather consistent topic at the Daily Mail particularly, having as many items in the count (n=19) as the Environment topic. In total, 36 items in the sample across both titles were coded with the topic Media.

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<sup>11</sup> UNWEIGHTED

This gives us some idea of the changing concerns of the industry over time – occupying the minds of journalists – and coming out in its cultural emissions:

<b>Date</b>	<b>Publisher</b>	<b>Contents</b>	<b>Comment for clarity</b>
07/11/2021	Observer	Social media helped me face cancer – author	
24/10/2021	Mail on Sunday	Exposed: Google's power over online ads	
24/10/2021	Mail on Sunday	BBC Newsnight man's 41 tweets criticising the Tories – and just three aimed at Labour	
24/10/2021	Mail on Sunday	Jackpot! But why do so many BBC bosses walk into top jobs at Camelot?	
24/10/2021	Observer	Facebook boss 'not willing to protect public from harm'	
07/12/2015	Daily Mail	Own goal! Achingly PC BBC chief let boxing big mouth on prize list	
07/12/2015	Daily Mail	Valuing freedom	'AMONG its many other virtues, MPs will hear today that the Freedom of Information Act actually *saves* huge amounts of public money...'
23/11/2015	Daily Mail	Let viewers vote on cuts at BBC says Lord Hall	
23/11/2015	Daily Mail	A RADIO 4 SILENCE ON MAGGIE	
23/11/2015	Guardian	Hall seeks independent regulation of the BBC	
10/06/1992	Daily Mail	I acted alone says watchdog who delivered 'instant justice'	
10/06/1992	Daily Mail	Foreign banks face inquiry over missing Maxwell cash	
10/06/1992	Guardian	Analysis > What would a privacy law mean?	
10/06/1992	Guardian	Bill to regulate press backed by Labour MPs	
10/06/1992	Guardian	Mirror ready with re-listing plan	
10/06/1992	Guardian	Telegraph may take stake in NY news	
27/05/1992	Guardian	ITV to sue league over soccer deal	
27/05/1992	Guardian	> STAFF at the London Evening Standard have been doing their sums...	Mortgage pay-off competition funded by cuts to journalism staff

Table 54: A selection of Media editorial items showing the value of measuring 'everything' and suggestion for further research

Interestingly, there was a Media brand-building ad in the sample.

Photograph 16: Media brand-building by the Newspaper Publishers Association (Guardian, 1992a, p. 8)

This was rather eye-catching as it appears to be an Ibuleve advert but was part of a 'people read newspapers' campaign from the Newspaper Publishers Association, where they explain the success of advertising the product in newspapers.

In the wider sample of 120 editions, and speaking back to this issue raised in the Environment section, we can find former-Guardian editor Alan Rusbridger taking up space to acknowledge the media may have a responsibility for hounding Princess Diana (Photograph 17).



Photograph 17: "Newspaper's cry for attention: Alan Rusbridger and Henry Potter argue that the press itself must bear a heavy responsibility for Princess Diana's alleged misery..." (Guardian, 1992j, p. 25)

While at its sister title just the day before we see this kind of Royal coverage far outsizing a story about the Rio Earth Summit:



Photograph 18: “Depression ‘drove Diana to five suicide bids’... Quayle accused of ‘trying to wreck’ Rio Earth Summit” (Observer, 1992b, p. 1)

## *Summary of results in relation to RQ2*

The key sustainability topics discussed in detail in this section were identified because they are top across all items in terms of both count and space. These were Political (#1 space; #5 count), Economics (#2 space; #2 count) and Brand (#4 space; #1 count). Yet, the overall variety of topics in the opening pages, and thus potential for brainprint, seems to have reduced in terms of all items and editorial items at both publishers, particularly due to changes in pagination over time.

Political was the top topic across all items in terms of space, even though there is no political advertising in the sample, which means there is significant Political editorial. This perhaps means this is the most 'controllable' topic overall, in terms of how the publisher deals with it, and this topic has come to dominate in recent years, particularly foregrounding Controversy. This means what the person involved in the story says or does, or what the publisher chooses to include, could thus have important implications for brainprint and sustainability. Royal items in this topic were found to have a relationship to discussion of the environment, particularly at the Daily Mail. These were often not supportive of the environmental talks that were the prompt for coverage, highlighting that topics may have limited usefulness, and supporting the commitment of the study to look beyond items simply coded for Environment.

Overall, Economics is given the second-largest combined space over time, across all items and in editorial specifically, suggesting a general prioritising of Economic over other concerns. Another relationship was identified here, where items were coded for Economic but also included environmental themes, either explicitly or implicitly. In studies of Environment items alone, these would be missed.

These kinds of crossovers can also be seen in the Environment topic, where Farming, Food and Energy subtopics are almost inherently linked to other topics, like Economics. Environment was the fourth-largest topic across both publishers combined in terms of editorial only. In terms of the environmental periods chosen, the largest number of items coded as Environment editorial were seen for the latest conference, suggesting coverage of this has grown in importance. An item about a Flood, an 'unplanned event', also gave an indication these stories are tending towards coverage of events rather than issues. This was discussed alongside a Royal and Media story to highlight the battle for space and thus challenges for brainprint.

Lifestyle was given a larger amount of space relative to the number of items, suggesting some indication of priority and thus potential for brainprint. The sample included the appointment of the Daily Mail's first fashion editor just as the world's first environmental talks were kicking off. Lots of the editorial items here are explicitly or implicitly about Consumption, as are the ads categorised in this topic, such as those relating to Black Friday. This seems to reflect the dominance of the social over other sustainability concerns.

Half of all space taken up by advertising in the sample was coded for either Lifestyle or Economics, the latter of which adds to the total space score for this topic. This adds further weight to observations about the prioritising of the Economic. 'Brand building' is evident in the sample of adverts, where large visual ads advertise very little, likely because these ads are cheaper for the advertiser to run.

Motoring was the single-largest advertising subtopic even though Transport was not the largest advertising topic and is demonstrated to be the most polluting advertising category. Transport was thus considered a key sustainability topic and 70% of editorial items coded here were found to be about Motoring too. This topic has also had consistent sections dedicated to it across publishers over time. Though Economic ads are not as directly linked with pollution, this was found to be because financial institutions are not yet obliged to report their 'financed emissions', or fossil fuel investments. The ranking would change considerably if this were the case.

Overall, when using a basic sustainability categorisation to combine these topics – economic, environmental, social – the latter was found to take up almost three-quarters of the total space in both newspapers, the economic represented 11% of space and the environmental just 6%. This suggests the social is a vital consideration when it comes to cultural emissions, brainprint and sustainability. But that is not to say that all items coded for Environment actually have environmentally sustainable themes. This issue is clarified in the last section.

All items in a newspaper may be worthy of being considered background topics with the potential for brainprint. The further two discussed in this section were Foreign Affairs and Media – and the final section highlights a rather interesting connection between the latter and sustainability indicators at the Daily Mail.

## 5.5 Results for RQ3) and RQ4) changes in potential brainprint over time in relation to sustainability and the influence of different economic structures of news-media organisations

The previous two sections largely dealt with cultural emissions in aggregate, seeking to understand and demonstrate potential indicators of sustainability in brainprint happening within our cultural commons. Recognising that this obscures differences between the two publishers and changes over time, the next section endeavours to demonstrate findings relating to these two final questions, using the previous sections to guide the enquiry.

A key way to consider the sustainability of each publication's cultural emissions is to compare the Economic and Environment topics to see if these appear balanced. So the next sections detail how these look in the wider sample, across all items, for advertising and editorial alone, then finally, by deploying three sustainability indicators to re-code a smaller sample of the items.

### *Findings on overall Economic and Environment priorities*

Looking at the wider sample, for each year, both publishers provide news stories, and increasingly over time, special features and even supplements on the relevant environmental talks – (see: Guardian, 1992c below) yet the environment has rarely been given a regular section. That this is true at both newspapers at most times is interesting – standard topic sections could appear reasonably arbitrary but are shared across both titles.

In the wider sample, the Economics news pages or sections are variously called:

<b>Publisher</b>	<b>Year</b>	<b>Title</b>
Guardian	2021	Financial
Daily Mail	1992-present	Wealth, Money mail, City & Finance
Guardian	1992	Finance and Economics, Money Guardian, Observer Business, City, Business, Personal Finances
Daily Mail	1972	City
Guardian	1972	Business Guardian, Shareholders' Guardian

**Table 55: Economics sections in the wider sample over time**

Both newspapers often extend their daily financial news sections to include pages on things like personal finances. There have always been daily visuals of the stock market, but no equivalent tracking of environmental data of companies or governments, for example. Overall in the wider sample, the dedicated Environment pages were limited to:

<b>Publisher</b>	<b>Year</b>	<b>Title</b>
Guardian	1992	EnvironmentGuardian

**Table 56: Environment sections in the wider sample over time**

This indicates that Economics has been prioritised over time at both titles, though more so at the Daily Mail than the Guardian. That EnvironmentGuardian no longer exists in print, like the SocietyGuardian in the detailed sample, seems to show a deprioritisation of two issues that potentially have a relationship to brainprint and sustainability. The supplement similarly had relevant job advertisements, speaking both to an indication of the kinds of people reading it and the advertisers it attracted. At the same time, however, the Guardian also ran extensive and varied Economics pages and supplements. This could indicate it was presenting a confusing message to readers.

As evidence of this, in 1992, the Guardian presents an extensive 40-page *Earth* environmental supplement (Guardian, 1992c) – published five days before the start of the Rio Earth Summit – highlighting the strength of the study to include editions before the event itself. *Earth* is split into themes of ‘hopes’, ‘action’ and ‘fears’ and includes:

- an explainer on why the summit is happening

- a comment piece from the then-Prince of Wales – we have already spotted a trend for the environment being a ‘Royal’ story
- the views of indigenous people in Brazil
- issues between Global North and Global South
- discussions on multinational power, justice, land, technology and science, nuclear power, population, local issues in the UK and Africa
- an essay on “humanity’s collective suicide” if the world adopted the materialistic habits of Western “consumer society” that highlights that the economic costs of things like car accidents are not factored into our views about this way of life

Yet, the supplement also features this rather breath-taking juxtaposition of advertising (Guardian, 1992c, s.2) on the inside cover:

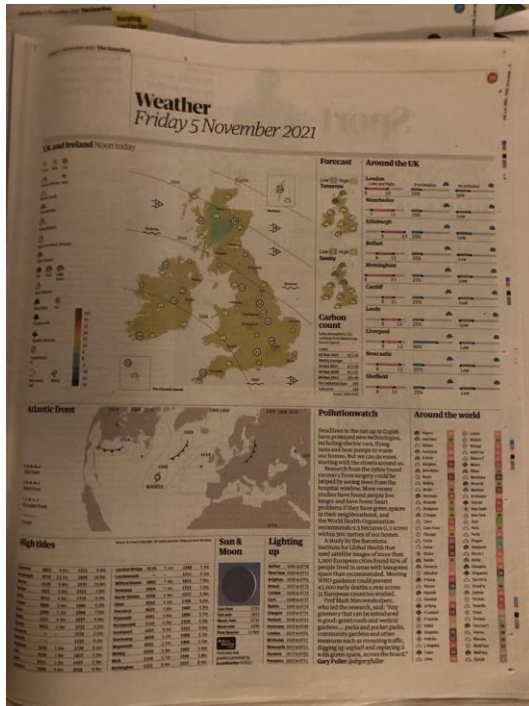


Photograph 19: Car advert on second page of 'Earth' 40-page supplement on Earth Summit (Guardian, 1992c)

The supplement is sponsored by Oxfam, likely less jarring, but means this coverage may not have happened without advertiser support, of either kind. That this is a supplement, rather than 40 pages of the newspaper, is likely understandable – but the message of this may be that you don’t need to read it, or that it may in fact be an ad supplement. Anyone who does read this would likely be confused by the above

juxtaposition – potentially undermining the message of the publication. This exercise was repeated by the Guardian in 2021 but was unavailable from the source used (Press Reader).

The Weather is a shared daily item across titles presented in varying levels of complexity, but with limited reference to wider environmental concerns, that is until a recent shift at the Guardian (2021k, p. 39):



Photograph 20: ‘Weather’ full-page with carbon count and “Pollutionwatch” (2021k, p. 39)

The publisher has taken the Weather to a full page (Guardian, 2021k, p. 39) and turned it into something of a daily Environment section – including a carbon count – if that is useful. The page also includes a short column about everything from space to the sea. This seems to offer a practical way, taking advantage of people’s ‘need to know’, to embed potential sustainability into brainprint without making it a special case.

Looking at the more detailed sample and considering space scores specifically at the Daily Mail alone, the top topics in terms of space across all content types broadly follows what has been detailed in previous sections:

- Political
- Lifestyle

- Economics
- Popular Entertainment
- Brand
- Environment

Compared to looking at all items across both publishers, the Environment topic moves up one place to sixth here. The Political category is reasonably robust throughout the editions sampled – the total space given to this is in fact almost twice that of the Guardian, and particularly comes to dominate in later editions. Lifestyle shows a peak in 2015 but is also reasonably high in the 1970s. Economics shows a peak in the 1990s and drops off afterwards.

At the Guardian, the outlier in the Guardian dataset means Social Justice is the top topic in terms of space allocated at the Guardian. Though we know this is concentrated in one edition, this does reflect a priority at the time:

- Social Justice
- Political
- Economics
- Foreign Affairs
- Sports
- Brand
- Environment

Economics shows a peak in the second issue in 1972, but is also a strong topic in the 1990s and the first issue of 2015. Foreign Affairs is strongly represented until the later editions in the sample, when, as at the Daily Mail, Political comes to dominate. Looking more deeply into the data shows that Sports appears here only because of the inclusion of earlier editions, as it is nearly always confined to later pages in later editions. On this measure alone, the Daily Mail appears to have dedicated more space across all items to the Environment. This will be further interrogated in the next section.

### *Findings on editorial Economic and Environmental priorities*

At the Daily Mail, the top editorial topics, ordered in terms of space, were:

<b>Editorial Topic</b>	<b>Total space score</b>	<b>Total item count</b>	<b>Item Rank</b>
Political	1115	74	1st
Lifestyle	444	28	
Popular Entertainment	414	56	2nd
Economics	387	27	
Home Affairs	222	37	3rd
Environment	220	19	
Foreign Affairs	137	30	
Media	122	19	
Culture	60	10	
Transport	53	11	

**Table 57: Space and count of different topics over time for editorial items only at the Daily Mail**

Political stories dominate space at the Daily Mail in nearly every edition sampled. Lifestyle is also reasonably consistent, with one particular spike in 2015, as is Popular Entertainment. When looking at counts, these priorities change somewhat, to: Political, Popular Entertainment, Home Affairs. Seeing such 'priorities' should give us pause for thought when thinking about brainprint and the kind of message this may send. All of these categories can be broadly grouped into the social, which may be the ultimate source of environmental problems, and these latter two likely influence how people spend their leisure time, and how we spend money too.

The Political topic at the Daily Mail is robust, top in terms of both space and count of items. Indeed, though Political items peaked in number in the two 2015 editions (items=14,15), they represent a greater share of items in the 2021 editions (items=8,10) because of the general reduction in the count of items. This may come at the expense of, or a repositioning of, specific Home Affairs or Foreign Affairs news items, which both see significant reductions over time. Media stories are interestingly consistent. There is in fact an equal count of editorial items coded here for the Media topic as there is for the Environment topic. Counting items alone, news-media industry news appears as important as the Environment topic.

The Economics topic is concentrated in earlier editions, though this too contains an ‘outlier’ because of a Money Mail jump included on the front page. This appears to skew the data, but does reflect a priority, as this is considered important enough to take up space on the front page in order to point readers to visit this section in the newspaper. Whether we consider the economic as distinct from, or part of the social world, we know many believe economic priorities dominate at the expense of the environment.

We already know from the subsection in the last section on the Economics topic that both newspapers have dedicated specific and extensive space to this over time. It also represented a quarter of all advertising coded, second only to Lifestyle. The above adds weight to the suggestion that ‘the economics wins’.

At the Guardian, the top editorial topics, ordered in terms of space given were:

<b>Editorial Topic</b>	<b>Total space score (WEIGHTED)</b>	<b>Total item count (weighted)</b>	<b>Item rank</b>
Political	581	56	
Social Justice	567	50	
Foreign Affairs	516	115	=1st
Sports	431	115	=1st
Environment	394	61	
Home Affairs	355	67	2nd
Economics	342	65	3rd
Culture	199	33	
Media	198	18	
Popular Entertainment	189	30	

Table 58: Space and count of different topics over time for editorial items only at the Guardian

Here we can see that the Guardian, alone and looking only at editorial, does in the sample dedicate more space to the Environment topic than Economics. However, there were more items coded for Economics in the sample than Environment. This should make clear the issue with looking at only items or space, though it doesn’t necessarily tell us which is better.

As at the Daily Mail, the Political topic leads, but does not tend to dominate the space as much at the Guardian, though it is reasonably consistent over time, and comes to take up more space in the later editions. The space taken up by the Social Justice

topic is skewed by the outlier already mentioned – though this does reflect a time when the Guardian appears committed to this issue via weekly sustained coverage that it points its readers to from the front page.

At the Guardian, the top topics found in the count of items is skewed towards early editions, where many small items of Sports editorial covering lots of different sports were included in a single edition in the 1970s. Yet, there were also many Sports editorial items coded in the 1990s. We may yet consider why the Foreign Affairs and Sports topics so dominated at this time – this appears as something of a competing priority. One is ostensibly about issues in far-flung places that may be hard to get people to care about – the other is, again, about how we spend our leisure time and something that remains a hugely popular part of our culture.

Given the Guardian typically had many more editorial items in earlier editions, its cultural emissions in terms of small, repeated topics certainly appears larger at this time. The Sports count drops off as these items take their now-customary space at the back of both newspapers.

In the later editions, we see a much smaller count of items. As previously mentioned, both titles show a reduction in the count of editorial items included in the opening pages over time – particularly at the Guardian. In the final edition of the Guardian/Observer sampled (Observer, 2021c), for example, this includes:

<b>Topic</b>	<b>Count of editorial items</b>
Environment	5
Culture	2
Health	2
Media	1
Political	1
Popular Entertainment	1
Social Justice	1
Sports	1
Transport	1
Total	1

Table 59: Count of editorial items in the last Guardian edition sampled (Observer, 2021b)

What we see in this edition of the Observer is Environment editorial reflecting the highest count of editorial in the opening pages of the edition sampled. This indicates that this is a high priority for the publisher at this time. Yet, the Environment topic never has the largest share of space within any edition of the sample coded in detail, even in this one where its share is largest in terms of items. Given this is after the start of the relevant environmental conference, this reflects reporting of the proceedings, so brainprint ultimately being prompted by 'events' again here.

Looking at the sample again in detail, we can look at the space scores for editorial items covering the Economics and Environment topics only:

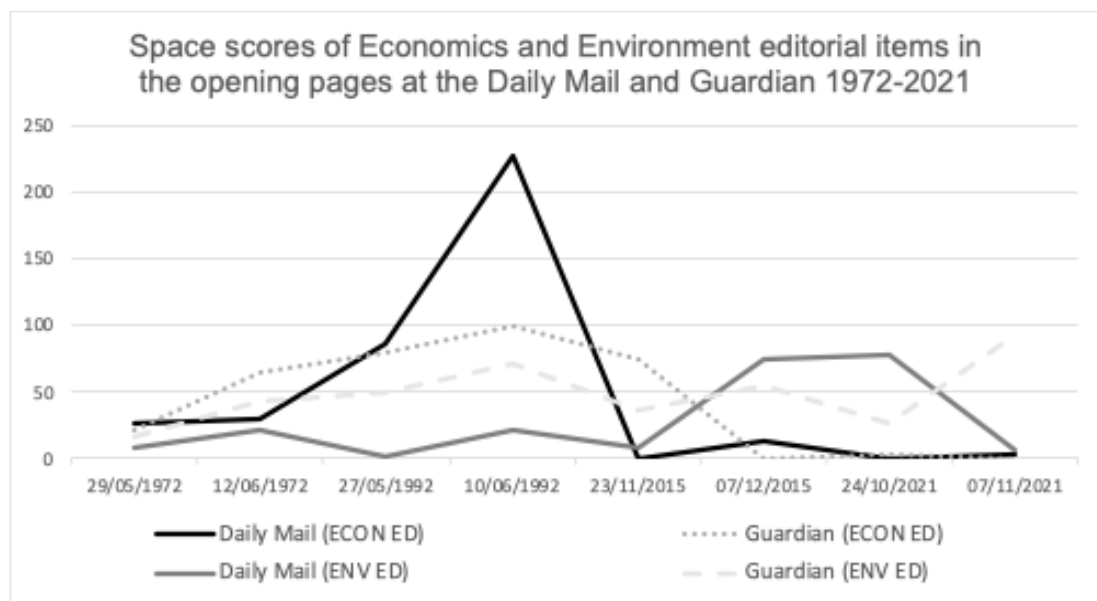


Figure 37: Comparing space given to Economics and Environment topic in editorial items at both titles over time

At the Guardian, we can see that the Economics topic is given more space in earlier editions, with a drop towards the end, while the Environment topic is quite consistent over time, even growing in the last edition in the sample. The Environment topic at the Daily Mail appears to have been given less priority over time, but at points towards the end is given more space than the Economics topic, and more than in the equivalent issue at the Guardian.

The Economics spike at the Daily Mail, again, reflects this jump from the front page to a Money Mail section. But this graph shows just how much space is dedicated to it – and thus some level of importance and potential brainprint.

Looking at the data behind this graph in more detail:

	Guardian		Daily Mail	
	Economics editorial space WEIGHTED	Environment editorial space WEIGHTED	Economics editorial space	Environment editorial space
<b>29/05/1972</b>	21	17	27	8
<b>12/06/1972</b>	64	43	29	21
<b>27/05/1992</b>	79	49	87	1
<b>10/06/1992</b>	100	72	227	22
<b>23/11/2015</b>	74	37	0	9
<b>07/12/2015</b>	0	55	14	74
<b>24/10/2021</b>	4	26	0	78
<b>07/11/2021</b>	0	95	3	7
Total	342	394	387	220
	More Economic space in first half	More Environment space in second half	More Economic space in first half	More Environment space in second half

Table 60: Comparing space give to Economics and Environment editorial items at both titles

We can see high points in this sample for editorial space given to the Economics topic at both newspapers in the 1990s. In the editions sampled, both publishers had more Economics editorial space in the first half of editions than the second, and more Environment editorial space in the second half of editions sampled.

High points for space given to the Environment topic come in the 2020s at both newspapers in this sample too. At the Guardian, we can again see the Environment topic is actually given more space overall than the Economics topic looking at editorial items only over the period sampled. This seems to indicate a general increased awareness of the environmental events and perhaps a de-prioritisation of Economics editorial, though this may also reflect the changes in pagination or the sectioning of the latter into its own pages later on.

One thing that is striking here is that, for the first and only time in the sample, in 2021, the Daily Mail has more of this editorial before the environmental conference than

after. This may indicate that, rather than simply following the event, it is seeking to influence its audience before the event has started. Here is one potential example of this, from the first edition of the Daily Mail, in the wider sample of pages:

24 The Mail on Sunday

# Which bright spark left eco cars at COP26 with no juice?

## Green vehicles but red faces as there are too few charging points

By George Horne

WHEN thousands of people gathered in Glasgow last week to attend the climate summit, the city was a scene of green energy. The streets were lined with electric cars, and the air was filled with the hum of their motors. But as the sun set, the city's green energy was exposed as a mirage. There were too few charging points to support the influx of electric vehicles, leaving many drivers stranded and frustrated. The city's green energy was exposed as a mirage. There were too few charging points to support the influx of electric vehicles, leaving many drivers stranded and frustrated. The city's green energy was exposed as a mirage. There were too few charging points to support the influx of electric vehicles, leaving many drivers stranded and frustrated.

**Jolley**

THE CITY'S GREEN ENERGY WAS EXPOSED AS A MIRAGE. THERE WERE TOO FEW CHARGING POINTS TO SUPPORT THE INFUX OF ELECTRIC VEHICLES, LEAVING MANY DRIVERS STRANDED AND FRUSTRATED. THE CITY'S GREEN ENERGY WAS EXPOSED AS A MIRAGE. THERE WERE TOO FEW CHARGING POINTS TO SUPPORT THE INFUX OF ELECTRIC VEHICLES, LEAVING MANY DRIVERS STRANDED AND FRUSTRATED.

**DAN HODGES... A SUMMIT FOR WORLD'S WORST HYPOCRITES** Page 53

### UK takes lead with its fossil fuel phase-out

UK's energy strategy shows a clear commitment to reducing fossil fuel dependence. The plan includes a significant increase in renewable energy production and a gradual phase-out of coal and oil. This move is seen as a leadership role in the global fight against climate change.

### ...but Britons flummoxed by their 'carbon footprint'

A recent poll has found that more than two-fifths of Britons do not understand the term 'carbon footprint'. This lack of understanding is a significant barrier to effective climate action. The poll also revealed that many people are confused by the various terms and statistics used in climate change reporting.

Country	Renewable Energy %	Fossil Fuel %	Change since 2011
UK	35.6%	10.2%	+10.8%
China	0%	1.5%	+39.9%
EU27	32.1%	16.6%	+15.4%
USA	25.4%	24.9%	+1.7%
India	1.7%	2%	+1.6%
France	9.3%	8.3%	+1.4%
Germany	5.7%	5.3%	+0%
Spain	9%	10.7%	+0%
Italy	0.8%	0.3%	+1%

Photograph 21: "UK takes lead with its fossil fuel phase out... but Britons flummoxed by their 'carbon footprint'" (Mail on Sunday, 2021a, p. 24)

It offers a rather amused pre-conference piece pointing out that a roll out of electric cars for COP26 has come without enough charging points (Daily Mail, 2021a, p. 24) alongside a mascot 'recycled' from another national event. Another piece on this page titled "UK takes lead with its fossil fuel phase-out" (ibid) is a reasonably serious piece with a useful graphic showing positive changes in energy mix since 2011, but it also points to China not attending and uses this story to suggest the UK is doing great but China is not doing its bit. A final piece on this page suggests:

"... Britons flummoxed by their 'carbon footprint'... more than two-fifths of Britons do not understand the term 'carbon footprint', a poll has found. Despite

massive media coverage... 42 per cent do not know the meaning... surveyed for food firm..." (ibid).

This raises an interesting point, and seems to point to a 'brainprint' issue, if footprint is a meaningful concept for people to understand.

Yet, after the top Political topic, Economics is the second-largest overall editorial topic in terms of space across both titles and all years – showing that despite each publisher focusing on other topics, Economics editorial appears as a shared priority that may have sustainability implications when thinking about the mass of cultural emissions being discharged into our cultural commons.

Further variables captured, as outlined in the methodology, enable us to see more ways these topics can be considered for further evidence of brainprint. In the table below are those that may offer us the most interesting insights. The item counts are unweighted here because the items ultimately relate to specific values assigned to each item, such as author name and expertise. We have already discussed the difference in counts for all editorial topics – and we can see again that the Guardian has typically included more items over time, and so more cultural emissions relating to both Economics and the Environment.

Topic (editorial only)	Daily Mail		Guardian	
	Economics	Environment	Economics	Environment
ITEMS UNWEIGHTED	27	19	64	59
Front page	3	1	4	9
% of front page items	5.1%	1.6%	3.2%	7.2%
Section front	5	5	31	26
Starting QS = 4	10	8	6	24
Total QS on this page = 10+	3	4	4	10
Named author	17	12	48	49
Expertise	10	4	14	24
Identifiably male author	12	8	35	40
Identifiably female author	3	6	7	13

**Table 61: A table comparing further variables that can help judge evaluate cultural emissions including 'prominence', expertise and gender of author, and imagery**

To give these items more character, we can look at 'prominence' via front-page placement, appearing on a section front, starting quadrant score (4 being highest, top

left of page) and where their total quadrant score was more than 10 (10 means it appeared in all quadrants on a page, 25 is a full page and 50 is a double-page spread). These things matter because such placement gives some idea of the importance of the item, so they are more likely to be, or at least intended to be, read.

In the sample, we can see that Environment stories appeared on the front page most often at the Guardian, then Economics at the Guardian, then Economics at the Daily Mail, then Environment at the Daily Mail. This is out of a total of 16 front pages and 184 total items (59 items at the Daily Mail and 125 at the Guardian).

We can do calculations on these figures (e.g. the percentage of items on the front page at each title that related to these topics in the sample as per the above) but the numbers are small. With a larger sample size, this could make for a quick-to-gather and potentially meaningful comparison – though we must remember that front pages are unlikely to carry advertising, so would not reflect cultural emissions in the same way.

Across the rest of these ‘prominence’ measures, we can see the Guardian is broadly featuring the Environment topic more prominently than the Daily Mail – but not always more prominently than the Economics topic. There are more Economics items overall, more of which are on section fronts such as those dedicated to Finance and Economics, or Business, while the Environment topic is included on generic section fronts such as Home News and International. But, perhaps only because of the time period chosen, the Environment topic is on the front page more often and has more prominent placing, both in terms of starting quadrant score and total page score, than the Economics topic.

At the Daily Mail, the Economics topic is on the front page more often and has more prominent placing in terms of starting quadrant score, despite the time period chosen, though the Environment is more prominent in terms of total page score. The topics are equal in terms of section fronts, though again, for the Environment, these include Comment, World Wide and Mail Diary, not specific section fronts for the topic, whereas the Economics topic has dedicated section fronts, such as the long-standing Money Mail.

In terms of authors, we may consider what having a named author, and named expertise may indicate. In general, the Daily Mail is much less likely to name its authors – though we can see in the sample that the Guardian has not named all of its authors as standard. Sometimes this relates to NIBs, but there are also examples of general reporting and analysis without a named author, particularly in earlier years where things like ‘reporter’ or ‘correspondent’ appeared to suffice.

One interesting thing to note here is the development and demonstration of the expertise of the relevant writers. For Environment items, in 1972 at the Guardian, a ‘science correspondent’ produces the editorial on the United Nations Conference on the Human Environment. In 1992, there is an ‘environment correspondent’ (and environment editor John Vidal, though his work is not captured in the detailed sample). This language runs through to 2021, as the Observer also uses both its environment correspondent and science editor for this coverage. In economic terms, no expertise is captured in the 1970s, but in 1992, there is an ‘economics correspondent’, a ‘business correspondent’, a ‘business editor’ and ‘economics editor’, as well as ‘Westminster correspondent’, ‘legal correspondent’ and ‘political editor’ all named authors in this coverage.

At the Daily Mail, in terms of Economics items, in the 1970s, there is an ‘industrial editor’, ‘city editor’, ‘industrial correspondent’ and ‘Farm Mail’ writer all found in the sample. In the 1990s, there is an ‘industrial correspondent’ and ‘consumer affairs correspondent’ found in the sample. In 2015, there is an ‘associate city editor’ and in 2021, a ‘city correspondent’. In environmental terms, there is an ‘environment correspondent’ named in the last set only (Daily Mail, 2021I), which was coded in detail but is not being used for most comparisons here, as discussed in the methodology.

The above seems to reflect that the Guardian has been taking the expertise of its environmental reporters seriously for a longer time, though in the 1990s economics expertise becomes more voluminous and varied. At the Daily Mail, its economics reporters have been more specifically and variously named for longer.

Across both titles, where an author’s name was identifiably male or female, this was captured to give some indication of diversity, given its close relationship to sustainability, and potentially its relationship to topic expertise. The key thing we can

see from the data above is the vast maleness at both of these titles over time – with women’s names largely appearing in these bylines after the turn of the millennium.

Though we are dealing with extremely small numbers so we must be extremely cautious – we can observe here that the smallest difference between authors identified as male and female is in the Environment topic at the Daily Mail. The largest is in the Economics topic at the Guardian. This indicates that the Environment may be considered ‘women’s work’ at both titles, while Economics is ‘men’s work’ – which may have an impact on the perceived importance or seriousness of the topic – and may have implications for the balance struck when it comes to sustainability.

### *Findings on advertising priorities*

advertising adds significant homogeneity to the overall topics featured in each newspaper and dominates via often being full-page spreads made up of a striking single visual, particularly in later editions.

Lifestyle, Economics and Transport advertising, the latter meaning particularly Motoring, dominates across both titles in both space and count. This seems to present a significant sustainability challenge when considering brainprint and its relationship to sustainability.

At the Daily Mail advertising counts and space scores reflect this trend:

<b>Advertising Topic</b>	<b>Total space score</b>	<b>Total item count</b>	<b>Item rank</b>
<b>Economics</b>	208	21	2nd
<b>Lifestyle</b>	205	27	1st
<b>Transport</b>	125	12	3rd
<b>Technology</b>	76	6	
<b>Education</b>	39	3	
<b>Health</b>	26	7	
<b>Culture</b>	8	2	
<b>Social justice</b>	7	2	
<b>Popular entertainment</b>	3	18	

Table 62: Advertising at the Daily Mail, dominated by Economics, Lifestyle and Transport

As does the advertising at the Guardian:

<b>Advertising Topic</b>	<b>Total space score WEIGHTED</b>	<b>Total item count WEIGHTED</b>	<b>Item rank</b>
<b>Lifestyle</b>	188	35	1st
<b>Economics</b>	184	34	2nd
<b>Transport</b>	118	9	3rd
<b>Popular Entertainment</b>	66	5	
<b>Media</b>	53	4	
<b>Culture</b>	34	5	
<b>Technology</b>	31	4	
<b>Health</b>	23	4	
<b>Education</b>	15	3	
<b>Social Justice</b>	14	3	
<b>Foreign Affairs</b>	10	1	
<b>Environment</b>	7	4	
<b>Sports</b>	3	2	

Table 63: Advertising at the Guardian, dominated by Lifestyle, Economics and Transport

The next visual here seeks to highlight that this trend carries for later years where we may expect more sustainable advertising.

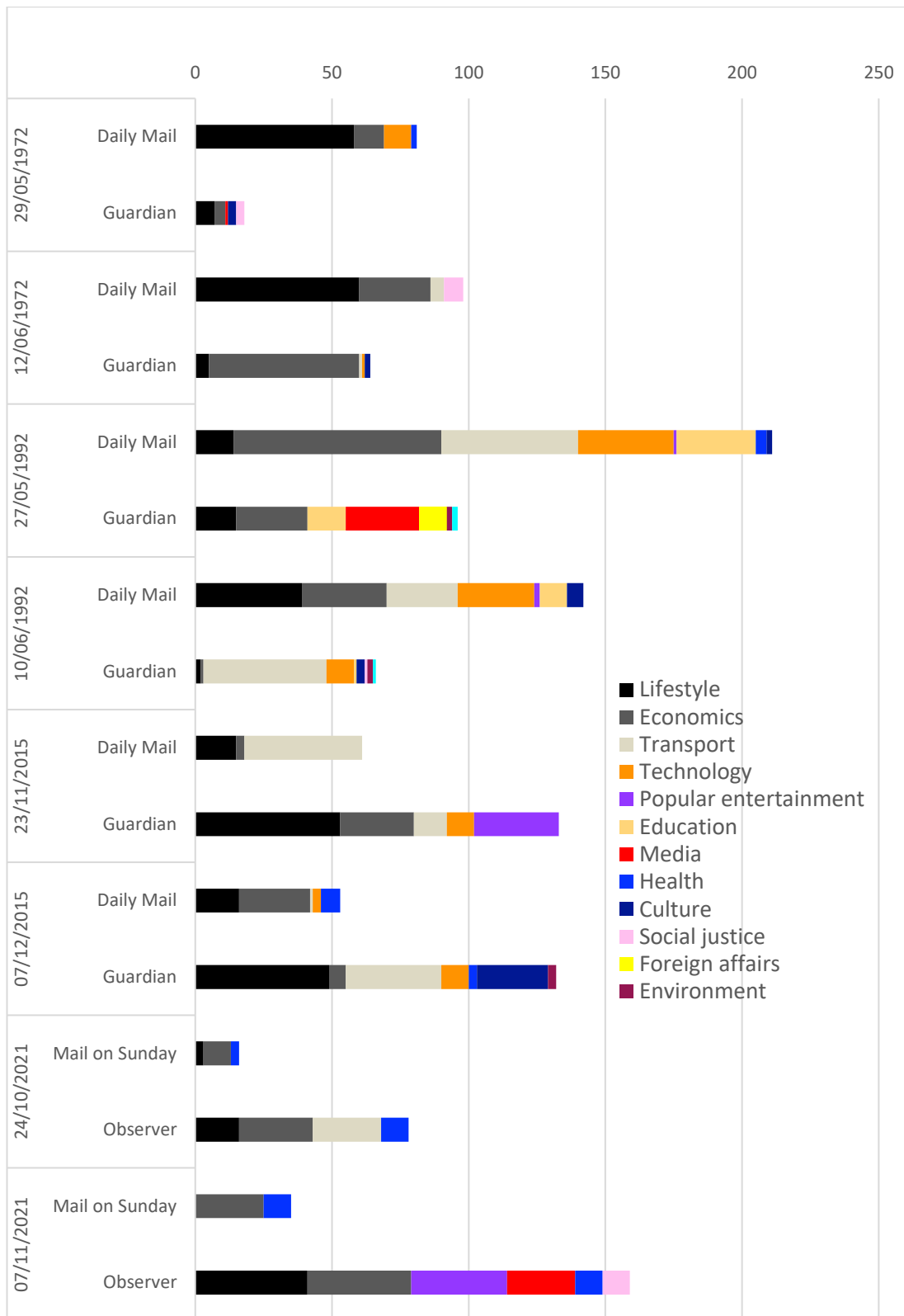


Figure 38: Lifestyle, Economics and Transport ad items dominate across titles and year

The final section recodes a further sample of items from the items coded in detail to try to evidence true sustainability within the items coded.

### *Findings for sustainability scoring*

In order to try to judge ‘true’ sustainability within this mass of cultural emissions, a set of variables was created after the detailed coding to quantify the sustainability relevance of different items and whether this relevance was manifest or latent. If relevant, each item was judged for how sustainable it was (-1 not sustainable to 2 sustainable) across the three aspects of sustainability brought out in the Theoretical framework and detailed in the Methodology. This was done on a representative sample of advertising and editorial items (n=91), as these were identified as two highly relevant content units when it comes to sustainability. Below is the number included for analysis, with the final number analysed in the last column.

	<b>Total items sampled</b>	<b>Advertising</b>	<b>Editorial</b>	<b>Sustainability relevance?</b>
<b>Daily Mail / Mail on Sunday</b>	35	12	23	31
<b>Guardian / Observer</b>	56	12	44	52

Table 64: Total items sampled and coded for sustainability indicators

As detailed above, it was judged that the vast majority of advertising and editorial content in the sample had some relevance to sustainability, even if only latently.

These were then coded across the three ‘sustainabilities’, the economic, the environmental and the social, with definitions of each created from both social and natural science literature, as detailed in the Methodology. A score of 6 represents a combined score of 2 in each category and could likely be judged as ‘sustainable’ or ‘safe, just and equitable’ via the definitions used. A score of -3, meaning -1 in each category, means the content can likely be judged as ‘unsustainable’.

The table below shows the number of items in each category:

	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>-1</b>	<b>-2</b>	<b>-3</b>
<b>Daily Mail</b>	0	0	2	1	3	4	4	10	3	4
<b>Guardian</b>	3	0	5	1	11	8	7	8	4	5

Table 65: Total sustainability scores combining scores for each indicator

We can see via the spread above that more items published the Guardian in the sample were coded with ‘more sustainable’ indicators than the Daily Mail. Looking at these as a percentage of the total items for each publisher, we can see that more than 50% of the Guardian articles in the sample scored 1 or more when the sustainability indicators were combined. Most items at the Daily Mail scored -1, at the Guardian this was +2. More than half of the Daily Mail’s score -1 or less.

<b>Sustainability score</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>-1</b>	<b>-2</b>	<b>-3</b>
<b>Daily mail / %of total</b>	0	0	6	3	10	13	13	32	10	13
<b>Guardian % of total</b>	6	0	10	2	21	15	13	15	8	10

Table 66: Percentages of items with each total sustainability score

Just 6% of items in the sample at the Guardian were judged to be truly sustainable, but that was 0% at the Daily Mail. Below is a listing of the items which scored the most (6) across the sample:

<b>Date</b>	<b>Publisher</b>	<b>Item type</b>	<b>Topic</b>
27/05/1992	Guardian	Editorial	Environment
27/05/1992	Guardian	Advertising	Economics
12/06/1972	Guardian	Editorial	Environment

Table 67: Items scoring the maximum total sustainability score

With none at the Daily Mail items scoring more than four, the Guardian appears to offer the most sustainable editorial. The Environment appears to be the most sustainable topic, but interestingly, an advert for a book on economics called ‘The Growth Illusion’ scored top here too. The two editorial items in this category were ‘Threat to wildlife and farming as Britain watches rivers slow’, an extremely detailed and useful news story and explainer, prompted by a government review of water use during a drought in 1992, and ‘Papering over a local flaw’ a piece written after the start of the United Nations Conference on the Human Environment in 1972, which presciently mentions “the pressures of economics” and the UK’s exporting of its environmental harms.

None in the sample scored five so the 'next most sustainable' were those with a score of four combining 1,1,2 across the different indicators (rather than 2,2,0, which may indicate a narrow view of sustainability being presented) as this best reflects the fullness of sustainability. This also represented three items from the Guardian:

Date	Publisher	Item type	Topic
24/10/2021	Observer	Editorial	Political
24/10/2021	Observer	Advertising	Transport
12/06/1972	Guardian	Editorial	Environment

Table 68: Items scoring the second-highest total sustainability score

These were a post-COVID 'get back on the train' advert, a piece from 2021 about potentially turning the Grenfell tower into a living memorial, and a piece about repurposing industrial sensors for monitoring volcanoes. The type and topic categories surfaced here indicate that sustainability is not limited to Environment or editorial items alone.

Any other score (including combinations of 2,2,0 or 2,1,0) could be judged as unsustainable for missing one or more indicator, or using an unsustainable theme. Using this system, a positive score in one area may also be cancelled out by a negative score in another, aiming to demonstrate that sustainability trade-offs may not work. Below is a listing of the items which scored the least (-3) across the sample, reflecting unsustainable themes.

Date	Publisher	Item type	Topic
24/10/2021	Mail on Sunday	Advertising	Economics
24/10/2021	Mail on Sunday	Advertising	Lifestyle
10/06/1992	Guardian	Advertising	Transport
27/05/1992	Daily mail	Editorial	Sports
27/05/1992	Guardian	Advertising	Lifestyle
12/06/1972	Daily mail	Editorial	Political
12/06/1972	Guardian	Advertising	Economics
12/06/1972	Guardian	Editorial	Economics
12/06/1972	Guardian	Editorial	Sports

Table 69: Items scoring the lowest total sustainability score

The least sustainable item type among the sample was advertising. The average score across all adverts was (-0.26). The average for Daily Mail adverts was -0.38,

while the average across the Guardian adverts was 0, meaning overall, the indication is Daily Mail advertising is less sustainable.

The least sustainable topic was Economics, though Lifestyle and Transport, identified in the key sustainability topics, also feature. More Guardian adverts scored -3 in the sample, while each publisher had two editorials that scored -3. The ads that scored the least were Lloyds Bank and Orlando Holidays (Daily Mail), and USAir, Natwest and Peugeot (The Guardian). The scoring above indicates that Sports editorial could have a relationship with sustainability, in these cases due to things like international travel and wealth associated with it.

The Daily Mail's top-scoring item (4), very interestingly, was an editorial item from 2015 about potential changes to Freedom of Information laws in the topic of Media.

Econ (-1-2)	Env (-1-2)	Soc (-1-2)	Safe, just, equitable?
2	0	2	4

Table 70: Score for example Environment editorial item

Though 'narrow' as it does not include all sustainability indicators, the piece highlighted economic and social sustainability benefits of this law. Thinking to the background sustainability topic of Media highlighted in the last section, this indicates the publisher is perhaps most clear on questions of justice or equity if they relate to their own industry.

That the Guardian had the most sustainable editorial and advertising, as well as the most unsustainable advertising, indicates sustainability trade-offs in action, where attempts are made to be sustainable, but these may be outweighed by other priorities.

Looking at how these indicators appeared across the items sampled, 69% of the Guardian items scored a positive (1 or 2) sustainability score for the social sustainability indicator, compared to 45% of the Daily Mail items. At both titles, this was the indicator that was present in most items. This may present an opportunity, given the social source of environmental problems.

	% of relevant articles with each sustainability dimension			
	<b>Econ</b>	<b>Env</b>	<b>Soc</b>	<b>Total</b>
DM+	8	3	14	31
DM-	14	13	11	31
%+	26	10	<b>45</b>	
%-	<b>45</b>	<b>42</b>	35	
G+	17	10	36	52
G-	16	18	10	52
%+	33	19	<b>69</b>	
%-	31	<b>35</b>	19	

Table 71: Percentage of each item with each sustainability indicator present

On the other end of the spectrum, 45% of the Daily Mail items scored a negative (-1) for the economic sustainability indicator and 42% scored a negative (-1) for the Environmental sustainability indicator, meaning they were promoting things that are either economically or environmentally unsustainable. At the Guardian, these were 31% and 35% respectively.

Overall, the Environment topic scored the most in total (16) in the sample, followed by Home Affairs (9) suggesting these topics are more easily, or more readily, embedded with sustainable ideas. Yet, recoding an item within the topic Environment > Animals highlighted the issue with news topics and their relationship to sustainability. The editorial item was from the Mail on Sunday in 2021 and is titled 'Pet lovers see red over silver and lilac dogs'. Looking at this item in terms of the sustainability indicators gave it a total score of -1, not sustainable:

<b>Econ (-1-2)</b>	<b>Env (-1-2)</b>	<b>Soc (-1-2)</b>	<b>Safe, just, equitable?</b>
1	-1	-1	-1

Table 72: Score for example Media editorial item

The Lifestyle topic scored the least in total (-17), followed by Popular Entertainment (-7), the former was particularly highlighted in the key sustainability topics section.

Counting each publisher's total score for the sample (combining scores for all items), saw the Guardian get 41 and the Daily Mail get -22. This indicates that, across a representative sample from the original items coded in detail, the Guardian's advertising and editorial includes more indicators of sustainability.

The Guardian's top-scoring categories were: Environment (15), Home Affairs (9), Culture (6); Lifestyle (-5), Sports (-3), Religion (-1). This suggests that Environment items are those more easily, or readily, embedded with sustainable ideas. The Daily Mail's top-scoring categories were: Media (5), Health (3), Social Justice (3); Lifestyle (-12), Popular Entertainment (-6), Economics and Transport (= -5). The average score across all items for the Daily Mail was -0.19, while for the Guardian it was 0.76, meaning overall, the indication is the Guardian is more sustainable.

Speaking directly to this issue of brainprint in the wider sample and partially adopting the framework above, The Guardian (2021a, p. 37), in a relatively new feature called 'Inside the Guardian' – ahead of COP26 – said “We're all climate journalists now”, with comments from Business, Tech, Fashion, Feast, Photography and Sport about how their topics are being changed by “the weather”.



Photograph 22: 'We're all climate journalists now' (Guardian, 2021a, p. 37)

The suggestion here was that all editorial must acknowledge climate change issues particularly. This study, and the above suggestion from the Guardian itself, potentially redefines the content topics that are one of the key variables in this study, if indeed, there is an intention to follow through. “The days of writing about headlines and mood boards are over, now we want to hold the fashion industry to account,” says the fashion editor. This indicates that the ‘climate’ message has gotten through at this

publisher – but this doesn't inherently extend to other environmental issues such as waste or biodiversity, or the social problems at the root of the so-called "climate crisis".

This spirit certainly seems to carry over to the Finance pages, where over the course of the two weeks there are stories about Tesla (Guardian, 2021b, p. 31), increases in gas prices and the need to "decarbonise" (Guardian, 2021d, p. 32), scepticism about Shell's pledge to halve its carbon emissions by 2030 (Guardian, 2021e, p. 39), auto sector lobbying against a ban on diesel trucks by 2040 (Guardian, 2021g, p. 31), and huge profits at BP described as "not an ideal moment to demonstrate that producing, refining and trading hydrocarbons remains a spectacularly lucrative business" (Guardian, 2021i, p. 29).

And yet, this section still leads with key financial indicators, such as share-index figures and exchange rates. They also discuss a global carbon levy that wouldn't *hugely* damage GDP (Guardian, 2021i, p. 31, italics added) and "a rebound in economic growth" (Guardian, 2021j, p. 31).

There were also full-page vegan ads from companies like Tesco (Guardian, 2021d, p. 12) and a Quorn 'open letter' ad pointing out that meat isn't going to be discussed at COP (Observer, 2021b, p. 20), suggesting at least during the conference, this may have been taken more seriously in advertising teams.

The next section summarises the findings for these two final research questions.

#### *Summary of results for RQ3 and RQ4*

Using the measures developed for the initial content analysis, in broad terms, both publishers have more space dedicated to the Economics topic across all items over time, as second-priority at the Guardian and third for the Daily Mail across all items in the sample. This result may be unexpected, considering the economic structures of the two newspapers, where the latter may be expected to prioritise the economic over other things. The Daily Mail, also surprisingly, appears to dedicate more space across all items over time to the Environment, as sixth-priority here and seventh priority at the Guardian.

Unfortunately for the Guardian in particular, the analysis of its advertising items shows that Lifestyle, Economics and Transport dominate even more so in terms of count than the Daily Mail, and almost equivalent in space given, which adds to the overall dominance of the economic over the environmental. The previous section highlighted how damaging these areas may be for sustainability and thus this likely affects its overall brainprint.

However, we can see via the section and the item examples in the first part of this section that the Guardian does appear to have had greater emphasis on the Environment topic over time, if confusingly placed alongside significant Economics items too. So this finding here may relate to the time period chosen, where it is likely the Daily Mail has increased its Environment topic focus compared to other times. Or, the sample chosen, in that the Guardian data is skewed by earlier editions that had many more items on fewer pages. That Political so dominates space at both titles will be discussed in more detail in the Discussion and conclusion.

In terms of editorial items alone, aside from the dominance of the Political, particularly at the Daily Mail, we can see that the Guardian does in the sample dedicate more space to the Environment topic than Economics overall. However, there were more items coded for Economics than Environment in the sample from the Guardian, which again highlights the need for studies like this to consider both.

High points for editorial space for the Economics topic come at both newspapers in the 1990s and the Environment in the 2020s. Both give more space to Economics editorial in the first half of editions, and more Environment editorial space in the second half of editions sampled. This suggests growing awareness of these events and a potential de-prioritising of the economic, though this may also reflect the changes in pagination or the sectioning of the latter into its own pages later on. Counting items alone at the Daily Mail, the Media topic had an equal number of items coded as the Environment (n-19).

At the Guardian, the Environment was given more space on front pages than Economics and more space than the Daily Mail gave to it, as well as giving more prominence on pages and more space per item. The final edition of the Guardian/Observer sampled in 2021 in fact sees the Environment given the top count of items in the opening pages. This edition comes after the start of the conference so suggests reporting of event proceedings, rather than trailing issues ahead of the

conference. At the Daily Mail, the first edition in 2021 suggested trailing rather than reporting, with more coverage before the event than after, perhaps an attempt to influence brainprint. Yet, the Environment topic is never given the top editorial space in any edition sampled, despite the timeframe chosen.

The Guardian also had more named, expert reporters over time for the Environment topic, indeed, the Daily Mail's environmental correspondent only appears in 2021 in the sample. The Daily Mail had more named expertise for their Economics reporting starting earlier in the sample, but the Guardian has similar titles from the 1990s. One interesting finding was that women were more likely to be Environment reporters and men Economics reporters. This may suggest the former is 'women's work', which may have had implications for how this issue has been prioritised over time.

Turning to the sustainability score created after the initial item coding to try to come to a more definitive judgement, the Guardian is judged to be most sustainable overall. This is because more items coded scored 1 or more, and the Guardian was the only publisher to get a score of 6 (3), including for an advert, and a score of 4 including all 3 sustainably indicators (3), and again including an advert. This is judged to be 'safe, just and equitable' or truly sustainable. However, it also had more unsustainable ads scoring -3 (3) than the Daily Mail (2). This indicates that advertising decisions at the Guardian are bringing its overall sustainability profile down. The only Daily Mail item to score 4, made up of 2,2,0 was an editorial about potential changes to FOI, this represented a narrow framing of sustainability as it didn't score for all 3 indicators, and seemed to reflect the publisher representing its own interests via a leader comment piece.

These results overall suggest that the Guardian has prioritised the Environment topic more so than the Daily Mail over time, but perhaps not more so than Economics. This issue is particularly stark when looking at advertising items and appears as a 'trade off' where 'the economics wins'. There are examples of sustainable editorial and sustainable advertising at the Guardian, but these are not yet the norm. The Environment topic, for editorial items, appeared to be most sustainable, in terms of the scores given. Lifestyle advertising appeared to be the least sustainable. The most present sustainability indicator in the sample was social sustainability.

The next chapter brings together and explores the implications of these findings, relating them to the literature discussed and theory put forward.

## 6. DISCUSSION AND CONCLUSION

### 6.1 Introduction

This chapter brings together the findings discussed in detail in the previous chapter to show how brainprint can be identified in the cultural emissions of news-media organisations and how this may be related to sustainability. The reason for doing this is to start to show whether the news media has unmeasured impacts relating to its output that may be negatively affecting sustainability goals. The research questions were:

RQ1) How can brainprint be identified in the contents of news-media output?

RQ2) How can this brainprint be related to issues of sustainability?

RQ3) What does this identification reveal about changes in potential brainprint over time in relation to sustainability issues?

RQ4) What does this identification reveal about the influence that different economic structures of news-media organisations may have on brainprint?

The opening literature suggests that it cannot be understated how serious an impact human social activities, particularly the economic, can have on the ‘natural world’ – the environment (Bonneuil and Fressoz, 2017; IPCC, 2018; Anderson, 2023). This is alarming for many reasons, not least because humans are in fact a small part of this natural world, and like all others, rely upon it for survival. This dominance and destruction by humans has been called ‘the Anthropocene’ (Bonneuil and Fressoz, 2017) and relates specifically to global inequalities (Anderson et al, 2020; Chancel et al, 2022; Khalfan et al, 2023). Media scholar Lopez (2012) suggests we may approach this challenge as a choice, based on our worldview, between “exploitation or sustainability” (p. 69).

This exploratory study sought to offer a greater understanding of the role that the UK news media may have had here, over time, departing from those interested in

quantifying the materiality of the *medium* (Maxwell and Miller, 2012), though highly instructive, to ultimately start to understand the materiality of this vast mass of content, or the *message*. The impacts of content have loosely been called brainprint for 20 years (Peck et al, 2004), but issues with definition and measurement, as well as underlying theoretical issues, have led to limited studies looking at what this thesis defines as cultural emissions, or all content units, including advertising, being 'discharged' into the cultural commons.

Outside of the brainprint literature, studies concerned with this have typically looked only at editorial content done *about* the environment (Boykoff et al, 2021; Ruiu, 2021; MeCCO, 2024). But this does not reflect the breadth of cultural emissions, as articulated in this thesis, or indeed, theories of sustainability that call for choices to be made about what matters most, ultimately between the social and the natural (Raworth, 2012; Steffen et al, 2015). In terms of theoretical contributions, this study has clarified the logic of brainprint, demonstrated its *potential* relationship to sustainability, and highlighted problems with the dominant corporate (social) responsibility in industry. These will be revisited later in this chapter.

For the content analysis, this study focused on news media, looking at four key time periods chosen because of environmental conferences happening at this time. The decision was made to look at the Guardian and the Daily Mail, not because they may be seen as politically different, but because they have different economic structures (see: Table 11 in the Methodology). This is because a key tension has been identified when observing those who adopt theories of sustainability, in that, where a balance is sought between the economic, the environmental and the social, it appears that the former very often wins (Maxwell and Miller, 2012; Lopez, 2012). It was designed so that editorial and advertising could be considered in total together, and compared, as well as the different publishers, editions and time periods. Editorial and advertising represent a longstanding tension, of competing news-media concerns (Peterson, 1976) and below we can see where this surfaces.

Given the complexity of this task (Hodgson et al, 2013), exploring the means for measuring the cultural emissions of an industry considered highly unaccountable (Peck et al, 2004), using a time-consuming approach (Golding in Picard, 2000), a choice about sampling had to be made, reducing the size of the sample coded in detail. A final set of sustainability indicators used on a yet smaller sample and

discussed in the last section of findings has proved particularly useful for getting to the heart of these issues. These Findings should be considered as a starting point for discussion and future research.

### *Overview of key findings*

Key findings from the first section include the vast reduction in items per page over time, particularly at the Guardian, meaning a drop in the count of cultural emissions and an increase in space given to each item. This represents a drop in the variety of topics covered but perhaps offers increased opportunity for context. It was also found that up to a quarter of the space in each newspaper is given to advertising, particularly where there are also low points for editorial.

Key findings from the second section include the vast dominance of the Political topic over time, in spite of there being no political advertising in the sample. Economics is also a prominent topic across both publishers, particularly when including advertising. Alongside the Environment, other key sustainability topics, which were identified via their count, size and relationship to advertising, were Lifestyle and Transport. The single largest advertising subtopic was Motoring even though Transport was not the largest advertising category. This is also the most polluting advertising category. This section also highlighted where common news topics may not be adequate for understanding what the item relates to, not least when it comes to sustainability concerns.

Key findings from the final section paint something of a confusing picture when trying to establish which publisher has been more sustainable over time. Overall across all items, the Economics topic 'wins' over the Environment at both titles. This is highly impacted by Economics advertising, which is the largest advertising topic at the Daily Mail (followed by Lifestyle and Transport) and the second-largest at the Guardian (between Lifestyle and Transport). Yet both have high points for Economics editorial in the 1990s and high points for the Environment topic in the 2020s, showing something of a switch in priority at least for the moments sampled.

Looking in more detail, the Guardian gives more space to Environment editorial than Economics in total in the sample, though this doesn't extend to the total count of items. In the last issue sampled, however, Environment is the top editorial topic in terms of

count. Environment is featured on more front pages than Economics and more prominently on pages in the sample from the Guardian. Yet, at no time in the sample is the Environment given the largest amount of space.

The Guardian also seemed to have more long-term Environment expertise, identified via journalist job titles, though this was potentially relegated to ‘women’s work’ when looking at the gender of journalists. It also had a dedicated Environment section in the editions sampled in the 1990s and more recently claimed “we’re all climate journalists now” (Guardian, 2021a, p. 37).

Finally, the sustainability scoring revealed that the Guardian had the most sustainable examples of editorial in the sample and scored better overall. But it also had the least sustainable items of advertising. The Environment was the most sustainable topic, meaning the overall coverage in this topic had the most positive sustainability indicators assigned to it. But the indicator that was most present across all items in the sample was social sustainability.

## Discussion on empirical and methodological findings

One of the most confronting concerns found in the literature was the observation that the media via its content may have global impacts equivalent to the extractive industries (Toennesen, 2017) that are, frankly, unmeasurable at this scale (Towe et al, 2020). This, in turn, means it is potentially extremely hard to hold anyone accountable should the impacts be ‘negative’, or indeed, at odds with achieving global sustainability.

This researcher found that it is time-consuming, but not impossible, to code all items in a newspaper, compare them to any other and potentially link them to sustainability. The first section of the Findings adds weight to the decision to measure amounts of cultural emissions in multiple ways, because different items were top depending on whether count or space was analysed.

Using this instrument to code and compare the detailed sample produced findings like a larger count of total cultural emissions over time by the Guardian, but over time, more space being taken up by fewer items at both titles, meaning decreasing variety of cultural emissions in the prominent early pages sampled. While changes made to

layouts at the Guardian over time may be imagined to favour visual appeal, they are ultimately believed to be related to costs (Quinn, 2018).

Items surfaced that were coded as content promotion, such as a ticket giveaway for Concorde in 1972 (Photograph 2; Photograph 4), also added weight to the commitment to 'measure everything' as they identify things that would otherwise be missed in studies only considering editorial. Flying, encouraged in this item, is now a relatively widespread and certainly environmentally damaging behaviour (Bonneuil and Fressoz, 2017), and this perhaps reflects the cyclical nature of brainprint given such enthusiasm at the time.

Using the approach described enabled us to see in the sample that, at times when there was most space dedicated to advertising, there was least space dedicated to editorial. This may feel like common-sense, but we may reflect that, rather than 'paying for editorial', advertising can take space away from it (Henriques, 2007). Perhaps one of the most concerning findings when it comes to this space was that up to a quarter of all items in the opening pages of each newspaper sampled were items of advertising. This kind of content is specifically designed to influence wider purchasing behaviour (Kleanthous and Peck, 2006), and to a certain extent, means the news media is by definition 'not in control' of its cultural emissions.

Included in the coding instrument were topics and subtopics, developed by combining a detailed UK news content analysis (Thomas, 2016) with an industry-standard set of news topics (Reuters Institute, 2020). We can use these topics and subtopics to give these items more detail, and potentially link these to issues of sustainability. That there is not a standard categorisation for news-media editorial items should be of interest for the industry and exemplifies how tricky it can be to actually work out what a piece of editorial is about. This is particularly interesting given that it was relatively easy to add WARC (2024) advertising categories to the coding instrument, as discussed in the Methodology, and that advertising items were remarkably easy to code compared to editorial items.

This coding enabled us to find that Motoring has had longstanding, dedicated sections, and was top among Transport editorial items by some distance. It was also the top advertising subtopic in the sample overall, even though Transport was not the

largest advertising topic. When combined with Advertised Emission categories (Kite et al, 2022), this is the most-polluting advertising category.

Many in the literature have debated where responsibility lies for things like this (Toennesen et al, 2013; Hodgson, 2013). It was Webb (as cited in Grayson, 2009) who asked whether anyone should be responsible for the relationship between advertising and sustainability. While Kleanthous and Peck (2006) highlighted that advertising regulation is only concerned with the 'environmental claims' made in an item of advertising, and many adverts in the sample and beyond simply don't make such claims.

That a Guardian piece recognised in 1972 the "various social evils of the motorcar" (Photograph 14) could put the whole notion of brainprint from editorial items to bed, given this didn't appear to remain a concern at the title. It was thus striking, though not surprising, to see another set of items in the sample, during the 2015 Paris climate negotiations, showing that both publishers were carrying advertising for Volkswagen while it was being investigated for emissions rigging. And we know this was the case, because it said so in the fine print of the adverts. There was also a Jeep ad, referencing the shopping event known as Black Friday to sell highly polluting SUVs to Guardian audiences (2015m, p.2).

The dominance of the 'motor car' in our minds has been described as "motonormativity" (Walker et al, 2023, p. 21), and this reasonably ubiquitous behaviour is capably demonstrated to have helped us drive past environmental limits (Bonneuil and Fressoz, 2017; Anderson, 2023). We have already learned that SUV sales since 2016 have stalled transport emissions reductions (DfT, 2020) and it is hard to believe that such consistent cultural emissions over time could not have produced some brainprint that has influenced these figures. There is also a link from this topic to the wider business interests of each company, as identified in the Methodology, in that both titles at points have had interests in used-car sales businesses. The literature points out that these are, after all, businesses (Hodgson et al, 2013).

The vast dominance of the Political topic overall and in editorial items speaks to Henrique's (2007) concern about business and governments dominating editorial, though it is perhaps understandable given a near-constant supply of 'news' (Lewis, 2013). That Controversy and Scandal were the top subtopics here perhaps speaks to

the temptation towards the fast and easy (Webb as cited in Grayson, 2009), or simply the headlines to sell newspapers. Taking an example ultimately coded to this topic, we may rightly wonder whether a story about Joe Biden farting at COP26 (Mail on Sunday, 2021c, p. 5) is Political, Environment, or indeed, about anything at all.

Royal editorial items, which were coded in the Political category, had an unanticipated relationship to Environment, used particularly by the Daily Mail to seem to justify its coverage of environmental issues. The Pope and the Archbishop of Canterbury make cameos too (see: **Error! Reference source not found.**; **Error! Reference source not found.**). Given what was laid out in the Theoretical framework regarding theories of the press, this almost seems to reflect the 'original' Authoritarian theory, where the press was mainly there to serve the interests of the Crown. This is revisited in the section before the conclusion.

Across time periods, while government actors change, 'the royals' in the UK provide a constant, and a constant stream of stories (Photograph 9; **Error! Reference source not found.**). They are also some of the richest people in the world, and along with world leaders, are no doubt high emitters (Anderson, 2023). Representing the British state, they are perhaps the most obvious institution to hold to account for such things as colonialism, which has arguably helped bring about the Anthropocene (Maxwell and Miller, 2012).

After Political, the space and count of items was dominated by Lifestyle, Economics and Transport advertising across both titles, reflecting that the economic seems to be prioritised over time at both titles. Economics advertising is considered a low-emission sector, partly because 'financed emissions', relating to the funding banks give to fossil fuel projects, are not yet included in banks' sustainability reporting (Wise, 2022). 'Brand-building' was an unexpectedly useful category for many advertising items like these, also identified via the coding work done in the Methodology, and perhaps related to Simms and Murray's (2023) observation about how tax on advertising works.

Lifestyle editorial items might not make it into typical studies focusing on the Environment but may in fact be among the most important when thinking about sustainability given the 'lifestyle change' called for (Raundalen, 2015) in the Theoretical framework. Consumption appeared as a somewhat generic subtopic in

this category when the item, whether editorial or advertising, didn't appear to be about much more than that. In the sample, we rather interestingly saw the Daily Mail hire its first-ever fashion editor (Photograph 10; Photograph 11) in 1972. Again this speaks to the strength of the 'measure everything' mentality. Such 'lifestyle journalists' may be 'just doing their job' as defined (Hanusch's, 2012), but this may have significant consequences for the future of life on this planet.

Media is also a consistent topic taking up space (Table 54), reflecting an industry that has the power to talk about what matters to itself (Grayson, 2009). One particularly jarring example was an Observer front page contemplating Princess Diana's suicide bids (Photograph 18), front and centre above Rio Earth Summit negotiations, the day after which, the Guardian editor wrote a column decrying press hounding of Diana (Photograph 17).

The use of such topics, however, obscured as much as it revealed, as there are many manifest and latent themes within an item that may not be made clear simply by knowing which broad topic it is assigned in a newsroom. So, this effort to measure sustainability was greatly enhanced by the creation of a framework, informed by natural and social science, to judge the sustainability of a smaller, representative sample in terms of economic, environmental and social sustainability.

	<b>Indicator of unsustainability (-1)</b>	<b>Indicator of sustainable output (0 not present, 1 partial, 2 sustainable)</b>
<b>Economic</b>	Short-term, profit, exploitation, wealth, inequality, cuts	Long-term, equity, redistribution, economic caution
<b>Environment</b>	Pollution, overconsumption, growth, high-impact lifestyles	Conservation, renewable energy, emissions reduction, low-impact lifestyles
<b>Social</b>	Inequality, discrimination, exploitation, social control, conflict	Inclusion, wellbeing, justice, social freedom, rights

Table 73: Revisiting definitions of sustainability informed by: Barbier, 1987; Daly, 1993; Steffen et al, 2007; McElroy et al, 2008; Rockstrom et al, 2009; Raworth 2012; Anderson et al, 2020; Rockstrom, 2021; Rockstrom et al, 2021; Chancel et al, 2022, Khalfan et al, 2023.

Perhaps one of the most positive findings to see was that editorial items coded with the Environment topic, at the Guardian at least, were judged to be the most sustainable overall. This suggests the message has been getting through (Responsible Media Forum, 2021) on climate reporting. But, this study suggests that

more work must now be done, potentially by looking at the other topics and items identified in this study as having potential links to brainprint and thus sustainability.

But the kind of advertising discussed here ultimately undermined the sustainability profile of the Guardian, as it was also judged to have the most examples of the most unsustainable advertising. Yet, there were examples, particularly at the Guardian, of 'sustainable advertising' and, via things like its sections, prominence and the expertise of journalists, this publisher can likely be judged more sustainable. The mixed messages, of Economics and Environment topics, advertising and editorial, reflect the 'confusing' picture identified by Ruiu (2021).

Ultimately, some items offered a superficial view (score of 1,1,1), a narrow view (score of 2,2,0 or 1,1,0), meaning they can't be considered truly sustainable, or saw any positive cancelled out by the negative. This speaks to the broad criticism of sustainability, where 'trade offs' are simply not sustainable (Barbier, 1987; Daly, 1993).

'Social sustainability' was the indicator that was present most often in the sample that was recoded, which indicates that ideas around wellbeing and inclusion have been more readily, or easily, used in the news media. These kinds of issues have been a long-standing theme explored by the Media CSR Forum and later the Responsible Media Forum (see: [Appendix 1](#)). But this again speaks to the issue of why talking about environmental safety and relatedly economic control are so controversial.

In the wider sample of newspapers gathered for analysis, we can see vast sections dedicated to the economic across both titles over time, though it is not clear why, when, or how this choice was made. One key assumption from the literature was that actively reporting on issues affecting the natural and social worlds is at odds with something like impartiality and balance (Responsible Media Forum and Carnstone, 2018). That this is considered a special case, compared to the economic, for example, is probably indefensible in light of what we know about sustainability.

The news media, as has been pointed out in the literature (Towe et al, 2020) ultimately cannot control how their work is received and what people go on to do. But, it can control much of its own output, and if there are effects that ultimately have negative impacts on the environment, businesses are expected to reduce them as much as

possible (Stark et al, 2019). The above offers a simple and practical place to start on how to do it, and seems to overcome much of the daunting challenge of holding organisations to account for the outcome and impact of their cultural emissions.

## Discussion on theoretical findings

One of the key ideas suggested in the theoretical framework was that press theories can be linked to sustainability theories using theories of values to show a complete cycle of cultural emissions. But what was also observed is that they are not *necessarily* linked to sustainability. It was perhaps ambitious to expect this study to fully test this theory, but looking at the findings, we may be able to see the values that underpin the work of journalists and thus go out into the world as cultural emissions.

Below is a reminder of the values theories, with the potentially aligned press theories after.

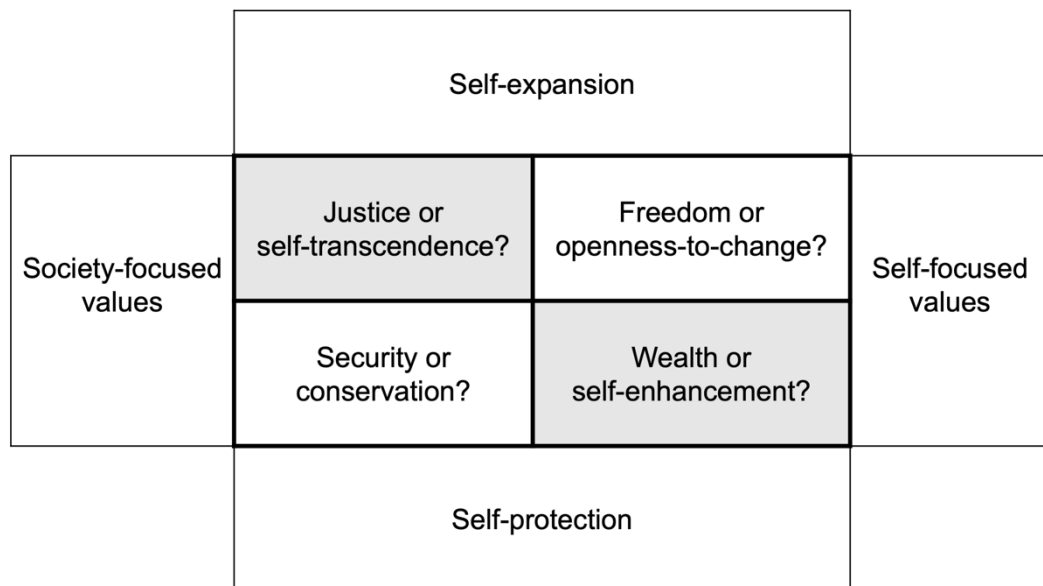


Figure 39: Revisiting values (Strange 1989, Schwartz et al, 2012)

Social → Free ← Controlled	Sustainable?	Social responsibility (1960s?)
	Authoritarian (1600s?)	Libertarian (1800s?)
	Controlled ←	→ Free

Figure 40: Revisiting theories of the press (Siebert et al, 1976)

Here, we may remember Gorski’s (2013) insistence that, using critical realism’s explanatory critique, we may see the relationship between values and social structures, and that may help us make the case for change. The extended critique of the work of the Responsible Media Forum in the Theoretical framework, taken alongside *the Four Theories of the Press* (Siebert et al, 1976), gave weight to the idea that the news media in its current relationship with the economic, and the advertising industry particularly, may be at odds with sustainability goals. The data gathered and analysed for this study appears to support this theory.

Foregrounding the economic, unquestioningly, over time in large sections certainly appears to speak to the Wealth values (Figure 39) or Libertarian press theory (Figure 40). Royal coverage, perhaps, would go in the Authoritarian press theory (Figure 40) and thus the Security values category (Figure 39).

Finally though, perhaps the ‘confusing’ (Ruiu, 2021) nature of content at large reflects social responsibility press theory (Figure 40), Freedom or Novelty values (Figure 39), showing that we are not quite cognisant of the mixed messages sent by unlimited newness where ‘limits’ (Daly, 1993; Meadows et al, 2009; Richardson et al, 2023)

have been capably demonstrated. The presence in most items in the final sample coded with positive 'social sustainability' indicators, alongside unsustainable economic and environmental indicators, certainly suggests greater social freedom, and yet unbridled, economic freedom at the expense of the environment too. This study indicates our news media as it is, including unsustainable advertising and editorial, alongside some sustainable, may be the media of the late Anthropocene era. The Responsible Media Forum (2018) asked whether sustainability is at odds with editorial principles. But perhaps editorial principles are at odds with sustainability.

Ultimately what sustainability requires is for 'social change' (Anderson, 2023) linked to the 'social problem' (Fuchs, 2008) that is currently sending us, in reasonably full knowledge (Richardson et al, 2023), into climate change, tipping points and further unimaginable outcomes besides. Anderson (2023) reminds us these are "symptoms" (np) of the wider economic system and many people's lifestyles (Khalfan et al, 2023). Not least those of news-media owners, and senior leaders across all fields, including politicians and academics (Anderson, 2023).

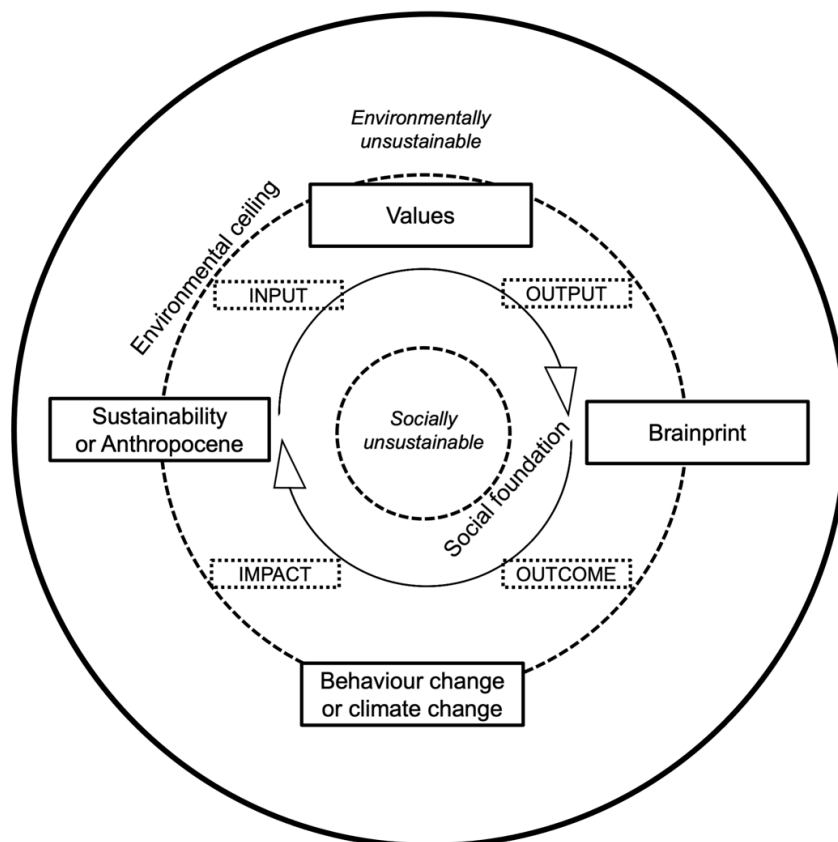


Figure 41: Conceptual framework linking values, 'emissions', 'change' and 'impacts'

There is considerable evidence that we are not heading towards sustainability (see: Figure 2 for a reminder), and so climate change, rather than social, or behaviour, change, is what is making the front pages. It may be that our values are the ultimate social mechanism that underpins this. Whether yes, or no, the deadline for making the 'choice' between exploitation and sustainability is now.

Trust was not the focus of this thesis, but it did appear as a theme in the literature so perhaps should have been (Peck et al, 2004; Henriques, 2007; Webb as cited in Grayson ,2009; Toennesen et al, 2013; Towe et al, 2020). None make clear exactly why trust was relevant to their discussions, though it appeared to be linked to the news media and its potential role in holding other industries to account, and thus the need for accountability of the news media on these issues, too. This was also linked to concerns about hypocrisy (Towe et al, 2020), potentially rendering the industry paralysed or powerless.

That the media at large is near-borderless speaks rather neatly to our environmental challenges – not least that regulation, and enforcement, is typically a national concern. What we learned from the literature review was that the industry is aware that measurement of outcomes and impacts would impact their “social licence to operate” (Responsible Media Forum and Carnstone, 2018, p. 21) should such a mechanism become available to the public. This study has created a measure that means evidence of outcomes and impacts are not needed, the news media can be judged on its cultural emissions alone.

Below, the conclusion summarises the key contributions and suggests some avenues for future research.

### *Conclusion*

A key contribution of this research is to introduce a means for measuring the potential brainprint of the news media's cultural emissions via content analysis. The empirical findings evidence that news-media organisations must look at their advertising, and wider editorial topics, in order to assess and control their sustainability impacts. There

are practical contributions in that this method, particularly the framework for measuring sustainability, can be applied to other media content. The analysis combined theories of sustainability with theories of the press and values, and suggests the news media in the UK has adopted a social responsibility approach that is unsustainable. In line with the latest natural and social science research, it suggests a sustainable theory of the press can support social freedoms, but requires economic controls. All of this demonstrates new tools, data and theories to help the news media transform from a social mechanism helping drive the Anthropocene, to one that is guiding us towards sustainability.

Additional variables explored briefly in the Findings, due to the limited sample size, included the expertise of journalists captured via their stated job title. There were many more kinds of expertise captured in relation to the economic than the environment over time. More research is needed to understand whether economic reporters are 'more expert' or are just found in greater number. There was also a potential relationship found between male journalists and economic reporting, versus female journalists and environment reporting. It would be interesting to see if the economic has been considered men's work and the environment women's work – and what that may have meant for relevant priorities. Further research could look more at this – including whether gender is related to perceived importance or seriousness of the topic – and what this may mean when thinking of the balance struck when it comes to sustainability.

Given the long-standing commitment in newspaper sections to the economic and Motoring particularly across titles, we could consider for future research how to understand and measure the difference between short-lived and cumulative emissions (Allen, 2015) in relation to the news media.

More work must also be done to the understand the values that inform media content, how these appear, and the outcomes and impacts this may have for ensuring a 'safe, just and equitable' world.

## *Limitations*

The wider sample of newspapers (n=120) was considered throughout the findings in order to mitigate some of the limitations of stripping back the sample coded in detail. The decision to limit the sample, and the way that this was done, means the comparisons are indicative only. There is much in a newspaper that is not contained in the first 20 pages, or indeed, two issues over four two- week periods. Choosing the first and last day of each period was done to try to overcome some of this. This kind of data can only be made more robust with larger samples.

Similarly this is a largely quantitative study, concerned with size and frequency, along with further variables that give an idea of prominence among these items. The sustainability indicators were devised after the initial coding was complete to try to overcome some of the limitations of this.

That UK newspapers have a far larger audience online today (as seen Table 11) is obviously something that is influencing investment in print editions. But what physical newspapers do still offer is a daily snapshot of something intended to be read, in a particular order, and which is fixed in time, so we can look back for all sorts of information. Aside from those limitations already outlined, another of such quantitative content analysis is that it can “only describe the content rather than predict or explain effects” (Weerakoddy, 2015, p.160) – this is where the theoretical framework can be brought back in to consider potential inputs, outcomes and impacts.

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\* Now Climate Change Committee

\*\*Now Responsible Media Forum

## 8. Appendices

### Appendix 1 – notes to literature review

#### Media CSR issues – 2005

#### Media CSR Forum: Key CSR issues for the media industry – Media CSR Forum

(Media CSR Forum and KPMG, 2005)

Media CSR Forum funders:

- AOL (online services)
- BBC (broadcasting)
- EMI (music)
- Guardian Media Group (news)
- ITV (broadcasting)
- Pearson (publishing)
- Reed Elsevier (publishing)
- Reuters (news)
- Sky (broadcasting)
- T&F informa (publishing)
- United Business Media (news)
- WPP (advertising)

<b>Media CSR issues (2005)</b> <b>(amending Media CSR Forum and KPMG, 2005, pp. 5-7)</b>		
Issue (2005) (new underlined, priority in italics)	Definition (2005)	Common/distinct/unique (CDU)
<u>Accessibility</u>	<u>The availability of an organisation's products to stakeholders that respond to their needs with regard to infrastructure</u>	<u>Distinct</u>

	<u>(e.g. Platforms), language, disability etc.</u>	
Audience needs reflected in output	The production of varied and accessible output from organisations reflecting the needs and interests of the many diverse groups that make up our communities and have different interests (e.g. News, entertainment etc).	Distinct
Charitable issues promoted	The use of an organisation's products and influence to encourage investment in communities (locally, nationally or internationally) by stakeholders.	Distinct
Citizenship	The demonstration of responsible business practices including the fair treatment of stakeholders, while contributing to the overall growth of the economy and living standards.	Distinct
Community investment	The direct investment in communities by an organisation, through donations (including money, advertising air time or space, and equipment) or employee volunteering.	Common
<u>Content access and labelling</u>	<u>The provision of clearly displayed and accurate product information (e.g. Explicit content) that is comprehensible to consumers.</u>	<u>Distinct</u>
<i>Corporate governance</i>	Systems and processes for ensuring proper accountability, probity and openness in the conduct of an organisation's business.	Common
Creative independence	Organisations' encouragement of artists', producers' and journalists' free expression whilst remaining sensitive to relevant societal values and standards. This includes processes to ensure	Unique

	editorial independence from commercial decisions or owners.	
Culturally diverse output	The creation of an organisation's output that reflects the multi-cultural and diverse society in which it operates, and which is reflective of its diverse stakeholders.	Unique
Customer relationships	The creation and maintenance of good relationships with customers by providing a high quality service, responding effectively and quickly to complaints and listening to stakeholder needs and suggestions for improvement.	Common
Data protection	Ensuring that confidential and personal information regarding a stakeholder is maintained and processed in a secure and legally compliant manner, and is prevented from passing from one person or entity without the consent of the individual.	Distinct
Digital divide	Social and economic exclusion through lack of access to information technologies such as computers, mobile phones, radio and television.	Distinct
Education	The contribution to learning through an organisation's products and its direct involvement in educational initiatives (e.g. Employee volunteering, or programmes that encourage people to think about subjects and make a positive impact).	Distinct
Entertainment and gaming	An organisation's management of the negative impacts that products categorised as entertainment or gaming may have on users (e.g. Cultural	Distinct

	homogeneity, violence, problem gambling etc).	
Environmental management	Maximising the positive and minimising the negative impacts of an organisation's operations and product output on society and the environment, by meeting stakeholders' expectations and complying with regulatory standards.	Common
Freedom of expression	The unrestricted and uncensored inclusion of views and opinions in organisations' output; enabling debate and dialogue.	Unique
Health, safety and security	The provision of an environment which is as secure, safe and healthy as possible for all employees and which meets legislative requirements in all countries of operation.	Distinct
Human rights in countries of operation	Organisations may operate in countries with poor human rights records. However, operating in such countries may provide an opportunity to expose abuses through products (e.g. News) or influence positive change regarding human rights standards.	Distinct
<i>Impartial and balanced output</i>	The production of fair, diverse and unbiased media output which reflects and informs public opinion and dialogue supported by editorial policies which are independent from ownership.	Unique
Informing public opinion	The delivery of high quality information which provides the full range of views about an issue, and is reflective of the society in which it is disseminated, to inform rather than influence public debate.	Distinct

<i>Integrity of information</i>	The provision of quality data, images and information, which is objective and accurate.	Distinct
Intellectual property and copyright	The protection of intellectual property by owners from piracy and other forms of illegal use of content or fraud (including copyright infringement, incorrect royalty payments, counterfeiting and illegal downloading).	Distinct
<u>Interaction</u>	<u>The growth of interactive media, leading to increased participation and involvement in society by individuals and groups.</u>	<u>Distinct</u>
<i>Investing in and supporting staff</i>	the provision of a supportive and safe environment for staff to grow and develop through training, professional development and benefit plans which nurture, encourage and motivate an organisation's workforce mindful of their needs for work/life balance.	Common
Media literacy	Consumers' understanding of the types of information and its availability, to enable an informed decision about the programme/article/music/image they listen to, view or read.	Unique
Piracy/theft	The illegal duplication and distribution of content. Piracy can be described as theft since it is using content without permission and without paying for it through breach of copyright regulation.	Distinct
Plurality	The existence of numerous media sources within society to provide varying perspectives and enable informed debate.	Distinct

Privacy	freedom from intrusion or public attention through a blend of regulatory and self-regulatory approaches.	Distinct
Regulatory compliance and self-regulation	Compliance with all legal regulatory and self-regulatory obligations of countries in which a business operates.	Distinct
<u>Responsible advertising</u>	<u>The management of advertising that considers both the positive and negative impacts of products on society whilst meeting stakeholders' expectations, regulatory standards and organisational standards.</u>	<u>Distinct</u>
Social and environmental issues promoted	The enhancement of awareness around sustainability issues, and the encouragement of learning, informing, and understanding of these issues, with a view to improving social and environmental standards.	Distinct
Supply chain integrity	An organisation's responsibility to ensure that their suppliers are treated fairly and honestly from selection through to payment processes; and their responsibility to ensure that suppliers adhere to social, environmental and ethical (see) performance standards.	Common
Transparent ownership and practices	Disclosure of an organisation's ownership structure and the development of processes/systems which demonstrate editorial independence and integrity.	Distinct
<i>Transparent and responsible editorial policy</i>	The conformity to clear editorial policies, standards or codes covering issues of accuracy, impartiality, and politics.	Unique

Treatment of freelancers	The provision of acceptable conditions and treatment of self-employed persons contracted by organisations to cover specific assignments.	Distinct
Valuing creativity	The investment in nurturing and developing a wide range of talent which enables creative people to earn a living from their creativity. This includes encouraging innovation and entrepreneurship from employees.	Unique

## Media CSR issues – 2008

### Mapping The Landscape: CSR Issues for the Media Sector 2008 – Media Csr Forum

(Ceasar and Hodgson, 2008)

Media CSR Forum funders:

- Aegis Group (advertising, new for 2008)
- BBC (broadcasting)
- Channel 4 (broadcasting, new for 2008)
- Guardian Media Group (news)
- Informa (publishing, was T&F Informa)
- IPC Media (publishing, new for 2008)
- ITV (broadcasting)
- News International (news, new for 2008)
- Nickelodeon (broadcasting, new for 2008)
- Reed Elsevier (publishing)
- Sky (broadcasting)
- Trinity Mirror (news, new for 2008)
- Turner Broadcasting (broadcasting, new for 2008)
- United Business Media (news)
- Virgin Media (telecoms, new for 2008)
- WPP (advertising)
- Yell (advertising, new for 2008)

Tracking changes in inclusion, definition and categorisation of issues:

<b>Media CSR issues (2008)</b>				
(amending Ceasar and Hodgson, 2008)				
Issue (new 2005 underlined, new 2008 in bold)	Definition (2008) (>> indicates new definition)	CDU	Priority 2005	Priority 2008
<u>Accessibility</u>	<u>Not listed</u>	<u>Distinct</u>	<u>N</u>	<u>Not listed</u>

Audience needs reflected in output	Not listed	Distinct	N	Not listed
Awareness of the impacts of communication	Not defined	Distinct	Na	N
Charitable issues promoted	>> media companies should raise awareness of major issues, encouraging learning and understanding.	Distinct	N	N
Citizenship	>> media companies should promote individual and group participation and involvement in society.	Distinct	N	Y
Climate change	Companies should be concerned with climatic changes as a consequence of man-made pollution.	Common	Na	N
Community investment	>> companies should make direct investments in communities through donations (including money, equipment, content, etc.) Or employee volunteering.	Common	N	Y

<u>Content access and labelling</u>	<u>Not listed</u>	<u>Distinct</u>	<u>N</u>	<u>Not listed</u>
<i>Corporate governance</i>	>> companies have responsibilities relating to their boards, shareholders and other stakeholders which impacts their strategy and performance.	Common	2	Y
Creative independence	>> media companies should encourage artistic, production and journalistic independence whilst upholding relevant values and standards, without undue influence from media owners (e.g., prioritising commercial priorities over creativity because of loss or gain of advertising revenue).	Unique	N	N
Culturally diverse output	>> the output of media organisations should reflect, and benefit, the multicultural and diverse society in which we live (encompassing gender, ethnicity,	Unique	N	N

	disability, age, beliefs, social-economic background, etc).			
Customer relationships	>> companies should build and maintain good relationships with customers by providing a high quality service, responding effectively and quickly to complaints and suggestions for improvement.	Common	N	Y
Data protection	>> media companies should ensure customers' confidential and personal information is held/utilised in a secure and legally compliant manner.	Distinct	N	N
Digital divide	>> media companies should promote broad access and use of media through new and emerging platforms.	Distinct	N	N
Education	>> media companies should foster learning and skills.	Distinct	N	N
Entertainment and gaming	>> certain media companies have offerings which require a payment in	Distinct	N	N

	exchange for the chance of a greater return.			
Environmental management	>> companies should operate in a way that minimises their environmental impact (e.g. Responsible management of energy, water and waste).	Common	N	N
Freedom of expression	>> freedom of expression permits the unrestricted and uncensored inclusion of views and opinions in media output. Media should enable debate and dialogue free from harassment.	Unique	N	Y
Health, safety and security	>> media companies should provide a secure, safe and healthy environment for their employees which meets legislative and regulatory requirements where they operate.	Distinct	N	N
Human rights in countries of operation	>> some media companies operate in countries with poor human rights records.	Distinct	N	Y

<i>Impartial and balanced output</i>	>> media output should be fair, neutral, diverse and unbiased and reflect and inform public opinion and dialogue, supported by editorial policies independent from ownership.	Unique	4	Y
Informing public opinion	Not listed	Distinct	N	Not listed
<i>Integrity of information</i>	>> media companies should ensure information does not mislead, is accurate, protects the vulnerable, and does not incite intolerance and/or conflict.	Distinct	3	Y
Intellectual property and copyright	>> media companies face issues such as piracy, copyright, royalty payments, counterfeiting and downloading.	Distinct	N	N
<u>Interaction</u>	<u>Not listed</u>	<u>Distinct</u>	<u>N</u>	<u>Not listed</u>
<i>Investing in and supporting staff</i>	>> companies should provide a supportive and safe environment for staff to grow and develop through training, professional development and benefit plans, allowing them to achieve	Common	5	N

	optimal work/life balance.			
Media literacy	>> the ability to access, critically understand and create media in its varying forms.	Unique	N	N
Piracy/theft	Merged into ip and copyright 2008	Distinct	N	N
Plurality	>> media companies should offer choice for various markets.	Distinct	N	N
Privacy	<i>Merged into data protection, ip and copyright 2008</i>	Distinct	N	N
Regulatory compliance and self-regulation	>> media companies should adhere to all laws and regulations where they operate.	Distinct	N	N
<u>Responsible advertising</u>	<u>&gt;&gt; the notion of responsible advertising links to a media owner's willingness to carry advertising that conflicts with its standards. The issue is not new for advertising agencies familiar with industry specific codes and laws, for example, on alcohol or gambling and gaming products. This becomes</u>	<u>Distinct</u>	<u>N</u>	<u>N</u>

	<u>problematic when the notion of what is safe, such as products and services that may or may not be beneficial to the environment, becomes subjective.</u>			
Social and environmental issues promoted	>> media companies should encourage individuals/citizens to achieve sustainability goals and minimise negative impacts.	Distinct	N	Y
Staff diversity	Diversity of output requires diversity of input.	Common	Na	N
Supply chain integrity	>> companies should ensure suppliers are treated fairly, are chosen and paid transparently and are held to account for meeting ethical standards.	Common	N	N
Transparent ownership and practices	>> media should clearly communicate its ownership structure, related brands and interests.	Distinct	N	Y
<i>Transparent and responsible editorial policy</i>	>> editorial policies, standards or codes to which media organisations conform should include	Unique	1	Y

	accuracy, impartiality and influence.			
Treatment of freelancers	>> media companies should be aware of the treatment (e.g. Working conditions, pay etc) of self-employed, or sub-contracted persons working for their organisations.	Distinct	N	N
Valuing creativity	>> media should invest in and nurture a wide range of talent at living wages. They should encourage staff innovation and entrepreneurship.	Unique	N	N

## Media CSR issues –2013

### Does it matter? Material, Strategic or Operational? An analysis of sustainability issues in the media sector – Media CSR Forum

(Hodgson et al, 2013)

Combining the original ‘common’, ‘distinct’ and ‘unique’ classifications (Media CSR Forum and KPMG, 2005), along with new ‘material’ concerns (amending Hodgson et al, 2013, p. 16):

<b>Media CSR issues (2013)</b> (amending Hodgson et al, 2013)						
<b>Issue (<u>new</u> 2005, <u>new</u> 2008, <u>new</u> 2013)</b>	<b>Definition (2013) (&gt;&gt; indicates new definition)</b>	<b>C/d/u</b>	<b>Priority 2005</b>	<b>Priority 2008</b>	<b>New 2013</b>	<b>Priority 2013</b>
<b>Awareness of the impact of communication</b>	Arguably, the biggest social and environmental impact of media is through its content, i.e. The residual influence of output on audiences.	D	Na	N	N	O/s
Promotion of causes	>> stakeholders believe media companies should raise awareness of major issues, encouraging learning and understanding.	D	N	N	N	O
Citizenship	>> this relates to the responsibility on a company to promote individual and group participation and involvement in society.	D	N	Y	N	O/s
<b>Climate change</b>	<b>&gt;&gt; management and mitigation of climatic changes as a</b>	C	Na	N	N	O

	<b>consequence of man-made pollution.</b>					
Community investment	>> direct investments in communities through donations (including money, equipment, content, etc.) Or employee volunteering.	C	N	Y	N	O
Corporate governance	>> companies have responsibilities relating to their boards, shareholders and other stakeholders, which affect their strategy and performance.	C	2	Y	N	S
Creative independence	>> media companies should encourage artistic, production and journalistic independence whilst upholding relevant values and standards, without undue influence from media owners or advertisers.	U	N	N	N	S
Diversity of output	The output of media organisations should reflect the multicultural and diverse society in which we live (encompassing gender, ethnicity, disability, age, beliefs, social- economic background, etc).	U	N	N	N	O/s
Customer relationships	>> building and maintaining good relationships with customers by providing a high quality service and by responding effectively and quickly to complaints and	C	N	Y	N	S

	suggestions for improvement.					
Data protection	>> media companies should ensure customers' confidential and personal information is held/used in a secure and legally compliant manner.	D	N	N	N	M
Digital divide	>> the need to promote broad access and use of media through new and emerging platforms, ensuring this resource is available to all sections of society.	D	N	N	N	S
Education	>> media companies should foster learning and skills.	D	N	N	N	O
Entertainment and gaming	>> certain media companies have offerings which require a payment in exchange for the chance of a greater return.	D	N	N	N	O
Environmental management	>> minimising companies' environmental impact (e.g. Responsible management of energy, water and waste).	C	N	N	N	O/m
Freedom of expression	Freedom of expression permits the unrestricted and uncensored inclusion of views and opinions in media output. Media should enable debate and dialogue free from harassment.	U	N	Y	N	O/s

Health, safety and security	>> media companies should provide a secure, safe and healthy environment for their employees which meets legislative and regulatory requirements where they operate.	D	N	N	N	O
>> Human rights (general)	>> some media companies operate in countries with poor human rights records; they have responsibility to protect, respect and remedy human rights.	D	N	Y	N	O
Impartial and balanced output	>> media output should be fair, neutral, diverse and unbiased and reflect and inform public opinion and dialogue, supported by editorial policies independent from ownership or advertisers.	U	4	Y	N	O/s
Information integrity	>> the need to ensure information does not mislead, is accurate, protects the vulnerable, and does not incite intolerance and/or conflict.	D	3	Y	N	<i>Referred to other areas as 2013</i>
Ip and copyright	>> covers issues such as piracy, copyright, royalty payments, counterfeiting and downloading.	D	N	N	N	M

Staff investment	Companies should provide a supportive and safe environment for staff to grow and develop through training, professional development and benefit plans, allowing them to achieve a healthy work/life balance.	C	5	N	N	O
<u>Legal compliance – corporate</u>	<u>&gt;&gt; adhering to laws and regulations in the countries of operation affecting companies in general (as opposed to those relating to editorial and content matters).</u>	<u>C</u>	<u>Na</u>	<u>Na</u>	<u>Y</u>	<u>O</u>
<u>Legal compliance – editorial</u>	<u>&gt;&gt; media companies should adhere to all laws and regulations where they operate regarding content (including advertising regulations).</u>	<u>U</u>	<u>Na</u>	<u>Na</u>	<u>Y</u>	<u>M</u>
Media literacy	>> the ability of audiences to access, analyse, evaluate and create media in its varying forms.	U	N	N	N	O/s
<u>Open access</u>	<u>&gt;&gt; open access refers to the practice of offering free and unrestricted access to academic publications such as peer-reviewed articles, book chapters and monographs.</u>	<u>U</u>	<u>Na</u>	<u>Na</u>	<u>Y</u>	<u>O/m</u>

Plurality	>> the need to offer choice of contents and platforms for various markets.	D	N	N	N	O/s
<u>Responsible advertising</u>	<u>&gt;&gt; the notion of responsible advertising links to a media owner's willingness or not to carry advertising that conflicts with its standards.</u>	<u>Dis</u> <u>tinc</u> <u>t &gt;</u> <u>uni</u> <u>qu</u> <u>e</u> <u>(20</u> <u>13)</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>O</u>
Promotion of sustainable development	>> stakeholders believe media companies should encourage individuals/citizens to achieve sustainability goals and minimise negative impacts.	D	N	Y	N	O
<b>Staff diversity</b>	>> recruiting and retaining a diverse workforce, providing equal opportunities to all.	C		N	N	O
Supply chain integrity	Companies should ensure suppliers are treated fairly, are chosen and paid transparently and are held to account for meeting ethical standards.	C	N	N	N	O
Transparent ownership	>> the clear communication of ownership structures, related brands and interests.	D	N	Y	N	O/s
Transparent and responsible editorial policy	Editorial policies, standards or codes to which media organisations conform	U	1	Y	N	S/ m/ o

	should include accuracy, impartiality and influence					
Treatment of freelancers	>> working conditions, pay, etc. Of self- employed or subcontracted persons working for media organisations; a common mode of employment in this sector. Treatment of interns falls under this category, too.	D	N	N	N	O
Valuing creativity	Media should invest in and nurture a wide range of talent at living wages. They should encourage staff innovation and entrepreneurship.	U	N	N	N	S

## Media CSR timeline – 2017

### The Future of Responsible Media – Responsible Media Forum

(Toennesen, 2017)

Contributors:

- Alma Media,
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- Informa
- Schibsted, Sky
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Summary of the media and sustainability timeline presented (as adapted from Toennesen, 2017, pp. 16-25):

	<b>Media CSR timeline (2017)</b> (amending Toennesen, 2017)
1997	Kyoto Protocol agreed, committing certain nations and regions to reducing greenhouse gas emissions
1999	Launch of free Metro
2000	Millennium Development Goals agreed by
2001	Launch of Wikipedia, launch of Media CSR Forum
2004	Launch of Wordpress, Media CSR key issues first published, WWF/Sustainability “introducing the concept of the media’s ‘brain print’” (p. 17).
2006	Al Gore’s ‘An Inconvenient Truth’, Youtube and Twitter launch, UK’s Stern Report that outlined the economic consequences of not acting on climate change
2008	UK Climate Change Act, committing to reduce GHG emission by 805 below 1990 levels by 2050
2009	EU Cookie Directive
2010	UK Equality Act

2011	Wikileaks first tranche of US government documents shared, BBC launched <i>Planet Earth</i> and aired 'Frozen Planet' presenting "climate change as fact in its 7th and final episode" (p. 20).
2013	"Circular Economy" (p. 22) became recognised among large companies, Netflix was getting tens of millions of customers as Blockbuster went bust
2014	IPSO replaces PCC after Leveson Inquiry, no mention of IMPRESS, rise of native advertising, Sky and others started setting diversity targets, the Guardian launched 'Keep it in the ground', with "outgoing Editor-in-Chief Alan Rusbridger noting that journalism has not 'done justice to the issue of how climate change will probably cause untold havoc and stress to our species'" (p. 23), Internet Matters launched by online companies to help look after children online
2015	COP21's agreement on emissions reduction target, the VW emissions scandal, increasingly bite-sized content, the Cannes Lions advertising awards launch the Glass Lion award for addressing gender inequality, the IPA launching a new advertising award for social impact (since updated), and the launch of the Sustainable Development Goals (SDGs)
2016	Companies aligning themselves with the SDGs, the new EU data protection regulation, and a new requirement in the UK for gender pay gap reporting in 2017

## **Media CSR issues (2018)**

### **Media Materiality Report – Responsible Media Forum**

**(Responsible Media Forum and Carnstone, 2018)**

Members:

- Alma Media
- Atresmedia
- Axel Springer
- Bauer Media Group
- BBC
- Bertelsmann
- Caracol Televisión
- CME
- Dentsu
- Euromonitor
- Future PLC
- Informa
- ITV
- Mediaset España
- NABC Universal
- NAews UK
- NARK
- Pearson
- Penguin Random House
- Relx
- Sanoma
- Schibsted
- Sky
- The Economist Group
- Viaplay Group
- Virgin Media O2
- Warner Bros. Discovery

<b>Media CSR Issues (2018)</b>										
<b>(amending Responsible Media Forum and Carnstone, 2018)</b>										
<b>&gt;&gt; = name or definition changed from previous report</b>										
<b>Issue (2018)</b>	<b>Definition (2018)</b>	<b>CDU</b>	<b>Priority 2005</b>	<b>New 2005</b>	<b>New 2008</b>	<b>Priority 2008</b>	<b>New 2013a?</b>	<b>Priority 2013a</b>	<b>NEW/UP/DOWN 2018</b>	<b>M/S/O 2018</b>
Awareness of the impact of communication	Arguably, the biggest social and environmental impact of media is through its content, i.e. the residual influence of output on audiences.	D	NA	NA	Y	N	N	O/S	NA	O
Citizenship	This relates to the responsibility on a company to promote individual and group participation and involvement in society.	D	N	N	N	Y	N	O/S	NA	O
Climate change	Management and mitigation of	C	NA	NA	Y	N	N	O	NA	O

	climatic changes because of man-made pollution.									
Community investment	Direct investments in communities through donations (including money, equipment, content, etc.) or employee volunteering.	C	N	N	N	Y	N	O	NA	O
>> Corporate compliance	Adhering to laws and regulations in the countries of operation affecting companies in general (as opposed to those relating to editorial and content matters).	C	NA	NA	NA	NA	Y	O	NA	O
Corporate governance	Companies have responsibilities relating to their boards, shareholders and other stakeholders,	C	2	N	N	Y	N	S	NA	S

	which affect their strategy and performance									
Creative independence	Media companies should encourage artistic production and creative independence whilst upholding relevant values and standards, without undue influence from media owners or advertisers.	U	N	N	N	N	N	S	NA	S
Customer relationships	>> Building and maintaining good relationships with customers by providing a high-quality service and by responding effectively and quickly to complaints and suggestions for improvement.	C	N	N	N	Y	N	S	NA	S

Digital divide	The need to promote broad access and use of media through new and emerging platforms, ensuring this resource is available to all sections of society.	D	N	N	N	N	N	S	DO W NA	O
Disinformation (fake news)	NOT DEFINED	R E F E R R E D T O O T H E R A R E A S S	NA	NA	NA	NA	NA	NA	NE W	M /S
Diversity of output	>> The output of media organisations	U	N	N	N	N	N	O/ S	UP	M

	should reflect the multicultural and diverse society in which we live (encompassing gender, ethnicity, disability, age, beliefs, socio-economic background, etc).									
>> Editorial compliance	Media companies should adhere to all laws and regulations where they operate regarding content (including advertising regulations).	U	NA	NA	NA	NA	Y	M	NA	M
Education	Media companies should foster learning and skills.	D	N	N	N	N	N	O	NA	O
Entertainment and gaming	Certain media companies have offerings which require a payment in	D	N	N	N	N	N	O	NA	O

	exchange for the chance of a greater return.									
Environmental management	Minimising companies' environmental impact (e.g. responsible management of energy, water and waste).	C	N	N	N	N	N	O/M	DO W N	O
Freedom of expression	Freedom of expression permits the unrestricted and uncensored inclusion of views and opinions in media output. Media should enable debate and dialogue free from harassment.	U	N	N	N	Y	N	O/S	NA	O/S
Health, safety and security	Media companies should provide a secure, safe and healthy environment for their employees which meets legislative and regulatory	D	N	N	N	N	N	O	NA	O

	requirements where they operate.									
Human rights (general)	Some media companies operate in countries with poor human rights records; they have a responsibility to protect, respect and remedy human rights.	D	N	N	N	Y	N	O	NA	O
Impartial and balanced output	Media output should be fair, neutral, diverse, unbiased and reflect and inform public opinion and dialogue, supported by editorial policies independent from ownership or advertisers.	U	4	N	N	Y	N	O/S	NA	O/S
IP and copyright	>> This covers issues such as piracy, copyright, royalty payments, counterfeiting	D	N	N	N	N	N	M	NA	M

	and downloading.									
Media literacy	The ability of audiences to access, analyse, evaluate and create media in its varying forms.	U	N	N	N	N	N	O/S	NA	S
Net neutrality	>> Blocking or slowing down users' access to online content or creating 'fast lanes' for content providers that are willing to pay for the privilege.	D	NA	NA	NA	NA	NA	NA	NE W	O /S
Open Access	Open access refers to the practice of offering free and unrestricted access to academic publications such as peer-reviewed articles, book chapters and monographs.	U n i q u e					Y	O/ M	DO W N	S
Plurality	The need to offer choice of	D	N	N	N	N	N	O/ S	NA	O

	contents and platforms for various markets.									
>> Privacy and data protection	Media companies should ensure customers' confidential and personal information is held/ used in a secure and legally compliant manner.	D	N	N	N	N	N	M	UP	M
Promotion of causes	Stakeholders believe media companies should raise awareness of major issues, encouraging learning and understanding.	D	N	N	N	N	N	O	NA	O
Promotion of sustainable development	Stakeholders believe media companies should encourage individuals/ citizens to achieve sustainability goals and minimise	Di st in ct	N	N	N	Y	N	O	NA	O

	negative impacts.									
Responsible advertising	>> The notion of responsible advertising links to a media owner's willingness or not to carry advertising that conflicts with its standards and the mechanisms by which it targets users.	Uniquely (2013) << Distinct	N	Y	N	N	N	O	UP	S
Staff investment	Companies should provide a supportive and safe environment for staff to grow and develop through training, professional development and benefit plans, allowing them to achieve a healthy work/life balance.	Common	5	N	N	N	N	O	NA	O

Supply chain integrity	Companies should ensure suppliers are treated fairly, are chosen and paid transparently and are held to account for meeting ethical standards.	C	N	N	N	N	N	O	NA	O
Transparent and responsible editorial policy	Editorial policies, standards or codes to which media organisations conform should include accuracy, impartiality and influence.	U	1	N	N	Y	N	S/ M/ O	NA	S
Transparent ownership	The clear communication of ownership structures, related brands and interests.	D	N	N	N	Y	N	O/ S	NA	O
Treatment of freelancers	>> Working conditions, pay, etc. of self-employed or subcontracted persons working for media	D	N	N	N	N	N	O	NA	O

	organisations; a common mode of employment in this sector exacerbated by the rise of the 'gig economy'. Treatment of interns also falls under this category.									
Valuing creativity	>> Media should invest in and nurture a wide range of talent at living wages. They should encourage staff innovation and technological entrepreneurship.	U	N	N	N	N	N	S	NA	S
>> Workplace diversity and inclusion	Recruiting and retaining a diverse workforce, providing equal opportunities to all.	D (2 0 1 8) < C	NA A	NA A	Y	NA	NA	O	UP	M

## Media CSR key issues – 2022

### The Superpower of Media: Mirrors or Movers II – Responsible Media Forum

(Towe, Witte and Toennesen, 2022)

Contributors:

- Axel Springer
- Bertelsmann
- Cambridge Judge Business School
- dentsu international
- European Broadcasting Union
- IPPR
- ITV
- Ofcom
- SASB
- Schibsted
- UN Principles for Responsible Investment
- Virgin Media O2

<b>Media CSR issues (2022)</b>			
<b>(Amending Towe, Witte and Toennesen, 2022)</b>			
<b>&gt;&gt; = name or definition changed from previous report</b>			
<b>Issue 2022</b>	<b>Definition 2022</b>	<b>NEW/UP/ DOWN 2022?</b>	<b>M/S/O/E 2022</b>
Accessibility	Accessibility refers to content for disabled people.	NEW? (Media CSR Forum and KPMG, 2005)	O
Anti-competitive behaviour and open internet	NOT DEFINED	NEW	O

>> Responsible content	>> Responsible content is arguably the media's biggest specific sustainability issue. In our previous materiality report, this was included as a plethora of separate issues, including Diversity of output, Editorial compliance (material); Creative independence, Transparent and responsible editorial policies (strategic); Freedom of expression, Impartial & balanced output, and Promotion of causes (operational). This time, we add attention to the list – the impact of technologies and of media habits on our ability to grapple with complex issues that require deep focus. That we now hear from stakeholders about this under one material issue heading reflects a maturing approach to this issue.	NA	M
Business ethics	NOT DEFINED	NEW	S
Charitable issues promoted	MERGED UNDER RESPONSIBLE CONTENT 2022	MERGED UNDER RESPONSIBLE CONTENT 2022	MERGED UNDER RESPONSIBLE CONTENT 2022
Citizenship	MERGED UNDER RESPONSIBLE CONTENT	NOT LISTED	NOT LISTED
Clean and efficient energy	NOT DEFINED	NEW	O

Climate change	>> Climate change has risen up every agenda as the negative consequences of global warming, and the widescale societal implications of a low-carbon transition (see: below) have become clear. It is an issue for all industries. It is linked with various other issues in this list, including Climate resilience, Green production, Low-carbon transition, and Climate justice.	UP	M
Climate justice	Some of the most severe impacts of climate change are felt by those who least contributed to the emissions that caused it: the poorest communities in the Global South. Climate justice draws attention to this injustice.	NEW	E
Climate resilience	As the effects of climate change intensify, companies will increasingly have to adapt and increase their resilience to events such as heatwaves, droughts and wildfires.	NEW	S
>> Community	>> sustainability strategies should already ensure their impact on the community (and wider society) is positive and place this at the heart of their business model	DOWN	O
<i>Corporate governance</i>	>> Corporate governance is an industry-agnostic issue that every large company must	NA	S

	address. It can be split into 'big G' which refers to questions around the corporate governance structure such as the make-up of the Board, executive remuneration, ownership, et cetera; and 'small g' which refers to governance of sustainability, including how the company's sustainability performance is tied to executive remuneration.		
Creative independence	MERGED UNDER RESPONSIBLE CONTENT 2022	MERGED UNDER RESPONSIBLE CONTENT 2022	MERGED UNDER RESPONSIBLE CONTENT 2022
Diversity of output	>> Diversity of output is the content 'brother' of Diversity, Equity & Inclusion. It refers to the diversity of content, which can be split into various angles: gender, racial, age, sexual orientation, disability, and class.	NA	S
Cybersecurity	This includes issues around Data privacy (see: above), but also the ethical use of Artificial Intelligence (AI).	NEW	M
Data ethics and digital transformation	As media content increasingly digitizes and more data is gathered, the storage and use of that data is of higher concern.	NEW	E
>> Data privacy	>> Data privacy is highly material for the media sector, as companies regularly handle personal consumer data.	NA	M

Economic impacts	NOT DEFINED	NEW	O
Environmental management	NOT DEFINED	NA	O
Freedom of expression	>> Freedom of expression is a fundamental value underpinning democratic society. In relation to media, this refers to the unbiased and uncensored inclusion of viewpoints and opinions in output, enabling dialogue and debate without harassment.	UP	S
Green production	Green production has been a focus area for the broadcast industry, with albert certification gaining greater adoption. Set up in 2011, over 1,300 production companies used the tool, calculating over 7,500 production footprints. Albert also awarded 268 certificates in 2019-20, certifying productions for measuring and reducing their environmental footprint. Meanwhile advertising production has its own 'green' movement. In the UK, the Advertising Association has put its support behind AdGreen, an initiative to raise awareness and	NEW	O

	<p>understanding of waste and carbon emissions and how to manage them. AdGreen has published a sector-specific carbon calculator.</p>		
<p>&gt;&gt; Wellbeing</p>	<p>&gt;&gt; Wellbeing is a new issue, which has widened the traditional focus on physical health from Health &amp; Safety to include mental health and issues such as work-life balance.</p>	<p>UP</p>	<p>M</p>
<p>Holding leaders to account</p>	<p>&gt;&gt; Media plays a crucial role in providing information that enables democratic citizens to hold their politicians to account. From investigative journalism to candidate debates during elections, the media is a key actor in our political landscape. Consumers of media content expect to be provided with high-quality content that informs, challenges and uncovers. They need this to be able to form a view on what their leaders should be doing on issues such as climate change, human rights and nature protection.</p>	<p>NEW</p>	<p>S</p>
<p>&gt;&gt; Human rights</p>	<p>&gt;&gt; Human Rights is an issue increasing in importance for large corporates... In media, Human Rights risks are often centred in supply chains or support workers... support workers are often freelancers, without access</p>	<p>UP</p>	<p>S</p>

	to insurance, safety equipment or training, and feel pressured to take risks and fear raising concerns due to uneven power relationships. Media companies involved in sports also have to consider the human rights risks related to sporting events, such as migrant labour, where they may have broadcast deals and sponsorships in place.		
Impartial and balanced output	MERGED UNDER RESPONSIBLE CONTENT 2022	MERGED UNDER RESPONSIB LE CONTENT 2022	MERGED UNDER RESPONSIB LE CONTENT 2022
>> Skill development	>> Skills development refers to how media companies invest in their employees' skills.	UP	M
Legal compliance – editorial	MERGED UNDER RESPONSIBLE CONTENT 2022	MERGED UNDER RESPONSIB LE CONTENT 2022	MERGED UNDER RESPONSIB LE CONTENT 2022
Low carbon transition	The transition to a low-carbon economy which has started in response to Climate change is expected to have far-reaching consequences for all companies and industries.	NEW	E
>> Media and information literacy	>> Media and Information Literacy refers to digital literacy, digital access and inclusion. Digital literacy refers to the ability	NEW?! (Media CSR Forum and KPMG, 2005)	E

	of people to use digital services and technologies.		
Nature and biodiversity	Corporate impacts on nature and biodiversity loss are the next big environmental frontier, after Climate change.	NEW	E
People management	NOT DEFINED	UP	M
Product governance	NOT DEFINED	NEW	S
Product sustainability and circularity	NOT DEFINED	NEW	E
>> Responsible marketing	NOT DEFINED	NA	S
Selling practices and product labelling	NOT DEFINED	NEW	O/E
>> Consumer environmental awareness	>> Media companies are one of the few actors which can raise awareness at a societal level on environmental issues.	UP	S
>> Diversity, Equity and Inclusion	>> Diversity & Inclusion featured as a material issue in our 2018 Media Materiality report through two separate issues: Diversity of output and Workplace diversity and inclusion. It is now arguably more material than ever. Since 2018, "Equity" has made its entry	NA	M

	<p>into what was previously known as D&amp;I. Equity refers to the creation of a level playing field – an equal and fair context for all - without which true diversity and inclusion will remain elusive.</p> <p>“Diversity is being invited to the party, inclusion is being asked to choose the song, equity is having appropriate transport to get you there.”</p>		
>> Sustainable value chain	>> Companies increasingly have to manage sustainability across their value chain, rather than ‘just’ as it relates to their own operations. The value chain refers to what is also known as the ‘upstream’ and ‘downstream’ supply chain: a company’s suppliers of goods and services and its consumers, and everything in between.	NEW?! (Media CSR Forum and KPMG, 2005)	M
Transparent and responsible editorial policy	MERGED UNDER RESPONSIBLE CONTENT 2022	MERGED UNDER RESPONSIBLE CONTENT 2022	MERGED UNDER RESPONSIBLE CONTENT 2022
>> Treatment of freelances	>> Freelancers are a particular area of concern within media’s human rights-related risks. Many of the workers on film productions – such as security, catering, cleaning – are freelance, as are many workers in publisher’s supply chains –	NEW?! (Media CSR Forum and KPMG, 2005)	E

	typesetters, copy- editors, editors. Freelancers tend to have less protections and are more at risk of labour and human rights violations, such as being paid below the legal minimum wage, long working hours, and risks to personal safety. As such, the increase in human rights as an issue for media companies has also led to increased focus on treatment of freelancers.		
User safety	This issue refers to the safety of media content for the users that are exposed to it. Advertisements are a main example, where regulation limits the advertising of certain products.	NEW	O
Waste	NOT DEFINED	NEW	O

**CSR issues lost from 2022 report:**

<b>'Lost' CSR issues (2022)</b>
Customer relationships
Digital divide
Disinformation (fake news)*
Education
Entertainment and gaming
Intellectual property and copyright
Legal compliance – corporate
Net neutrality
Open access
Plurality
Transparent ownership and practices

Valuing creativity

## Appendix 2 – notes to methodology

### Variables

Date	Publisher	Page (code)	Item (code)	Item type	Content unit (code)	Contents
Front page (Y/N)	Section front (Y/N)	Section	Supplement (Y/N)	Contents (Y/N)	Colour (Y/N)	Starting quadrant score (4,3,2,1)
Total quadrant score on this page (50,25,4,3,2,1)	Comment on space	Major Advertising Category (list)	Minor Category (list)	If advert, brand	Topic (list)	Subtopic 1 (list)
Topic 2 (list)	Subtopic 2 (list)	Comment on contents	If story, treatment (list)	If feature, name?	Named author (Y/N)	Name of author 1
If named author, named expertise? (Y/N)	Name of expertise	Name of author 2	If named author 2, named expertise? (Y/N)	Name of expertise	Name of author 3	If named author 3, named expertise? (Y/N)
Name of expertise	Name of author 4	If named author 4, named expertise? (Y/N)	Name of expertise	Name of author 5	If named author 5, named expertise? (Y/N)	Name of expertise
Name of author 6	If named author 6, named expertise? (Y/N)	Name of expertise	Name of author 7	If named author 7, named expertise? (Y/N)	Name of expertise	Name of author 8
If named author 8, named expertise? (Y/N)	Name of expertise	Identifiably male author #	Identifiably female author #	Story origin	Photograph? (Y/N)	Photograph #
Photograph with visible nature #	Nature of nature	Photograph with visible technology #	Nature of technology	Photograph with visible vehicle #	Nature of vehicle	Photograph with visible person
Photograph with visible man	Photograph with visible woman	Photograph with visible white person	Photograph with visible non-white person	Graphic? Y/N	Graphic #	Contents of graphic
Jump to another page? Y/N	Jump to page, section..?	Jump to supplement..?	Name of section or supplement	Total pages content unit appears on #	Total score for content unit across all pages	Total images across all pages content unit appears on
Sustainability relevance (based on contents) 1=yes, 0=no	Sustainability reference (2=manifest, 1=latent, 0=none)	Econ sust (-1-2)	Env (-1-2)	Soc (-1-2)	Comment on sustainability score	Safe, just, equitable? (-3 to 6)

*Definitions of treatments of editorial items*

<b>If editorial, treatment</b>	<b>Definition</b>
Analysis	an in-depth look at a piece of news to highlight why something might have happened
Appointments	a piece about someone getting a job
Cartoon	a visual drawing about something that has happened
Column	a regular opinion piece written by a particular person
Comment	an opinion piece often written by people external to the organisation
Competition	a piece of content encouraging readers to participate in something, often with a prize
Feature	an extended piece that is not directly related to the news agenda
First-person	a piece written in the first person
General news	a piece about something that has happened
Interview	a piece centred on an interview with someone
Leader	a comment piece written by the newspaper
Letters	a letter from a member of the public
News feature	an extended piece about a piece of news
NIB	a short piece of news, often no longer than a paragraph, often without its own headline and grouped with other pieces of similar length
Obituary	a piece about someone that has died
Photostory	a piece led by a photograph, with the written part often very short
Profile	a piece about a particular person who is alive
Review	a piece that evaluates a new good, service or event
Section	a segment of the newspaper that usually has a specific title and groups together pieces covering a certain theme
Supplement	a segment separated from the newspaper that usually has a specific title and groups together pieces covering a certain theme

*Subtopics*

**Subtopics 1: Brand to Environment**

<b>Subtopics BRAND TO ENVIRONMENT</b>				
<b>Brand</b>	<b>Culture</b>	<b>Economics</b>	<b>Education</b>	<b>Environment</b>
Competition	Books	Business generic	Oxbridge	Animals
Contact	Conferences	Business specific	Schools	Attitudes
Contents	Film	Compensation	Skills	Biodiversity
Corrections	History	Debt	Training	Climate change
Dateline	Museums	Finance	Universities	COP21
Events	Music	Governance		COP26
Masthead	Theatre	Growth		Drought
Price	History	Housing		Earth Summit
Promotion		Industrial dispute		Emissions reductions
Publisher		Inequality		Energy
Refer		Inflation		Extinction
Section		Interest rates		Farming
Subscriptions		Investments		Flood
Supplement		Jobs		Food
		Pay		Forests
		Personal finances		Land
		Prices		Natural disaster
		Privatisation		Net zero
		Property		Noise pollution
		Public spending		Pollution
		Tax		Renewables
		Trade		Solution

		Wealth		UN Conferenc e on the Human Environme nt
		Welfare		Waste
				Water
				Weather

## Subtopics 2: Foreign Affairs to Lifestyle

Subtopics FOREIGN AFFAIRS TO LIFESTYLE				
Foreign Affairs	Fun	Health	Home Affairs	Lifestyle
Accident	Bizarre	Abortion	Accident	Consumption
Asylum/refugees	Cartoons	Cancer	Asylum/refugees	Dating
Celebrations	Game	Care	Colonialism	Etiquette
Civil Unrest	Puzzles	Coronavirus	Courts	Fashion
Crime		Disease	Crime	Food
Global		Doctors	Cyber Security	Hobbies
Immigration		Drugs	Immigration	Home
Non-UK Country		Eyesight	Northern Ireland	Luxury
Non-UK Economy		Ill Health	Personal Security	Marriage
Prominent Person		Mental Health	Police	Parenting
Terrorism		NHS	Prisons	Smoking
US		Research	Terrorism	Travel
War/conflict/military		Smoking	Tragedy	Wellness
		Wellness	War/conflict/military	

## Subtopics 3: Local to Religion

Subtopics LOCAL TO RELIGION				
Local	Media	Political	Popular Entertainment	Religion
City	Advertising	Anti-Corbyn	Celebrations	Catholicism
Councils	BBC	Aristocracy	Celebrity	Christianity
County	FOI	Austerity	Festival	CofE
Region	Magazines	Brexit	Gambling	Cohesion/interfaith/multiculture
Town	Press	Controversy	Horoscopes	Islam

Village	Public Relations	Diplomacy/peace	Human interest	Judaism
	Social media	Europe	Lottery	
	TV	Nepotism	Radio	
		Policy	Social clubs	
		Process	Toys	
		Protest	Tragedy	
		Royals	TV	
		Scandal		
		Woke		

#### Subtopics 4: Science to Transport

Subtopics SCIENCE TO TRANSPORT				
Science	Social Justice	Sports	Technology	Transport
Research	Age	Athletics	Cameras	Buses
	Class	Boxing	Computers	Cycling
	Disability	Bridge	Internet	Ferries
	Gender	Canoeing	Landlines	Flying
	Homelessness	Chess	Photocopiers	Motoring
	LGBTIQ+	Cricket	Printers	Trains
	Privacy	Cycling	Radios	Trams
	Race	Football	Smartphones	
		Gambling	Smartwatches	
		Golf	Telecoms	
		Hockey	Watches	
		Horse racing		
		Ice hockey		
		Jousting		
		Motor racing		
		Olympic Games		
		Personality		
		Rugby League		
		Rugby Union		
		Sailing		
		Swimming		

		Tennis		
--	--	--------	--	--

*Definitions of origins of editorial items*

<b>If editorial, origin</b>	<b>Definition</b>
Advertorial	where the source is commercial with limited wider editorial purpose
Appointment	where someone is being hired for a job
Book	where the source is a book
Columnist	where the source of the information is the columnist and there appears to be no wider prompting of the discussion
Competition	where the source is a competition being held
Court documents	where the source is written legal documents
Court proceedings	where the source is something from a particular court process
Diary	where the source relates to a known thing that is happening or has happened, particularly scheduled events
Event	where the source is something that was not planned in advance, particularly accidents
Interview	where the source is someone who has been interviewed
Leaked document	where the source is a document that has been leaked
Letters	where the source is a member of the public via the letters page
NA	For advertising, content promotion, jump, listing
News item	where the source is another piece of editorial in the same newspaper
Official data	where the source is a particular set of data, including share indexes, stock markets
Official document	where the source is a written document shared for the purpose of communication, including reports from think tanks, research papers and financial accounts
Official proceedings	where the source is an official process

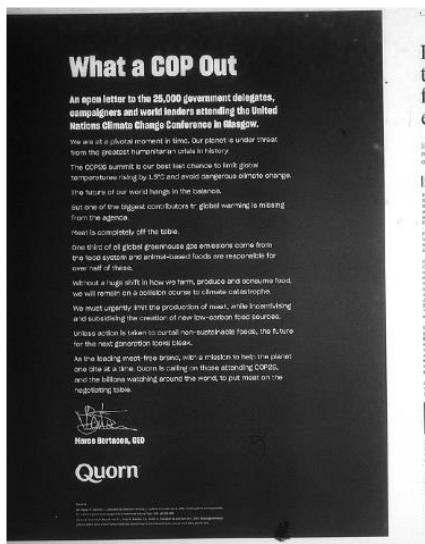
Official sources	where the source is an unspecified official source
Official statement	where the source is a specific official statement, typically spoken
Open letter	where the source is a letter sent for the purposes of communication
Other media outlet	where the source is a named third-party media outlet
Paparazzi	where the source is a photograph taken for the purposes of a story where the subject is not actively participating and is often a celebrity
Photograph	where the source is a photograph of something that has happened
Photographer	where the source is a named photographer and where the purpose of the photograph is known
Police	where the police are a named source
Poll	where the source is data derived from the public including surveys
Press trip	where the writer is participating in an event created for the purposes of communication
Reader	where the source is a member of the public
Review	where the source is a new good, service or event
Social media	where the source is something shared on social media
Source	where the source is a mentioned unnamed source
Various	where there are a number of sources – source unclear
Wire	where the source is a wire service

## Appendix 3 – notes to findings

### Examples of challenging content units from the wider sample



"We've lowered the price of dozens of Plant Chef products... Tesco" (Observer, 2021b, p. 8)



"What a COP Out... Meat is completely off the table... Quorn" (Observer, 2021b, p. 20)

# Sunak isn't planning for British business – he's budgeting for the next election



**Business leader**

Rishi Sunak, the UK Prime Minister, is seen in a meeting with other officials. The article discusses his budget and its implications for British business.

David and Victoria Beckham with their children at a charity event. (AP Photo/Chris Wedel)

**Facebook fails to mention that its metaverse will be profit-driven**

Facebook's announcement of its metaverse initiative has been met with skepticism. The article highlights the company's focus on profit and the potential challenges it faces.

## Retailers will deck the halls in the hope of a more normal Christmas

**C**hristmas is the time when retailers hope for a more normal Christmas. The article discusses the challenges they face and the strategies they are employing to attract customers.

As the year draws to a close, retailers are looking for ways to boost sales. The article explores the various marketing and promotional tactics being used.

The article concludes by discussing the overall outlook for the retail sector and the role of consumers in driving growth.

## William Keegan

William Keegan is a prominent figure in the industry, known for his expertise and leadership.

## New foreign quarrels can't conceal the truth about Brexit

**A**s the UK faces new foreign quarrels, the truth about Brexit remains clear. The article analyzes the political and economic implications of the UK's exit from the EU.

The article discusses the challenges the UK is facing in its negotiations with other countries and the impact of Brexit on the global economy.

The author concludes by offering insights into the future of the UK's international relations and the role of Brexit in shaping its destiny.

**Our climate is changing**

The article discusses the urgent need for climate action and the role of government and industry in addressing the crisis.

The author provides a detailed analysis of the current climate situation and offers practical suggestions for how individuals and organizations can contribute to the solution.

The article ends with a call to action, urging readers to take immediate steps to reduce their carbon footprint and support climate-friendly policies.

**Our climate is changing**

But our commitment to being one of the leading voices in the climate conversation stays the same.

The Guardian leads a long history of producing powerful environmental reports, opinion pieces, and investigative journalism. Now, we've made it all available in a new app, Our Climate is Changing. Download the app today, for all the latest news and analysis on climate change.

Scan to install

"Our climate is changing... Our commitment to being one of the leading voices in the climate conversation stays the same" (Observer, 2021b, pp.64-65)

Observer house ad (2021b, pp.64-65) appearing to give up on mitigation but reassures it has been 'doing what it does best' (Ceasar and Hodgson, 2008). Alongside 'budget for business' – showing national Political and Economic news cycle in tandem with the Environment.

Alongside detailed coverage of the COP26 talks, we find evidence of their necessity – and the Guardian’s decision to call the issue “global heating” (Guardian, 2021i, p. 1).



"Devastating fires of 2021 pinned on global heating... World's top banks vow to fund shift to net zero" (Guardian, 2021i, p. 1)

Yet, what we may understand from the headline above is that climate change – not prior human action – is causing such devastating fires. This is alongside a news story written by environmental journalists allowing banks to claim a role in financing the solution to these problems, rather than being identified as financing the problem, of the continued use of fossil fuels.





Summit "at serious risk of failure" before it has begun (Guardian, 2021h, p. 1)



"Inside the Guardian: Reasons for cheer at COP26 – 'As reporters we are seeing so many positive changes'" (Guardian, 2021g, p. 35)

'Inside the Guardian' has the headline "Reasons for cheer at Cop26 – 'As reporters, we are seeing so many positive changes'". But there is a huge juxtaposition in the above piece, where Fiona Harvey, environment correspondent for 17 years, says:

"it really is vital that we hold businesses to account because they are holding the purse and they are the ones who make the world go round... greenwashing... targets... ensure they are not wasting time with off-setting... we don't have a choice but to win... I have no time for people who say this is too expensive – if we don't have a planet then we don't have an economy".

But then environment editor, Damian Carrington, says:

"we can still beat the climate crisis... There is no moment when we go from a world that's fine to a world that's a disaster... The good news is we have the tools, the knowledge and the technology – it's just a question of developing it quickly enough that we make it accessible and affordable to the mass market... political will is key... Green solutions... electric car... cellular meat... I'm very fortunate to work for an organisation like the Guardian that takes this issue very seriously – and has done for a very long time – and is dedicating plenty of space and resources to keeping it top of the news agenda".

Given such potential confusion, eco-anxiety, without reference to the human source of the problem, is highlighted in a short piece below.

# Eco-anxiety due to climate crisis suffered by all ages and classes

Wally Pfister

A clear majority of people believe that climate change will have a more significant effect on humanity than will Covid-19, which has already claimed about five million lives worldwide, according to a new poll conducted ahead of the Cop26 summit being held in Glasgow this weekend.

The survey, carried out as part of a study from Ipsos, was led by the Global Warming Research Institute and the University of York, and highlights concern about global warming is almost as common among older and working-class people as it is among those who are young or middle-class. Overall, 65% of people reported some level of eco-anxiety.

The authors of the report say that their findings about anxiety are compelling to politicians who may believe that media stories about the climate emergency are confused or wrong, and the climate emergency is not real.

The Ipsos poll also shows that 2,000 people found that 2020, before the impact of the coronavirus pandemic, was greater for the world than any other year in the world's history, with a majority of all age groups and social classes, including children.

Similarly, climate change is considered a top global priority among people of all age groups and backgrounds, and across all regions of the UK.

Despite this widespread concern about the climate crisis - with some 42% of middle and upper-class people reporting high eco-anxiety against 27% of working-class voters - people lack faith in political leaders to act. Some 72% of those questioned believe the Cop26 summit will have little or no effect, just 10% think it will have a moderate effect, while only 16% think it will have a big effect.

The poll also shows that the biggest difference in levels of eco-anxiety was not between old and young or young and old, but between men and women. Some 45% of female participants reported high levels of worry about climate change, compared with 34% of men.

"Eco-anxiety due to climate crisis suffered by all ages and classes" (Observer, 2021b, p. 6)



"THE DRINKS ARE ON US!... BUDGET SPECIAL REPORTS: 16 PAGES OF UNRIVALLED COVERAGE" (Daily Mail, 2021d, p. 1)

National news cycle in tandem with international shows potentially good news for us (Daily Mail, 2021d, p. 1), via the Economic – should we care about this or that? Highlights relationship between Political and Economic, and question around government sources (Henriques, 2007). Both have since left government. Claims “unrivalled coverage” without any means for judgement.

PHOTOGRAPH BY GUY LAWRENCE

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**T**he world's worst hypocrites are invited to attend the COP26 summit in Glasgow next week. It is a farcical summit for the world's worst hypocrites... The whole purpose of COP26 was meant to promote global environmental sustainability. Instead, it is being turned into a catwalk for the green showboating of the global elite" (p. 53).

The world's worst hypocrites are invited to attend the COP26 summit in Glasgow next week. It is a farcical summit for the world's worst hypocrites... The whole purpose of COP26 was meant to promote global environmental sustainability. Instead, it is being turned into a catwalk for the green showboating of the global elite" (p. 53).

# AN HODGES

## Save the planet, Boris... by axeing a farcical summit for the world's worst hypocrites



**I**f you think the world's worst hypocrites are invited to attend the COP26 summit in Glasgow next week. It is a farcical summit for the world's worst hypocrites... The whole purpose of COP26 was meant to promote global environmental sustainability. Instead, it is being turned into a catwalk for the green showboating of the global elite" (p. 53).

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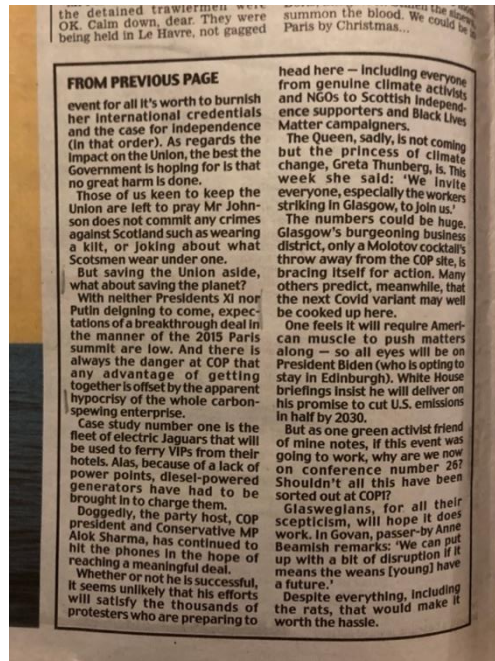
**'They'll leave their gigantic jets and tell us to walk our kids to school'**

...the world's worst hypocrites are invited to attend the COP26 summit in Glasgow next week. It is a farcical summit for the world's worst hypocrites... The whole purpose of COP26 was meant to promote global environmental sustainability. Instead, it is being turned into a catwalk for the green showboating of the global elite" (p. 53).

"Save the planet Boris... by axeing a farcical summit for the world's worst hypocrites" (Mail on Sunday, 2021a, p. 53)

Mail on Sunday pre-conference (2021a) comment piece says we should cancel this "world summit for worst hypocrites... The whole purpose of COP26 was meant to promote global environmental sustainability. Instead, it is being turned into a catwalk for the green showboating of the global elite" (p. 53). Is he wrong? Climate scientist Kevin Anderson (2023) says that COP has been co-opted by fossil fuel companies, and is otherwise dominated by "the 1%" (np) in the attendance of world leaders.

Similar take in Daily Mail (2021e, pp. 19-20) from a local journalist in Glasgow – takes an anti-elite angle, points out somewhat unhelpfully – “Shouldn't all this have been sorted in COP1?”. Is he wrong? Includes wider political wranglings about Scottish Nationalists, and China and Russia.



Comment piece asks "Shouldn't all this have been sorted in COP1?" (Daily Mail, 2021e, pp. 19-20)



“BORIS RUBBISHES RECYCLING at Downing Street children's climate press conference with head of WWF ahead of COP...” (Daily Mail, 2021b, pp. 22-23)

“BORIS RUBBISHES RECYCLING at Downing Street children's climate press conference with head of WWF ahead of COP he explains that 'what you've got to do is stop the production of plastic’” (Daily Mail, 2021b, pp. 22-23). This is an interesting take from Boris Johnson, suggesting the problem is with plastic production, though the headline confuses this. The Daily Mail has a single-use plastics campaign. He does also joke that we could feed humans to animals, demonstrating question around political sources (Henriques, 2007).

Embedded inside it is “PM: It's touch and go whether climate talks are a success”, where he admits key targets may be missed, but points to “peer pressure” (ibid) as an incentive. “Greenhouse gases hit all-time high' according to new WMO report published mentions that economic slowdown caused by COVID had negligible effect although there was a temporary decline in emissions” (ibid) – linking of economic changes during COVID, but no noting of who needs to do what, or solutions. Plus, “Lumley: rationing can save us” (ibid) – Joanna Lumley speaking to the Radio Times. Included to amuse, undermines suggestions about reducing consumption though she has done credible work on this. Demonstrating an issue with ‘credible’ sources as she is known as a TV star, though latterly a campaigner. Also issue with news media relying on using other media as sources mentioned in Methodology.



"MINISTER'S U-BEND U-TURN... Rancid stench of scandal will be with MPs for years" (Daily Mail, 2021c, pp. 14-15)

Substantial Daily Mail (2021c, pp. 14-15) sewage story pre-conference relates issues to privatisation, including pay outs to shareholders, and offshore ownership. Includes commentary from the former environment editor of the Guardian John Vidal. Headline betrays seriousness of piece, leans into political 'gotcha' angle. Relates to long-term policy (privatisation) versus short-term (politicians).

# City & Finance

£2.2trillion national debt as Rishi Sunak delivers his Budget

## The Hut Group shares plunge another 21pc

By Colum Akhtar

SHARES in The Hut Group crashed to an all-time low as attempts to restore confidence in the online retailer fell flat. On yet another tough day for founder Matt Moulding, the Manchester company's share price plunged 21.1pc, or 64.3p, to 242p, less than half of the 500p it floated at amid great fanfare in September last year.

The firm followed a trading update for the three months to the end of September with revenues up 34pc to £507.6m.

The firm owns nutrition brands including Magnesium, cosmetics line Kapa and beauty retailer Lookfantastic.

Revenue at THG's Ingenuity business, which handles everything from website design to delivery and payments for brands



wanting to sell online, rose 44pc to £51.1m. We have delivered a strong trading period and enter our peak trading period with confidence," said Moulding.

THG said it has hired recruitment firm

Russell Reynolds to find an independent non-executive chairman to lead up the board, improve corporate governance and build bridges in the City.

Critics argue too much power rests with Moulding, who is executive chairman, the largest shareholder and THG's landlord.

THG also appointed Andreas Hansson, a managing director at Japanese conglomerate Softbank, as a non-executive director.

Analysts at broker Jefferies trimmed their target price to 700p from 900p. They said the update "should reassure" on the progress of Ingenuity and the strength of THG's relationship with Softbank following Hansson's elevation to the board.

The market appeared to disagree and shares tanked again. Uncertainty in the City has sparked a series of sell-offs in

recent weeks. The stock lost a third of its value in just two hours earlier this month after a presentation by Moulding to assuage concerns backfired spectacularly.

The firm has been trying to dispel worries about its corporate governance and a lack of clarity about how it makes money.

Ingenuity is a top concern due to a complex investment deal under which Softbank is able to purchase 20pc of the business for £4.5bn despite a lack of public information on the division and its unproven nature.

Moulding agreed last week to relinquish his golden share, which gave him the power to block any takeovers, as well as unwinding an arrangement where THG shares were collateral for a £100m loan from Barclays.

However, all this has failed to stop investors' nerves jangling.

by Francesca Washfell

HEATHROW sparked a fresh war of words with the airline industry as it revealed losses have hit £3.4bn since the pandemic began.

Boss John Holland-Kaye said the airport was "on the cusp of recovery" after coronavirus restrictions resulted in another dire summer.

But he warned it would take at least another five years for passenger numbers to get back to pre-Covid levels.

He also said the aviation regulator should allow it to charge airlines and passengers more to help speed up the rebound and reward backers.

Heathrow has been at loggerheads with the Civil Aviation Authority (CAA) and airlines - led by British Airways - over its demands to ramp up the fees it charges to allow planes to take off and land.

These are typically passed on to customers, and airlines have warned it is the wrong moment to push up ticket prices at a time when they are trying to encourage people back into flying.

The airport, which was Europe's largest before Covid, wants to charge airlines up to £43 for every passenger handled. This is a hike from £22 in 2019. The CAA has since suggested a compromise of £34.40 and is currently consulting on that figure.

The industry hit back at Heathrow's latest demand for higher prices last night. Airlines UK said the regulator "needs to stand its ground".

A spokesman for the trade body said: "Any further increase in charges - not least by the 50pc the CAA are proposing - will hit consumers and make travel more expensive."

How can we have Global Britain when we levy the highest aviation taxes and allow the most expensive airport anywhere in the world to keep raising them?

It would just make us more uncompetitive.

Heathrow is widely thought to be the most expensive airport in the world. Its latest move showed that in the first nine months of the year just past, passengers passed through terminals.

It was process-

# Heathrow's Covid losses hit £3.4billion

## Boss says airlines AND passengers must pay more to bolster recovery



ing around 80m a year before the pandemic and some 19m in the first nine months of 2020.

Holland-Kaye, (pictured) said: "It has definitely been a tough 18 months, but we are starting to see the recovery coming through. We are on the cusp of a recovery that will unleash pent-up demand. But

we need a fair financial settlement from the CAA to sustain service and resilience after 15 years of negative real returns from investors."

Previously state-owned, Heathrow was taken private by Spain's Ferrovial in 2006 and its investors now include the sovereign wealth funds of Qatar, Singapore and China. Airport sources that said its shareholders should be rewarded for transforming Heathrow from a "national embarrassment" into an airport that passengers now rate as one of the best in the world.

Holland-Kaye said: "In most

## Draftkings abandons £16bn bid for Entain

by Hugo Duncan

A SECOND American suitor has failed in a bid to take control of the company behind Ladbrokes and Coral.

Setting firm Draftkings yesterday abandoned plans to buy Entain for £6bn just a week after a deadline to table a firm offer was extended.

"After several discussions with Entain leadership, Draftkings has decided that it will not make a firm offer for Entain at this time," said Draftkings' chief executive Jason Robins.

Shares in FTSE 100 firm Entain, whose other brands include Fox Bingo, Party Poker and Sportingbet, fell 6.3pc or 135p to 2002p, valuing it at around £2.5bn. The collapse of talks came just months after it rejected an £8bn takeover offer from US casino operator MGM Resorts International.

Entain said its board "strongly believes" in its future prospects. It enjoyed a boom in online gambling through the pandemic. Events such as last summer's European football championship revived sports betting.

Under British takeover rules, Draftkings cannot make another bid for Entain for six months unless there is a competing offer. It made a £28-per-share proposal for Entain in September after Entain rejected a £2.5 bid.

The talks were complicated by the BetMGM joint venture in the US between Entain and MGM, which is a rival to Draftkings.

The boss of MGM had said he would have sought to take control of BetMGM if Draftkings had agreed to buy Entain.

"We are not surprised by this, because we viewed this deal as just too complicated to close," JP Morgan analyst Joseph Greff said.

Dealmaking in the sector has been heating up as the US opens up to sports betting and companies tap into the expertise of companies in markets such as Britain.

"Heathrow's Covid losses hit £3.4billion: Boss says airlines AND passengers must pay more to bolster recovery" (Daily Mail, 2021c, p. 65)

Pre-conference row (Daily Mail, 2021c, p. 65) in financial section between Heathrow and airlines because the airport wants to put up ticket prices to recoup losses after COVID – airlines say this will discourage people from flying and reduce the power of "Global Britain". Is it unthinkable that we would discourage people from flying otherwise? BA ads also throughout period.

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**COP26 SUMMIT**



**Streets deluged by floods just miles from UK climate summit**

*Crisp Rotation: Kip, Cambridgeshire*

**By Liz Hull**

**MOTHER** Nature unleashed her wrath on Glasgow yesterday as the eyes of the world turned to the Cop26 environmental summit being held there this weekend. The city was among several parts of the UK deluged with torrential rain as forecasters warned of "life-threatening" flooding across the North and Scotland. Drivers in Glasgow had to abandon their vehicles after major routes were submerged, and some train services between the city and London were cancelled. The Met Office issued an amber "danger-to-life" warning for south-west Scotland and the Lake District, where western gales saw more than a foot of rainfall in just 22 hours – twice the usual total for October as a whole. Meteorologist Aidan McGivern of the Met Office said: "These are exceptional rainfall totals for even the wettest part of the UK, which is Cumbria on average, and the wettest part of the year". Despite the rain, forecasters highlighted how temperatures were very mild for the time of year, with highs of 18C (64F) in the east of England and even topping 19C (66F) behind the wet weather front. They added that the unsettled weather was likely to continue into the weekend, with another wet front expected to arrive from the west today. Last night a major incident was declared in Hawick, a town on the Scottish borders around 40 miles north of Carlisle. Police Scotland said officers had begun evacuating 500 homes near the River Leith at risk of flooding.

**Biden unveils \$500 billion drive to cut emissions**

**By Claire Ellicott**  
Political Correspondent

**AMERICA** announced a huge \$500 billion (£360bn) spending package to fight climate change last night as President Joe Biden vowed to cut US greenhouse gas emissions by half. The deal – which has not yet been agreed by Congress – is designed to put the US in the lead in the battle against global warming ahead of Cop26. It came as British diplomats said China's President Xi Jinping is not expected to attend the Glasgow summit but will send a delegation. China is the world's largest emitter of greenhouse gases. Mr Biden, pictured, said the package was the "most significant investment ever" on climate and is "beyond any other advanced nation in the world". He vowed to cut greenhouse gas emissions by 50 to 52 per cent by 2030 compared to 2005 levels – equal to a billion tons. Plans include vast investments in clean energy, solar panels and replacing diesel school buses with electric ones. The legislation is likely to pass, but the delay will disappoint Mr Biden. China submitted a new national plan for climate action to the United Nations yesterday – but failed to increase its existing targets. It aims to reach carbon neutrality by 2060 and peak emissions before 2030.

**Sunak's beef with science chief over eating less meat**

**By Claire Ellicott**  
Political Correspondent

**RISHI** Sunak slapped down the Government's chief scientific adviser yesterday after he told people to eat less meat to save the world. The Chancellor intervened after Sir Patrick Vallance said reducing a little bit can make a difference to preventing climate change. Sir Patrick made his points in a statement ahead of Cop26. He and nearly 40 of his global counterparts warned that the world would have to reduce emissions significantly by 2030 and end them completely by 2050 to prevent temperatures rising above an extra 1.5C. He told BBC Breakfast that action on getting to net zero should not be viewed as a "slow burn" and that behavioural changes would also be required. Speaking of cuts to meat consumption and flights, he added that it wasn't about abolishing those things, but just reducing a little bit can make a difference. In contrast, Mr Sunak chose a meat market in Bury, Greater Manchester, as the venue for a round of interviews. Asked about the message it sent following Sir Patrick's comments, Mr Sunak said: "I'm not telling anyone to eat less meat. There are lots of different ways we can tackle climate change." Critics have raised the impact to farming of moves to lower meat consumption and questioned whether it was sustainable. The scientific advisers' statement called on leaders to take urgent, sustained action and significant behavioural, socio-economic and technological transformations across the world. It added: "This must begin with rapid scale-up and deployment of a wide range of existing and novel technological solutions." They want governments to focus on improving green technology and transition, which must be affordable, accessible and fair. Sir Patrick said the message to world leaders was that "1.5C is achievable, it's absolutely what we should be aiming for" but it required action now. He said this decade was the decade of research and development of innovation as it had to be applied now or the world would not reach the 1.5C target, adding: "It's going to require detailed plans, it's going to require behavioural change and it's going to require monitoring in order to achieve this, including monitoring of emissions." On behavioural changes, he said cuts to meat consumption and flying were needed, adding: "There will be a move away from the extent of meat eating we've seen in the past, and we will need to couple that with our flying habits. But coupled to that, there's technological advances, so as options for green transport become real that will change again." "It's a series of small things from all of us that turn into a big change. Those little things that appear like they're not very much important when they're aggregated across many, many millions of people. He added that the green choice tends to be the easy choice for people.

**Fewer flights and less meat can save us, says Vallance**

*From yesterday's Mail*

Climate would limit sea-level rises and extreme weather events, improve property and protect human health and nature. Addressing climate change will require intense global collaboration on research and innovation to develop and deliver solutions to climate change, they added. They said it was critical to take action to adapt to the consequences of climate change that are already inevitable. The statements, released as leaders head to Glasgow for the UN climate summit, said limiting warming "will require rapid, urgent, sustained action and significant behavioural, socio-economic and technological transformations across the world". It added: "This must begin with rapid scale-up and deployment of a wide range of existing and novel technological solutions." They want governments to focus on improving green technology and transition, which must be affordable, accessible and fair. Sir Patrick said the message to world leaders was that "1.5C is achievable, it's absolutely what we should be aiming for" but it required action now. He said this decade was the decade of research and development of innovation as it had to be applied now or the world would not reach the 1.5C target, adding: "It's going to require detailed plans, it's going to require behavioural change and it's going to require monitoring in order to achieve this, including monitoring of emissions." On behavioural changes, he said cuts to meat consumption and flying were needed, adding: "There will be a move away from the extent of meat eating we've seen in the past, and we will need to couple that with our flying habits. But coupled to that, there's technological advances, so as options for green transport become real that will change again." "It's a series of small things from all of us that turn into a big change. Those little things that appear like they're not very much important when they're aggregated across many, many millions of people. He added that the green choice tends to be the easy choice for people.

**Mind the rats and Nats!**

*By Claire Ellicott*

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"Sunak's beef with science chief over eating less meat... Streets deluged by floods just miles from UK climate summit" (Daily Mail, 2021e, p. 10)

Dedicated 'COP26' page pre-conference (Daily Mail, 2021e, p. 10) – includes floods from "MOTHER nature" near the venue, "Despite the rain, forecasters highlighted how temperatures were very mild for the time of year" – which is part of the point of climate change. Also, Rishi Sunak hits back at suggestion from Chief Scientific Advisor, quoted in the previous day's newspaper that we should eat less meat "to save the world" and fly less, from political correspondent. Also straightforward coverage of US environmental package, though again takes a swipe at China, from political correspondent.



"On eve of UK summit, a powerful message from the Prince and Prime Minister..." (Daily Mail, 2021f, pp. 8-9)

"On eve of UK summit, a powerful message from the Prince and Prime Minister... Charles: The time has now come to stop talking and fix climate crisis... Be radical, Pope tells world leaders... "HUMANITY'S 5-1 DOWN AT HALF TIME AD FACING COLLAPSE LIKE THE ROMANS'..." (Daily Mail, 2021f, pp. 8-9). Is it god? Is it football? Royal theme remains. With special COP logo.





# As the world transitions towards net zero... Is backing **BIG OIL** actually a slick move?

**T**HE last-minute preparations for the Cop26 climate change summit in Glasgow have been accompanied by a stampede away from investments in the fossil fuels that cause global warming. This week about 70 British religious bodies have pledged to shift away from shares in coal, gas and oil companies. ABP a giant Dutch pension fund, is to sell off €16bn (£12.6bn) of such holdings. These disposals are estimated to reach \$14 trillion (£10.2 trillion) as more savings are switched to sustainable investments. Interest in this type of investment was ignited by an Inconvenient Truth, the global warming documentary fronted by former US vice-president Al Gore. This week Gore called for reforms that would curb financial institutions' ability to back fossil fuel projects. It could now be a truth - however inconvenient for income-seekers - that BP and Shell, two of the biggest fossil fuel names, are best avoided. There is another way of looking at it, though. Some believe the outlook is less straightforward, as fossil fuels still account for 84pc of global usage and demand is likely to rise along with the population. Oil prices are soaring, propelled by a shortage of supply and the pandemic bounce-back. Since January, BP shares have risen by 36pc, while shares in Shell are up by 34pc, despite the fact both face many challenges. Third Point, an activist hedge fund, has



**INVESTMENT EXTRA**  
by Anne Ashworth

bought a slice of Shell to urge the group to split off its refining and other legacy businesses from its newer ventures. Shell also reported lower-than-expected third quarter earnings, despite the higher oil price. Under a Dutch court judgement, Shell must make a 45pc cut to its net carbon dioxide emissions by 2030, rather than by 2050. The company is appealing the ruling, but it could still accelerate the shift into renewables, such as solar and wind. These are areas into which Shell, BP (which is set to report its own earnings next week) and the other giants are already diversifying. Ben van Beurden, Shell's chief executive, argues it can overcome competition from new entrants to the market because its projects should appeal to the biggest customers. Amazon is already committed to taking half of the energy from a wind farm being built in the North Sea by Shell and Eneco, a renewables business. Other reasons to back Big Oil are the lucrative returns from its traditional operations - on which we will rely while the transition to net zero progresses. Norway, a nation regarded as extra eco-conscious, illustrates that this proc-

DIVIDEND YIELDS	
Shell	6.18pc
Exxon Mobil	5.44pc
Chevron	4.76pc
BP	4.40pc
ConocoPhillips	3.56pc
Shell	3.56pc
ConocoPhillips	2.36pc

ess may be slower than idealistic Cop26 delegates would hope. Robert Minter, head of investment strategy at Abrdn, explains: "The International Energy Authority says that once 60pc of a country's vehicles are electric, then there should be a 20pc drop in oil use. In Norway, 72pc are electric, but there's been no fall in oil use, because it's used for other stuff, and because of the number of the non-electric vehicles that are still on the road. A statement saying that major change can be made by 2030 is designed to inspire; it's not a firm date." He adds: "The obstacles on the way to the target include climate change itself. The ambitions for renewables depend on a stable climate, but there has been a drought in many parts of the world this year which has cut hydroelectric power." Faced with such evidence, it



BT shares have lost a third of their value since June - and more than 70pc over the past six years. It makes grim reading for the telecom group's shareholders and its board. And speculation around the firm's vulnerability to a takeover will loom large when it reports its half-year results on Thursday. BT has even appointed advisory group Robey Warshaw to beef up its defences against a possible hostile bid. The appointment comes ahead of a December 10 deadline after which Altice, a telecoms firm controlled by French billionaire Patrick Drahi, will be released from an obligation not to try to take over the firm. Altice made the commitment when it bought a 12pc stake in BT for £2bn in June, which helped push the share price to a then 20-month high of 205.5p. However, the stock has declined by over 32pc, which may encourage some investors to give any takeover bid a hearing. Any such move would come at a very sensitive time for BT, which is due to see Adam Crozier, the controversial ex-boss of Royal Mail, start work as chairman on December 1 after Jan du Plessis stepped down amid reports of clashes with chief executive Philip Jansen. In terms of the numbers, analysts are predicting sales of £10.2bn for the first half, and earnings of around £3.7bn, flat on the same period last year. One thing that is not expected is an interim dividend, although given that Jansen has targeted a 7.7p payout this year many are predicting the whole lot will come in the second half.

"As the world transitions towards net zero... Is backing BIG OIL actually a slick move?" (Daily Mail, 2021f, p. 100)

Daily Mail City & Finance (2021f, p. 100) the day before the conference starts. Points out that investors are moving from big oil so this might be a shrewd time to invest - "reasons to back big oil". It oddly points to Al Gore climate change documentary as spurring on this kind of investment, because he had "this week" called for legislation about financing fossil fuels. The author states:

"... sensible to hold a mix of Big Oil and renewables, but also to have some cash in energy-saving technologies... Taking a change on the combination of a handsome payback and playing an indirect role in saving the planet is a gamble on an uncertain future. But long-term thinking is what the world needs right now".

**Welby sorry for Hitler gaffe ++ Hundreds fly in on private jets ++ China and India's new carbon letdown ++ Biden nods off ++ So thank goodness for a REAL star turn**

**GREEN QUEEN AND A DEEPLY PERSONAL ULTIMATUM**



Worshipping The Queen addresses the COP26 summit via a video message yesterday

**MPs' BRAKES ON SMART M-WAYS**

By David Churchill  
 Transport Correspondent  
**DEADLY safety flaws mean the construction of smart motorways must be halted, MPs say today.**  
in a damning report, MPs demand a halt to the rollout of the technology and call for a review of the road design.

**Mail victory as they demand halt to 'deadly experiment'**

major schemes. The criticism is made in a report published in the House of Commons on Wednesday. The report says the technology is "unsafe" and "unreliable".

Roads should not be built until the technology is proven to be safe. The report says the current rollout is "unsafe" and "unreliable". It calls for a halt to the rollout and for a review of the technology. The report also says that the current rollout is "unsafe" and "unreliable".

"GREEN QUEEN AND A DEEPLY PERSONAL ULTIMATUM... MPs' BRAKES ON SMART M-WAYS" (Daily Mail, 2021h, p. 1)

Daily Mail day after world leaders attend conference (2021h, pp. 1-3). Royal justification for coverage – is this in fact the Authoritarian theory of the press? (Siebert in Siebert et al, 1976). Very confusing series of embedded headlines. Contrast with smart motorways story – which are designed to ease traffic due to there being so many cars. Claims this time "Unrivalled COP26 reports" (2021h, p. 3) without means for judging.

Prince Philip (ibid) in a cloud of butterflies because he was one of the founders of WWF. But also led by images of Kate Middleton.



# COP26 CLIMATE SUMMIT

**Quotes of the day**... **funnacee engine** **Boris Johnson** **term praise** David Attenborough... **stobus** UN's Antonio Guterres

# WHAT A DOZY BUNCH!

## As PM and Biden are caught napping, climate summit descends into farce with big-polluting India and China refusing to meet carbon-neutral target early – and UN warns the world is 'digging its own grave'



**I'm just resting my head** A dozy Boris Johnson is seen here at the summit. He says he is "resting his head" after a long day of negotiations. The image shows him in a dark suit, looking towards the camera with a weary expression.

**UN's Antonio Guterres** **stobus** UN's Antonio Guterres **term praise** David Attenborough... **funnacee engine** **Boris Johnson** **term praise** David Attenborough... **stobus** UN's Antonio Guterres

**UN warns the world is 'digging its own grave'** **UN warns the world is 'digging its own grave'**

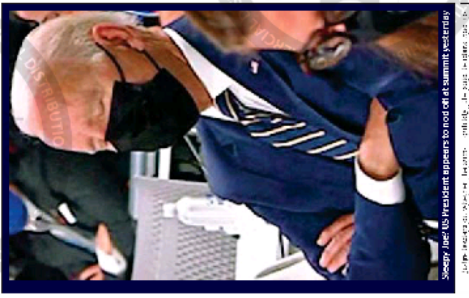
## Majority of climate scientists predict 'catastrophic' 3C rise

**... but the Earth is COOLER than in 2015** **... but the Earth is COOLER than in 2015**

**Welby's Nazi slur apology** **Welby's Nazi slur apology**

**UNCH!** **UNCH!** **UNCH!**

# UNCH!



**Welby's Nazi slur apology** **Welby's Nazi slur apology**

**UNCH!** **UNCH!** **UNCH!**

## Majority of climate scientists predict 'catastrophic' 3C rise

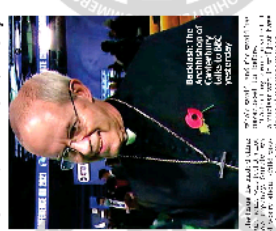
**... but the Earth is COOLER than in 2015** **... but the Earth is COOLER than in 2015**

**Welby's Nazi slur apology** **Welby's Nazi slur apology**

**UNCH!** **UNCH!** **UNCH!**

# Welby's Nazi slur apology

**He says failing to act is worse than ignoring Hitler – then is forced to U-turn after outcry** **He says failing to act is worse than ignoring Hitler – then is forced to U-turn after outcry**



**Archbishop of Canterbury Justin Welby** **Archbishop of Canterbury Justin Welby**

**UNCH!** **UNCH!** **UNCH!**

## Majority of climate scientists predict 'catastrophic' 3C rise

**... but the Earth is COOLER than in 2015** **... but the Earth is COOLER than in 2015**

**Welby's Nazi slur apology** **Welby's Nazi slur apology**

"WHAT A DOZY BUNCH!...Majority of climate scientists predict 'catastrophic 3c rise... but the Earth is COOLER than in 2015... Welby's Nazi slur apology" (Daily Mail, 2021h, pp. 8-9)

Daily Mail (overleaf) day after world leaders attend conference (2021h, pp. 8-9) says “WHAT A DOZY BUNCH... descends into farce with big-polluting India and China refusing to meet carbon-neutral target early – and UN warns the world is 'digging its own grave'... Majority of climate scientists predict 'catastrophic 3c rise... but the Earth is COOLER than in 2015... Welby's Nazi slur apology”. Religion was not a considerable topic across editions but gives reason to speak – see Pope.

While “HIGH-FLYING HYPOCRITES” (ibid, pp. 12-13) echoes other editions’ concern with the legitimacy of event. Hypocrisy was a key concern in the literature (Towe et al, 2020) potentially rendering media powerless. Are the media simply in the business of calling out hypocrisy?

08/17/2012, 14:40  
Daily Mail  
Daily Mail, London, December 27, 2011, UK  
HYPOCRITES

# Belching out fumes, Biden's 20-vehicle motorcade

More than 100 cars in Biden's motorcade belch out CO<sub>2</sub> as he heads to the White House

US SENATOR JOE BIDEN'S 20-CAR MOTORCADE BELCHES OUT CO<sub>2</sub> AS HE HEADS TO THE WHITE HOUSE

BY JAMES WATSON  
PHOTOGRAPHY BY GUY LAWRENCE

Joe Biden's motorcade is a stark contrast to the 'green' image he has cultivated. The 20-vehicle procession, including SUVs and limousines, is a significant source of carbon emissions. Biden, who has campaigned on environmental issues, is seen driving a large SUV. The motorcade is a clear example of hypocrisy, as Biden's actions contradict his public stance on climate change.

**1. S. GOV. CHRIS CROMMIE**  
S. GOV. CHRIS CROMMIE (D-VT) IS THE FIRST SENATOR TO BE NAMED TO BIDEN'S MOTORCADE. HE IS DRIVING A LUXURY SUV.

**2. SEN. CHRIS MURPHY**  
SEN. CHRIS MURPHY (D-CT) IS DRIVING A LUXURY SUV.

**3. SEN. MARTIN O'MALLEY**  
SEN. MARTIN O'MALLEY (D-MD) IS DRIVING A LUXURY SUV.

**4. SEN. BOB CASEY**  
SEN. BOB CASEY (D-PA) IS DRIVING A LUXURY SUV.

**5. SEN. JON CORNYN**  
SEN. JON CORNYN (R-TX) IS DRIVING A LUXURY SUV.

**6. SEN. JIM CROMMIE**  
SEN. JIM CROMMIE (D-VT) IS DRIVING A LUXURY SUV.

**7. SEN. JIM COOPER**  
SEN. JIM COOPER (R-NC) IS DRIVING A LUXURY SUV.

**8. SEN. JIM CROSSLAND**  
SEN. JIM CROSSLAND (R-VA) IS DRIVING A LUXURY SUV.

**9. SEN. JIM HATCH**  
SEN. JIM HATCH (R-UT) IS DRIVING A LUXURY SUV.

**10. SEN. JIM INHOFE**  
SEN. JIM INHOFE (R-OK) IS DRIVING A LUXURY SUV.

**11. SEN. JIM MURPHY**  
SEN. JIM MURPHY (D-PA) IS DRIVING A LUXURY SUV.

**12. SEN. JIM RHOLES**  
SEN. JIM RHOLES (D-MO) IS DRIVING A LUXURY SUV.

**13. SEN. JIM WENDEL**  
SEN. JIM WENDEL (R-OH) IS DRIVING A LUXURY SUV.

**14. SEN. JIM WHITMAN**  
SEN. JIM WHITMAN (R-VA) IS DRIVING A LUXURY SUV.

**15. SEN. JIM WYDOL**  
SEN. JIM WYDOL (D-IL) IS DRIVING A LUXURY SUV.

**16. SEN. JIM ZINKE**  
SEN. JIM ZINKE (R-MN) IS DRIVING A LUXURY SUV.

**17. SEN. JIM ZINKE**  
SEN. JIM ZINKE (R-MN) IS DRIVING A LUXURY SUV.

**18. SEN. JIM ZINKE**  
SEN. JIM ZINKE (R-MN) IS DRIVING A LUXURY SUV.

**19. SEN. JIM ZINKE**  
SEN. JIM ZINKE (R-MN) IS DRIVING A LUXURY SUV.

**20. SEN. JIM ZINKE**  
SEN. JIM ZINKE (R-MN) IS DRIVING A LUXURY SUV.

08/11/2012, 14:39  
Daily Mail  
Daily Mail, London, December 27, 2011, UK  
COP26 CLIMATE SUMMIT  
HIGH-FLYING

# 'Out of touch' VIPs arrive for eco summit on up to 400 private jets

More than 100 private jets are expected to arrive at Glasgow Airport for the summit

BY JAMES WATSON  
PHOTOGRAPHY BY GUY LAWRENCE

The COP26 climate summit in Glasgow is being criticized for the high carbon footprint of its attendees. It is estimated that up to 400 private jets will be used to transport VIPs to the event. This is seen as a stark contrast to the summit's goal of reducing global carbon emissions. The use of private jets is particularly controversial as they are known for their high fuel consumption and carbon output per passenger.

**Boats hauled over the coals**

More than 100 private jets are expected to arrive at Glasgow Airport for the summit. This is a significant source of carbon emissions, particularly as the world's largest shipping companies are also under scrutiny for their carbon footprint. The shipping industry is being criticized for its slow progress in reducing emissions, and is being compared to the private jet industry.

**Competitive bid for private jets**

The use of private jets for the summit is being criticized as a sign of hypocrisy. The event is being held in Glasgow, a city that is known for its commitment to sustainability. The use of private jets is seen as a direct contradiction of the summit's goals. The private jet industry is being criticized for its high carbon footprint and for its role in climate change.

"HIGH-FLYING HYPOCRITES" (Daily Mail, 2012h, pp. 12-13)