



The narratives in contemporary journalism: A qualitative analysis of the coverage of the environment and climate change by the Luxembourg Times

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Summary

The media industry is faced with a great challenge to communicate climate change to wider society. From an academic point of view, the climate communication done by journalists remains in a dire state of improvement – when the press itself is struggling to survive as a profiting industry. This research dives into understanding the narratives in business journalism with the use of a William Cronon’s 1992 essay titled “A Place for Stories: Nature, History and Narrative” as a theoretical framework. The theory is structured with the help of scholars of environmental history on narratives – where the power of narratives in stories remains at the centre to analyze journalistic coverage by breaking down the ingrained discourses and ideologies in news at the chosen case study. The theoretical focus on narratives has helped to understand how business journalism delivers anthropocentric climate content for its readers. The case for this study is the “Luxembourg Times” – an English national daily in the Western European country of Luxembourg. The research has revealed that aspects such as the news presentation as a “chronicle of capital flows” in business journalism, “deadlines and the struggle to achieve page views” and the “poor agency for nature – and the civil society” directly affects the way climate journalism is practiced. The case of the Luxembourg Times has revealed internal efforts to revolutionize the traditional, contemporary practice by introducing so-called “initiatives” – as a form of “slow” journalism – to deliver better content on climate change. This has proved that even if the structural capacity of journalism refrains from allowing the reporters the capacity to report on climate issues in an investigative manner – there is a demonstrated motivation and competence within the Luxembourg Times to cover climate change in a more effective manner. However, the current form of climate communication is dominated by anthropocentric variables, such as: “risks”, “chronicle-like news tracking green capital flows” and “negative impacts of climate events on humans” – with a high dependence on the state institution for the sourcing of information and the underrepresentation of the civil society (especially, the academia) in climate coverage.

1. Introduction

1.1. Research Problem

Carey (2007) in their essay titled “A Short History of Journalism for Journalists: A Proposal and Essay” states that understanding journalism and its ills requires more qualitative interpretation than measuring the output of the published content on the readers. The author argues that like any other professional field, like medicine, journalists pick up the skill of carrying out the application-based craft of reporting rather than slowing down and questioning the ways of journalistic conduct which needs to progress and undoubtedly adapt itself in a modern and constantly changing world. Berglez, Olausson & Ots (2017) have argued for journalism as a significant institution in the Western democratic system. The role of the journalists to inform society of relevant news remains essential for the efficient functioning of a democracy. For instance, communication plays a vital role in highlighting an event (like a political scandal by the journalist) as a problem through the transfer of ideas, thoughts and feelings for the receivers (the readers as members of wider society) by verbal (text) or non-verbal (image or video) means (Genc, 2017).

The concept of news lies in the practice of arguing and presenting evidence by prioritizing from the established fact of an event in the public sphere by separating the rumor, gossip and trivia for the readers (Carey, 2007). Bolin & Hamilton (2018) state that this process of making news contributes to educating society of anything and everything which is directly correlated to the decisions voters make, as a collective, to elect their leaders. However, today this information cycle is largely threatened and fails to perform its function as a watchdog, or fourth estate in our democracy (Berglez, Olausson & Ots, 2017).

It is widely recognized that journalism is facing numerous problems in its function to report. For instance, Ireton & Posetti (2018) have stated that a phenomena of “fake news” exists in the media ecosystem where misinformation and disinformation have taken over to further an agenda in society which has come at the cost of corrupting the credibility of the foundations of journalism in the 21st century. Similar phenomenon are mainly influenced by the corporate ownership of news outlets, when elements such as advertising interests overrule the news content in itself (Anderson, 2009). This leaves citizens deprived of a nuanced clarity of an event, such as the Covid-19 pandemic, which remains missing in today’s media landscape (Park, Chung & Kim, 2022).

Similarly, research has shown a major communication problem in the way journalists report on the climate change stories. First of all, it has been established that journalists lack a degree of climate education to report on the latter efficiently (Anderson, 2009; Tsekos & Matthopoulos, 2008). Moreover, Tsekos & Matthopoulos (2008) have also found a general lack of civil society representation – including the academia, in climate stories which make it to the news. This underrepresentation gives rise to a highly visible narrative of economic development in the climate-related news which sheds a light on the poor state of climate communication in the media (Wei, Wei, Western, Skinner & Lyle, 2015). This line of argumentation also prompts the problematic coloring of climate change as a problem rather than economic development creating this crisis. For instance, research has found that climate change was never framed as a contributing factor to a drought in Ireland which could have encouraged potential mitigating behaviors and the acceptance of climate and water management policies by the public – only if they were aware of the catastrophic impact of climate change (Augustenborg, Kelleher, O’Neill & Cloona, 2022). Hence, it can be said and has also been found that news shows a strong correlation with the socio-political dynamics of its times where the coverage of climate change is directly co-related with the interests of the state and the market (Anderson, 2009).

Berglez, Olausson & Ots (2017) have strongly argued against this economic development narrative to capture the interests of society and the environment through the presentation of sustainable journalism as an integration of the global sustainability challenge with contemporary journalism. The authors of this book namely “What is Sustainable Journalism?” have argued for a more efficient form of storytelling mechanism in journalism which could help in tackling the poor state of climate communication in journalism (Berglez, Olausson & Ots, 2017). Additionally, Carey (2007) has shown that journalism lays its foundation in rather highly ambitious norms of objectivity and truth which ignore the embedded nature of narratives and points of views of any human being, indeed including journalists, in reporting or telling a story. And a mix of the contemporary forms of journalism and the supposed agenda brought in the newsroom due to the corporate ownership of news outlets may well define why the media has been blamed for widening political divisions within the public on climate change (Bolin & Hamilton, 2018; Anderson, 2009).

Hence, it is well-established from past research that journalism fails to advocate for climate change which has gathered a great amount of scientific consensus for the anthropogenic causes of the crisis. Although, Anderson (2009) has stated that journalists also face the dilemma over the nature of effects from the climate crisis, the problem of tackling it and also, identifying the stakeholders – which remains debatable even in the academia. But this also puts the media industry in a crucial position to advocate for relevant stakeholders by giving voice and legitimizing their claims while communicating the same to the public. However, an analysis of framing climate stories has clearly shown neither any agency for nature nor any advocacy for the seriousness of the climate crisis (Anderson, 2009).

In this study, a solution for this discursive crisis in journalism and more specifically, climate reporting – will be presented in the form of storytelling as demonstrated by environmental historians. Cronon (1992) has observed how an environmental event can draw numerous conclusions because of ingrained human narratives, discourses and ideologies when recounting the stories of nature. However, the power of storytelling does not conflict with the ideals of journalism like reporting the facts as observed by the reporter with absolute objectivity. But it rather encourages that journalists deliver what they promise through setting the fact of climate’s enormity straight by understanding the complexity behind the crisis but also furthering advocacy for nature and giving it better agency. And, this is where authors such as Gess (2012) and Le Masurier (2016) and their work on “slow journalism” helps in questioning the speed in contemporary journalism which makes it even harder for journalists to report on climate in a personalized, engaging and transparent form for the public. On top of that, the work of Cronon (1992) in their essay “A Place for Stories: Nature, History, and Narrative” has also prompted this research to delve on rethinking the potential of narratives, discourses and ideologies in news – to understand the knowledge gaps in journalism and climate reporting.

The research focuses on the Luxembourg Times, an English national daily news website in Luxembourg, as a bounded case study. The news outlet claims to prioritize on covering business and finance in Luxembourg, but also politics at the national and European Union (EU) level. An initial impression of the news website showed that there is no specific climate section and the research has further investigated how business journalism affects climate coverage in its entirety (Luxembourg Times, 2022).

The research interest has concentrated upon any climate content published by the Luxembourg Times as it relates to climate change. And as climate change can be a very broad concept, the content analyzed has mainly been related to the environment/nature in Luxembourg, the efforts of the Luxembourgish state/EU to tackle climate change (through

both policy and financial means) and risk/disaster communication (mainly concerning the 2021 July floods in Luxembourg). Hence, this study has made the argument for both climate journalism and environmental journalism.

1.2. Research Aim

This study aims to understand how the reporting and editorial team at the Luxembourg Times reports on climate change. The research will be steered by a two tier approach: understanding how the reporters at the Luxembourg Times approach climate stories and how have they delivered on the same in the past. Although it should be noted that climate change is a broad subject and this research will focus on how any co-related subjects to climate are covered by the news outlet, which has been considered as a case study for this research. For instance, the co-relational subjects include: nature stories; disaster communication; environmental policy; climate capital; and climate justice. The core objective is to add to the existing literature on both climate and environmental journalism.

1.3. Research Questions

The main question of this research is:

“How does a business newspaper like the Luxembourg Times negotiate communicating climate change for its readers?”

The sub-questions which would help in understanding the main question on a deeper, analytical scale are:

- What is the dominant narrative in the climate content?
- How is climate news prioritized?
- Is there a well-justified representation of nature in the published material?
- Is there any motivation to report on climate change in a slow and sustainable manner?

2. Societal and Scientific Relevance

Berglez, Olausson & Ots (2017) and Bonfadelli (2010) have addressed how journalism plays an important role in informing the general public about very complex problems which humanity has and is confronted with – such as, climate change. Heikkila & Ahva (2014) have proved that citizens find journalistic content meaningful where the discursive practices of the institution also acts as a crucial medium of orientation to society and making valued judgements about the political nature of the public sphere. According to Berglez, Olausson & Ots (2017) a reason for this is because it is difficult for a common person to access the libraries of a scientific institution or follow debates on climate change at international forums – where the only option for them remains to read a newspaper for educating themselves about both current, local and worldly affairs. Hence, the institution of journalism has contributed to the wider political debate at several occasions and continues to do so. For instance, journalists played an important role as a watchdog to bring down the presidency of Richard Nixon – who was exploiting his power as the head of state – through their stories on the Watergate Scandal in the United States of America (Munestri, n.d.). It is a crucial domain of society, which does a substantial job of investigating, informing and educating people. However, when climate reporting is in a poor state, it also means that wider society will never ever know of the impact of their activities on the environment or how they may

backfire – in the form of floods, droughts, etc. (Berglez, Olausson & Ots, 2017; Bonfadelli, 2010).

Moreover, the research of Walker, Glasser & Kambli (2012) has found how the climate crisis has become a “humanitarian emergency” which requires a need to shift to exceptional and interventionist response to tackle the problem. On similar lines, Bruggemann (2017) argues that this response puts journalism and journalists in a very critical position. And when speaking about institutions, it has been highlighted that journalists rarely prioritize reporting on climate change and it has been declared that there is a need to push for climate journalism to the top of the news agenda – so the wider impacts on all and especially, underrepresented and neglected conflict communities due to climate change get justice through stories written and printed by journalists. However, journalism remains on the fringes of the climate debate while holding the torch for engaging society in an evolution where open debates in the press may answer the concerns of the citizens about the climate crisis (Bruggemann, 2017).

On the other hand, Tsekos & Matthopoulos (2008) have highlighted how the scientific community, or the academia, is more often than not ignored by journalists when gathering news or reporting for the general public. This aspect contributes to the climate coverage practiced by journalists to remain variable, or in simple words circling in a fixed pattern, where the academic evidence even suggests that climate science is not represented in the most accurate manner (Anderson, 2009). This signifies a risk for society, but also for the academia as their research findings need to be provided to the general public in a readable manner (Tsekos & Matthopoulos, 2008). Hence, this research would also contribute to bridge the gap in between the academia and journalists. This will be carried out by trying to understand how journalists source their information and what challenges they face or prevent them from speaking and quoting to the academia in their climate coverage.

From a scientific point of view, this research has very explicitly tried to address the acknowledgement of narratives, discourses and ideologies within journalism (Cronon, 1992). Prior research has spent a great amount of time on trying to pick objective problems in journalism such as the sourcing of information and the lack of environmental education within the journalistic community to address the climate communication problems in the media. However, although the theory of this research acknowledges that these factors do play a role in scaling bad environmental communication – an argument has been made to not underplay the power of factors such as narratives, discourses and ideologies in journalism (Tsekos & Matthopoulos, 2008; Jonsson, 2011; Wei, Wei, Western, Skinner & Lyle, 2014; Anderson, 2009). This approach will not just add to the ongoing academic discussion on objective ills in reporting on climate change but also contribute to a qualitative, subjective input on how climate communication could be more efficient for the wider public.

Also, the research goes back to the basics of understanding journalism, as suggested by Berglez, Olausson & Ots (2017) – where agency is given to the voice of the journalists themselves to understand how they perceive their work and profession. This element of the research contributes to the vast academic literature which is trying to rethink how journalism is valid in the present context of democratic affairs, where information brokers have multiplied and society has numerous other sources to get their daily information on general news (Berglez, Olausson & Ots, 2017). Moreover, the research also contributes to understanding where journalism stands in the wider, global climate action context – while introducing fairly new concepts to the academic discussion on the same, such as “sustainable journalism” and “slow journalism” (Berglez, Olausson & Ots, 2017; Gess, 2012). As a synonymous vision, the research would also build on the blocks of promoting investigative journalism for a post-normal form of

journalism which can enable reporters to take the time and understand the complexity of the climate crisis to report in the most accurate manner on the same. This type of research also helps in drawing the lines in between reporting on science accurately and advocating for climate change while adding to the existing academic literature (Bruggemann, 2017).

Additionally, journalism faces numerous challenges for communicating climate in the future where the multiplicity of numerous academic perspectives and carrying out a scientific application process in a local context is very much the need of the hour. There was an era of climate denial in society (Fleming, Vanclay, Hiller & Wilson, 2014), but now society risks facing another subtler version of the same phenomenon in the form of “ecofascism”. It is argued that ecofascism stems from the same school of climate deniers and may take centre stage in society again through more “insidious” ways – while “shedding light on a resurgent dark legacy of environmentalism that must be confronted” (Bove, 2021). This is besides the vast array of disinformation and misinformation which circulates in society, where evidence was documented during the Covid-19 crisis as citizens were left alone to deduce what is right and wrong in the information ecosystem (Park, Chung & Kim, 2022). These trends are not just a way to cause chaos in society – but they also disrupt the well-being of individual citizens of their information literacy. Hence, the contributions from this research are deemed to be far reaching for both: in taking the academic discussion on journalism and climate reporting forward, but also contributing in a significant way to society by understanding how journalism is effective in communicating a complex climate phenomenon.

3. Literature Review and Theoretical Framework

3.1. Literature Review

Carey (2007) states that after the age of the religion, people in the modern and secular world let behind the practice of starting their day by the God’s prayer and instead switched to educating themselves on the state of affairs in the nation-state through the newspaper. In fact, democracy and for that reason – journalism, offered a promise of representing the “realm of citizenship” (Carey, 2007, p. 15) and the “realm of orthodoxy” (Carey, 2007, p. 15). That is to say that the sacred world and the secular world differed in the sense of accommodating and giving a stage to all kinds of stories, both for preserving the traditional norms and accommodating progress (Carey, 2007).

Carey (2007) has questioned the concept of news in journalism back to its roots when the concept of democracy and journalism – went hand-in-hand – to establish themselves in our societies. The author has argued that journalism emerged with the notions of creating a record book (or journal) of the events in the public sphere, but also a sense of rationality and critical discourse where work would be put into separating “rumor and gossip and trivia from established fact via argument and evidence” (Carey, 2007, p. 11). However, the efforts to filter stories into news which went with the critical and rational discourse ignored the fact that “emotion, passion, error, stupidity, congenital prejudice, or political purpose” (Carey, 2007, p. 11) cannot be separated from any human practice of reporting a story (Carey, 2007).

Traditionally, journalism has held the position of informing, investigating and educating the masses on democratically significant information by adhering to normative values such as, objectivity, truthfulness and accuracy. But today, the same formula on which the institution has functioned and played an important role in democracies with a profound impact as a watchdog, or the fourth estate, is threatened. (Berglez, Olausson & Ots, 2017). Over the years, journalism has been tagged with problematic phenomena such as disinformation and misinformation being spread like wildlife in society – which is not just to

say that journalists are doing sloppy work, but also because of the aspects of “sensationalism” (Ireton & Posetti, 2018, p. 37) and “hyper-partisan selection of facts” (Ireton & Posetti, 2018, p. 8) at the expense of downplaying the foundations on which the media industry survives. It is indeed the phenomenon of “fake news” (Ireton & Posetti, 2018, p. 7) which has undermined the credibility of the industry in the 21st century (Ireton & Posetti, 2018).

According to Ireton & Pesotti (2018) – the journalist and the practice they perform should not go with the assumption that journalism is beyond the embedded nature of narratives and points of views. But there are of course mediums of sub-standard journalism – colored by firm ideologies – which are just instances of poor professionalism or poor quality journalism which act as enablers for fake news to originate and leak into the real news system, though this should not be confused with weak journalism. Indeed, the answer to tackle these challenges within journalism itself would be an ethical setup as an antidote to “the contamination of the information environment and the spill-over effect of tarnishing of news more broadly” (Ireton & Pesotti, 2018, p. 9). This ethical frame may well be a challenge, especially when journalists today are exposed to an avalanche of an information ecosystem, including both disinformation and misinformation – may it be provided by actors with a malicious intent or a clampdown by colleagues from untrustworthy news outlets with an agenda of their own in the wider political and social landscape (Ireton & Pesotti, 2018).

Although, the foundations of journalism on unrealistic principles and the emergence of the fake news landscape within a broader context remains problematic, it is undeniable that journalism has undergone massive change in a historical context and remains to be a surviving industry in its own right. It has been demonstrated that the news landscape is highly affected by the fierce competition of a wider array of information brokers (social media, citizen journalism, etc.) where traditional journalism has been forced to evolve into digital and electronic mediums, and so forth (Berglez, Olausson and Ots, 2017). It should be noted that journalism has largely been in the public sphere through market channels i.e. as business entities working for profit and selling the product called news, which lays on the cornerstones of the democratic ideal where the assumption of: the more dialogue, the more the better evolution of informed citizens – still exists. Media is largely influenced by corporate ownership and finance and the advertising revenues over news content itself. It has been argued that the power of the news may be threatened when the advertising interests may fail to encourage a critique on the government’s inaction over a subject, or the industry’s role in it (Park, Chung & Kim, 2022; Anderson, 2009).

However, Park, Chung & Kim (2022) have argued that the ideal of efficient dialogue is ever threatened in today’s world, where the explicitly of information brokers – especially, social media – plays a rather negative role of spreading disinformation and misinformation. This was well-evident during the Covid-19 pandemic where fake news flooded societies and the citizenry – on an individual basis – was left alone to deal with the “confusing influx of unfounded misinformation abounded in social media” (Park, Chung & Kim, 2022). This evidence prompts us to think if these extended information brokers do hold any larger social welfare responsibilities, but also give journalism some agency of reliability amidst the congruous challenge of being ahead of information spread about by social media or rather to provide an efficient and ethical alternative as an antidote to the wider information landscape chaos. Also, assuming that the corporate interests of news outlets completely fail to produce critical journalism is far too simplistic. Moreover, the journalism in its present context – as is known – has lost most of its advertising revenue to social media where, on the other hand factors such as an outlets share prices, unemployment amongst journalists and news consumption remain in a state of dire decrease. Hence, it could be said that journalism as an

institution, or an industry, is caught up in a state of crisis (Berglez, Olausson & Ots, 2017; Anderson, 2009).

Berglez, Olausson & Ots (2017) argue that the journalism crisis may be divided into two: one being a business crisis and the other, a discursive crisis relating to the content, or its quality. And while the business crisis is an objective, quantifiable and estimable phenomenon “pertaining to the economics, organization and technology of the media industry” (Berglez, Olausson & Ots, 2017, p. XIII) – the latter stages a highly subjective question “pertaining to content” (Berglez, Olausson & Ots, 2017, p. XIII) and also, “raising (concerns) about journalism’s future democratic role in society” (Berglez, Olausson & Ots, 2017, p. XIII). The authors have argued that this brings us to very fundamental, basic questions about a professional journalist and prompts us to think about “What is journalism?” (Berglez, Olausson & Ots, 2017, p. XIII) and “Who is a journalist?” (Berglez, Olausson & Ots, 2017, p. XIII). This comes in a pool of excessively multiplied sources of information, or the information brokers, with the ability of reaching the audience through social media (Facebook and Twitter) or via going beyond the traditional framework of quality, trained journalism through mediums of “amateur media” (Berglez, Olausson & Ots, 2017, p. XIII) and “citizen journalists online” (Berglez, Olausson & Ots, 2017, p. XIII). The latter are information-generating actors – with their digital machinery – who prove to have gained merit on robbing the traditional media of vital functions, such as “breaking news” (Berglez, Olausson & Ots, 2017, p. XIII). However, these tools have also been carriers of disinformation and misinformation where quality journalism remains a necessary tool in society to play its essential role as the fourth estate, or the watchdog – to deliver factual stories with a strong reader base (Park, Chung & Kim, 2022). This audience reach is achievable through practices of storytelling, which “are out of (the) epistemological reach for non-professional media practitioners” (Berglez, Olausson & Ots, 2017, p. XIII) and demands a vast paradigm shift within the publishing industry for the “ways in which social reality is covered” (Berglez, Olausson & Ots, 2017, p. XIV).

Anderson (2009) argues that climate change has come about as an unsolvable problem concerning the earth but as has been well-documented – now has spillover effects into social well-being of the human species globally as the “most pressing issues of our time” (Anderson, 2009, p. 179) and where journalism has proven to hold a crucial role in “shaping public perceptions and policy agendas” (Anderson, 2009, p. 166) to tackle the crisis. Journalists face tremendous challenges in reporting on the complexity of the climate crisis – especially framing un-simplistic, academic findings on the science behind the phenomenon in the most understandable and digestible language for a wider audience. The spillover effects have been highlighted in a so-called planetary boundaries approach, where a set of nine indicators (stratospheric ozone layer; biodiversity loss and extinctions; chemicals dispersion; climate change; ocean acidification; freshwater consumption and the global hydrological cycle; land system change; nitrogen and phosphorus inputs to the biosphere and oceans; and atmospheric aerosol loading) have been directly linked with the capability of the human race to develop both economically and socially (Berglez, Olausson & Ots, 2017; Anderson, 2009).

Anderson (2009) has observed that climate science has grown to attract considerable competition of perspectives from the state, the market and the civil society – on solving the crisis. The scientific consensus on the anthropogenic impact on global climate is well established – though the “nature of its effects, how best to tackle the problem and who needs to be involved” (Anderson, 2009, p. 166) remains debatable. These disagreements put the media industry in a very crucial position on climate change that is – to give voice to some “viewpoints” (Anderson, 2009, p. 166) over the others, and in tandem – legitimizing the

claims as “reasonable and credible” (Anderson, 2009, p. 166) – while communicating the same to their readers. This is to say that the media plays the role of “framing the scientific, economic, social and political dimensions” (Anderson, 2009, p. 166) of the broader climate debate and communicate it to the wider population (Anderson, 2009).

But research has shown that climate reporting is highly influenced by “socio-political factors over time” (Anderson, 2009, p. 178). This is to say that the coverage of the environment is directly co-related with the interests of the state and the market. Hence, it is evident that journalists face numerous challenges in uncovering the climate stories where the structural, growing concentration and globalization of news media ownership limits good quality coverage. The emphasis of the climate crisis carries a heavy load of reporting on mitigation (highlighting risk from the changing environment) rather than on adaptation. This is besides news focusing more on “human interest, celebrity-focused, entertainment-style” (Anderson, 2009, p. 178) coverage which leaves no scope for serious, multi-faceted reporting on climate change (Anderson, 2009).

Berglez, Olausson & Ots (2017) have made an effort to explain why they think that things are the way they are in reporting news, and how the structural functioning of the journalism industry affects the potential for climate reporting on the overall. The authors have argued that the contemporary “business as usual” (Berglez, Olausson & Ots, 2017, p. XXII) forms of journalism is far out of reach of the modern world conditions. The “here and now” (Berglez, Olausson & Ots, 2017, p. XXII) rationale still dominates the news which fails to adopt a global perspective on the stories published. The concepts of “speed, personalization and fragmentation” (Berglez, Olausson & Ots, 2017, p. XXIII) remain also – the most dominant ways of newsroom discourse where, an in-depth perspective on the complexities of climate change are lacking (Berglez, Olausson & Ots, 2017).

For instance, Tseko & Matthopoulos (2008) have found that journalists themselves feel like the current model of environmental information gathering is insufficient, where most of the information came from other news sources in the collected data and which they themselves, find unreliable. Also, the journalists from the same sample felt a lack of education about environmental problems as a basic problem (Tseko & Matthopoulos, 2008). This lack of access to appropriate information also affects the views of the reader’s understanding about climate change, and even widens the political divisions on climate change, as was observed in the United States of America (Bolin & Hamilton, 2018). Moreover, Tsekos & Matthopoulos (2008) have highlighted that the scientific community, or the academia, and their research is least considered when a journalist from a local or national newspaper sits down to prepare for their daily chore of gathering news, writing it and publishing the same. Journalists consider several pointers when approaching their sources and most times, if not always, have a preference for the officials from the state institution, rather than a representative from the civil society, which also includes academic researchers. The main reason for this approach bias being that the public needs to be informed of the reality from an official representative, who is in power, rather than a researcher who merely researches for a better scientific vigor. However, it is argued that the ignorance of the institution of science by the journalism industry is taken for the lack of their own environmental education (Tsekos & Matthopoulos, 2008). The same has been observed by Anderson (2009), who found that the lack of education about environmental issues also keeps the coverage “variable” (Anderson, 2009, p. 167) where the stories have “hampered accurate representations of climate science” (Anderson, 2009, p. 167).

Jonsson (2011) has shown how a content analysis of the climate discourse in a Swedish national newspaper remained focused on “issues and events regarding politics and

economy, (and) sensations like crisis, (or) accidents” (Jonsson, 2011, p. 129) where the sources being quoted were mostly elite actors (authorities, scientific experts, organizations and politicians) within the power hierarchy – where a lack of civil society representation, or the common voice, was largely lacking. In relation to the Baltic Sea coverage, “eutrophication” received the highest amount of coverage (Jonsson, 2011, p. 130) but it was often connected with the overgrowth of algae in the waters rather than the “long-term driving forces and pressures causing eutrophication” (Jonsson, 2011, p. 130).

On the other hand, Wei, Wei, Western, Skinner & Lyle (2014) in a similar content analysis on the coverage of water issues in Australia found a strong interest of a regional newspaper in “urban water supply and sewerage” (Wei et. al., 2014, p. 328). Additionally, the coverage demonstrated an economic development tone as a dominant discourse in the articles analyzed where the underrepresentation of the academia and NGOs – as actors who could bring forth an alternative vision for water issues were largely missing. The most commonly mentioned actors were from the state institution that reflected “the major role of government in water services and management” in “The Sydney Morning Herald” over a period of 169 years (Wei et. al., 2014, 330). The authors of this study concluded that journalists covering sewerage, or flooding, more often than the drought caused less action in “driving policy and institutional change” (Wei et. al., 2014, p. 329). This was because floods were found to be more easy in alleviating (for example, building dams) than a drought which requires a redressing of the state’s water use decisions in bringing a paradigm shift in the way water sharing arrangements are historically structured in wider society. The study proves in light of news framing that “subjective perception of objective reality” is more powerful than the reality itself (Wei et. al., 2014, p. 329) as the problem was a problem because journalists failed to project it as a problem as a news discourse through a long term framing mechanism (Wei et. al., 2014).

In addition to the work of Wei et. al. (2014), Augustenborg, Kelleher, O’Neill & Cloona (2022) concluded in the Irish coverage of the 2018 drought that it was not just the overrepresentation of powerful actors in covering the drought, but also the underrepresentation and misrepresentation of climate change. The authors have found that climate change was “significantly underrepresented when compared to the framing of current impacts of drought and future threats” (Augustenborg et. al., 2022, p. 453). And on the worse end, media descriptions also welcomed “the warm weather and Mediterranean conditions through positive imagery around climate change” (Augustenborg et. al., 2022, p. 453). According to Augustenborg et. al. (2022), this discourse provides an opportunity as a breeding ground for climate change skepticism among readers that has a direct and negative impact on: firstly, influencing the “adoption of mitigative behaviors” within the public, and secondly, the “acceptance of climate and water management policies” (Augustenborg et. al., 2022, p. 453).

The case for this research, that is, the Luxembourg Times claims to be a “leading quality online newspaper” with a “critical but balanced view at the news” – publishing in English, with a team of seven reporters. It functions under its parent publication – the “Luxemburger Wort”, and the publisher – the “Group Mediahuis Luxembourg”, with a target audience of “foreign professionals” in Luxembourg and “everybody abroad who takes a professional interest in Luxembourg” (Luxembourg Times, 2022). According to Kies, Ostling & Hamdi (2022), Luxembourg is a small but (among) the richest and most politically stable countries in Europe. The country houses a population of nearly 634,000 inhabitants with about 200,000 workers crossing the borders, especially from the French and Belgium sides, regularly. On the West, the country marks its territorial sovereignty with Germany – also, a

cross-border destination for Luxembourg's workers, but the country also accounts for a "persistently high migration rate" (Kies, Ostling & Hamdi, 2022, p. 6) – with about 47.5 percent of foreigners "as of 1st January 2021" (Kies, Ostling & Hamdi, 2022, p. 6). These unusual population compositions create varied political and social challenges in terms of democratic legitimacy and social cohesion. Since 1984, the country characterizes three official languages (Luxembourgish, French and German) by law, while Portuguese is also spoken up to a fair degree (the population with Portuguese roots amounts to the "largest foreign community" (Kies, Ostling & Hamdi, 2022, p. 6)) where English – remains the commonly spoken language by employees in "financial institutions and international organizations" (Kies, Ostling & Hamdi, 2022, p. 6).

This includes multinational corporations, like Amazon, which in turn attract a majority of high skilled migrants and cross-border workers to the country. Additionally, it is also home to a number of institutions, or supranational organizations, running the European Union (EU), like the European Court of Justice – EU's supranational judiciary; the European Court of Auditors – EU's budget watchdog; the European Public Prosecution Service – EU's fraud-fighting team; and the Eurostat – EU's statistical agency, amongst others, which makes the country an official European capital with Brussels and Strasbourg. The latter are partly a reason for the country's massive economic growth – with the "annual gross domestic product" (Kies, Ostling & Hamdi, 2022, p. 6) even reaching "6.9 percent" (Kies, Ostling & Hamdi, 2022, p. 6) at its best. Research has deemed the media landscape to be "limited" (Kies, Ostling & Hamdi, 2022, p. 6) and "highly fragmented" (Kies, Ostling & Hamdi, 2022, p. 6) in linguistic and cultural terms – although it is very rich as compared to Luxembourg's size and population (Kies, Ostling & Hamdi, 2022).

On the other hand, a study on the political engagements of the Luxembourgish press in terms of historical, content, economic and audience aspects found a positive commitment of the Luxembourgish press with political parties – but it was also concluded that these political connections contribute directly to a better media ecosystem in terms of the diversity of the news landscape (Voronenkova & Maslina, 2019).

3.2. Theory

The theory for this research will build upon the work of an environmental historian called William Cronon where the insights from the author's essay, namely – "A Place for Stories: Nature, History, Narrative" will be applied to more practical journalistic literature that have helped in steering this research enabling both a deductive and inductive exploration to answer the main question. The need to bring forth an environmental historian's theoretical insights stems from the various problematic factors which plague modern day journalism where the complexity of addressing and communicating climate change for journalists remains a major challenge. These problems prompt the query on how to tell climate stories effectively where an environmental historian like Cronon (1992) has proved how stories, especially about environmental events, are always filled with narratives, discourses and ideologies which contribute directly to the politics of knowledge for society (Cronon, 1992).

These assertions help in drawing up links with the academic literature about contemporary journalism like the influence of aspects such as the issue attention cycles or news prioritizing (Anderson, 2009) and the sourcing of information (Tsekos & Matthopoulos, 2008, Jonsson, 2011) which decides what a news outlet prints or focuses on – which contributes to the details prioritized in telling the story and the sources used in gathering the information (Cronon, 1992). Moreover, journalism is supposed to play an important role in society as a watchdog, or the fourth estate in a democracy, but this role remains ever

threatened in today's world with problematic phenomena in journalism such as "fake news" (Park, Chung & Kim, 2022, p. 4) and the multiplicity of "information brokers" (Berglez, Olausson & Ots, 2017, p. XIII) including social media channels and citizen journalists which has left citizens completely confused on where to find the right information (Park, Chung & Kim, 2022, Berglez, Olausson & Ots, 2017).

Berglez, Olausson & Ots (2017) have stated that the only way to win over phenomena such as fake news and the multiplicity of information brokers is if journalism manages to increase its epistemological reach. This is to say that journalism must improve its content to overcome these problems and also, serve the citizens (who are their readers) by delivering factual and compelling stories. And in order to engage or take a step in the right direction, an environmental historian like Cronon (1992) is highly beneficial to fill the epistemological gap "pertaining to content" (Berglez, Olausson & Ots, 2017, p. XIII).

Cronon (1992) has taken the case of the 1930s drought which struck the American Great Plains and has highlighted how different authors have shed a light of reflection on the events which caused the environmental catastrophe. It has been argued that a story with a "narrative" is "not merely a sequence of events" (Cronon, 1992, p. 1367) like a "chronicle". For instance, the author has highlighted how a story about the Dust Bowl tragedy was concluded by fellow historian Donald Worster:

"The Dust Bowl was the darkest moment in the twentieth-century life of the southern plains. The name suggests a place - a region whose borders are as inexact and shifting as a sand dune. But it was also an event of national, even planetary significance. A widely respected authority on world food problems, George Borgstrom, has ranked the creation of the Dust Bowl as one of the three worst ecological blunders in history.... It cannot be blamed on illiteracy or overpopulation or social disorder. It came about because the culture was operating in precisely the way it was supposed to.... The Dust Bowl ... was the inevitable outcome of a culture that deliberately, self-consciously, set itself [the] task of dominating and exploiting the land for all it was worth" (Cronon, 1992, p. 1348).

According to Cronon (1992) Worster's account demonstrates a clear narrative where the drought came about as a failure of the people than nature as a "long series of willful human misunderstandings and assaults (which) led finally to a collapse whose origins were mainly cultural" (Cronon, 1992, p. 1348). On this, Cronon (1992) has argued that a story accumulates a shift from a "chronicle" to a "narrative" (Cronon, 1992, p. 1367) – as every tale must engage in the process of structuring itself, in order to form: a "beginning, middle and end" (Cronon, 1992, p. 1367). A story must "describe an action that begins, continues over a well-defined period of time and finally draws a definitive close, with consequences that become meaningful because of their placement within the narrative" (Cronon, 1992, p. 1367). Hence, it is not really problematic that Worster's version failed to give a straight, unbiased account of the drought (Cronon, 1992).

But in fact, these stories were told the way they were told by Worster and all other authors who wrote about the drought because humans have always required stories and this is a reason for engaging in the process of meaning-making – for "things in nature usually 'just happen' without raising questions of moral choice" (Cronon, 1992, p. 1368). Also, natural events have never demonstrated a linear structure. And for the sake of the argument, Cronon (1992) has himself tried to give an account in the most unbiased, chronological way – which he deems as a chronicle for its linearity in the following paragraph:

“Five centuries ago, people traveled west across the Atlantic Ocean. So did some plants and animals. One of these—the horse—appeared on the Plains. Native peoples used horses to hunt bison. Human migrants from across the Atlantic eventually appeared on the Plains as well. People fought a lot. The bison herds disappeared. Native peoples moved to reservations. The new immigrants built homes for themselves. Herds of cattle increased. Settlers plowed the prairie grasses, raising corn, wheat, and other grains. Railroads moved people and other things into and out of the region. Crops sometimes failed for lack of rain. Some people abandoned their farms and moved elsewhere; other people stayed. During the 1930s, there was a particularly bad drought, with many dust storms. Then the drought ended. A lot of people began to pump water out of the ground for use on their fields and in their towns. Today, Plains farmers continue to raise crops and herds of animals. Some have trouble making ends meet. Many Indians live on reservations. It will be interesting to see what happens next” (Cronon, 1992, p. 1351).

In the above writing, Cronon (1992) has “tried to remove as much sense of connection” (Cronon, 1992, p. 1351) within the details with a presentation of the events as a simple, linear timeline of events. However, the author has argued that even within this chronicle – he has only made a presentation of the events which he thought were important in the form of a declaration of the “most important” (Cronon, 1992, p. 1351) events which caused the Great Plains drought. And from this example, we can conclude that no story comes as an unbiased tale, or as journalists like to call it: a “reportage” (Carey, 2007, p. 3).

However, when taking a look at Worster’s account – we can place it in modern concepts such as the advocacy of anthropogenic climate change (Bruggemann, 2017). This is where the work of Cronon (1992) has drawn two distinctions: one of the “motions of the planets, the seasons, or the rhythms of biological fertility and reproduction” (Cronon, 1992, p. 1368) which represent “cyclical” (Cronon, 1992, p. 1368) structures, and another, of “climate shifts, earthquakes, (or) genetic mutations” (Cronon, 1992, p. 1368) which represent “random” (Cronon, 1992, p. 1368) structures. These random structures whose causes, more or less, remain alien to humans – is where narratives take its most impactful forms, for humans like to tell and hear stories unlike nature and the universe. But for humans to understand a phenomenon, like the 1930s Great Plains drought, a story is required – and if “stripped of the story, we lose track of understanding itself” (Cronon, 1992, p. 1369). Hence, it can now also be said that refusing to engage in a narrative is as detrimental as engaging in one (advocating for anthropogenic climate change) or not – where the only way out is to write a story which bases a narrative on some other reason for the catastrophe. For instance, Cronon (1992) has quoted the account of Paul Bonnifield of the Great Plains:

“In the final analysis, the story of the dust bowl was the story of people, people with ability and talent, people with resourcefulness, fortitude, and courage.... The people of the dust bowl were not defeated, poverty-ridden people without hope. They were builders for tomorrow.

During those hard years they continued to build their churches, their businesses, their schools, their colleges, their communities. They grew closer to God and fonder of the land. Hard years were common in their past, but the future belonged to those who were ready to seize the moment.... Because they stayed during those hard years and worked the land and tapped her natural resources, millions of people have eaten better, worked in healthier places, and enjoyed warmer homes. Because those determined people did not flee the stricken area during a crisis, the nation today enjoys a better standard of living” (Cronon, 1992, p. 1348).

According to Cronon (1992), Bonnifield's version shows a stark contrast to Worster's story where the narrative highlighted is that "nature made a mess, and human beings cleaned it up" (Cronon, 1992, p. 1348). Hence, if Bonnifield's account were to be placed in the modern journalism context, it might well be defined on lines of "risk" communication (Jonsson, 2011, p. 121) but also running parallel to a form of anthropocentric "climate change denial" (Wolfstone, 2014, p. 1).

However, placing the wider argument of Cronon (1992) on choosing between narratives and chronicles within journalism brings up various conceptual queries. Carey (2007) has argued that journalists learn the craft of reporting and apply it throughout their career span without really questioning the contemporary forms of journalism. These contemporary forms are based on the pillars of objectivity and truth. Hence, in this framework the contemporary forms of journalism take us to the much debated tables, even within the academic circles of environmental historians, of "traditional social science and postmodernist critical theory" (Cronon, 1992, p. 1349). Cronon (1992) has drawn a line in between the world of traditional social science – which still tries to approximate the absolute truth, or try to achieve objectivity, and postmodernist critical theory which relies on presenting a deconstruction of events to deal with questions such as the "moral problem of living on earth" (Cronon, 1992, p. 1374). And journalism scholars agree that news and the craft of reporting ignored the power of "narratives or stories" which was the form used to make journalism an institution within itself (Carey, 2007, p. 5).

On similar lines, both Carey (2007) and Cronon (1992) agree that any writing to be deemed as a story goes through the process of filtering, or prioritizing, on who to give voice to and who to not. For example, in the words of Cronon (1992) every story "inevitably sanctions some voices while silencing others" (Cronon, 1992, p. 1350) and in the words of Carey (2007) every story, or news, came to be after the separation of "rumor and gossip and trivia from established fact via argument and evidence" (Carey, 2007, p. 11) – which gives rise to the power of the narrative. Or, to put it simply, a narrative is always there is any form of text which tries to make some kind of sense to the reader, but on the other hand, journalism with its underpinnings in unrealistic or at least traditionally accepted norms of establishing reality through objectivity and truth may run on lines of a chronicle to remain as neutral. That being said, is that really possible if one were to analyze these journalistic chronicles called the news?

Previous journalism studies have observed how giving priority to certain voices (over others) have given rise to the environmental coverage sounding more in line of a state-like "economic development-driven tone" narrative (Wei et. al., 2015, p. 319); "risk" narrative (Jonsson, 2011, p. 121); or a very "local" narrative (Tsekos & Matthopoulos, 2008, p. 216) in climate stories. One aspect was common in all the later three studies, the state was overrepresented in the news and the civil society, especially the academia, was underrepresented – where the studies concluded these phenomena to be problematic for the readers who are consuming this environmental information from the news (Wei et. al., 2015, Jonsson, 2011, Tsekos & Matthopoulos, 2008). It is clear from this evidence that these narratives within the news, but also environmental history, pose difficult problems in retelling the stories of nature. According to Cronon (1992) it is the disease of "abstractions" (Cronon, 1992, p. 1350) which the author has highlighted throughout his analysis of both the 1930s Great Plains' narratives of Bonnifield and Worster, but also his own in the chronicle presented earlier. However, the author also goes on to give a solution to this problem of the sourcing of information, or what voices should be part of the narrative (Cronon, 1992).

Cronon (1992) advocates for the voice of nature itself. More often than not, stories are told from a human, or anthropocentric, view where the narrative adheres to the social discourse of its times. For instance, the history of the Great Plains emerged into a clear binary, as a discourse, in the way historians spoke of either the beginning, the middle or the end of the disaster. The binary was themed into either the idea of “progress” (Cronon, 1992, p. 1352) or the idea of a “tragic”, or “declensionist”, view of the disaster which came as an anti-modernist or anti-progress reactionary ideology. However, the author criticizes both these ideological binaries and clarifies that he does not advocate for either one. In fact, Cronon (1992) and his postmodern discourse for storytelling states that the ultimate aim of their essay is to acknowledge the power of narratives where the stories should not elapse from facts and must make scientific sense but at the same time give agency to nature. And lastly, a good story must demonstrate a form of inclusion of communities to tell the stories of environmental change in the best possible manner. This is to say that stories must stand independent of either ideologies, as must journalism in retelling accounts of climate events.

“As an environmental historian who tries to blend the analytical traditions of history with those of ecology, economics, anthropology, and other fields, I cannot help feeling uneasy about the shifting theoretical ground we all now seem to occupy. On the one hand, a fundamental premise of my field is that human acts occur within a network of relationships, processes, and systems that are as ecological as they are cultural. To such basic historical categories as gender, class, and race, environmental historians would add a theoretical vocabulary in which plants, animals, soils, climates, and other nonhuman entities become the coactors and codeterminants of a history not just of people but of the earth itself. For scholars who share my perspective, the importance of the natural world, its objective effects on people, and the concrete ways people affect it in turn are not at issue; they are the very heart of our intellectual project. We therefore ally our historical work with that of our colleagues in the sciences, whose models, however imperfectly, try to approximate the mechanisms of nature” (Cronon, 1992, p. 1349).

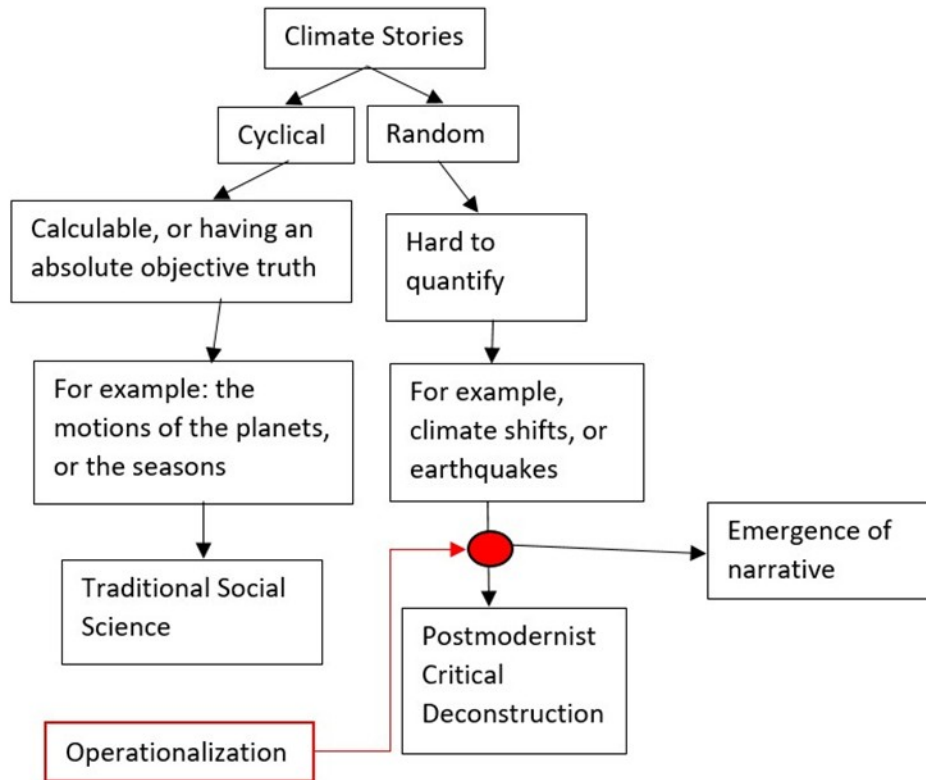
On the other hand, Berglez, Olausson & Ots (2017) have suggested a fundamentally similar approach to Cronon (1992) but added to the theory in terms of dealing with an epistemological gap of investigative, long form journalism in contemporary news coverage. This is because journalism is known to be a very fast-paced industry, where research has shown that news quality is affected due to this aspect of speed and rush to bring the news out. In light of the problem of speed in journalism, the authors have recommended a form of “slow journalism” (Berglez, Olausson & Ots, 2017, p. XXIII) to tackle this gap in journalism and tell effective stories through enabling and encouraging more investigative work (Berglez, Olausson & Ots, 2017).

Le Masurier (2016) describes the case of “De Correspondent” in the Netherlands which started out as a slow journalism start-up news outlet which attracted a young audience who preferred in-depth stories next to the usual quick, mobile and free stories available to them on their phones. It was found that “one in three” younger news consumers demonstrated these preferences which established context with a “greater variety of sources and perspectives” (Le Masurier, 2016, p. 444). The Dutch news outlet emerged with a founding principle which rejected the traditional norms of journalism such as, objectivity, speed and commercial pressures whereas embraced “a more personalized, engaged and transparent approach to the news” (Le Masurier, 2016, p. 442). This kind of news is based on a sophisticated form of social construction in terms of representation and knowledge within a

broader context of postmodern ideas. The founder of the news medium, Rob Wijnberg, made sure that the journalists working for the De Correspondent had the freedom to express their passion, frustration and interpretation about the topic at hand for the readers which ensured that the audience is part of the journey towards truth and its contestation – which the founder described as “slow journalism” (Le Masurier, 2016).

Scholars have argued that the slow journalism approach is uniquely applicable to the climate crisis. According to Gess (2012, p. 62): “climate change is a slowly developing story – a story of many aspects that cannot be separated from one another”. The author has stated that contemporary, climate journalism stories miss out heavily to draw links of the environmental stories with economics, politics, ecology, developmental choices, food security, flooding or social unrest. Unfortunately, this approach misses capturing the complexity of the scientific, sociological, political and economic ramifications of climate change. Taking that into account, the author suggests that “the media need to view risky events such as major flooding as primarily political stories with scientific and technological underpinnings” (Gess, 2012, p. 62). The approach demands a firm built up of context (the political, social, agricultural, ecological or economic context of climate change) around the story where the element of time stays most important. And though, this approach requires a sophisticated form of journalism, it is very similar to “investigative reporting”. However, this philosophical perspective prompts a re-imagination of “speed” in journalism and aspires to do justice to climate stories which are accessible for the readers, with an in-depth context of the problem and inclusive of diverse communities. This manages to capture a frame which can successfully help in realizing the potential for a systematic, definitive operationalization for efficient story-telling through a journalistic narrative (Gess, 2012).

Figure 1. Diagrammatical representation of the cyclical and random forms of climate stories.

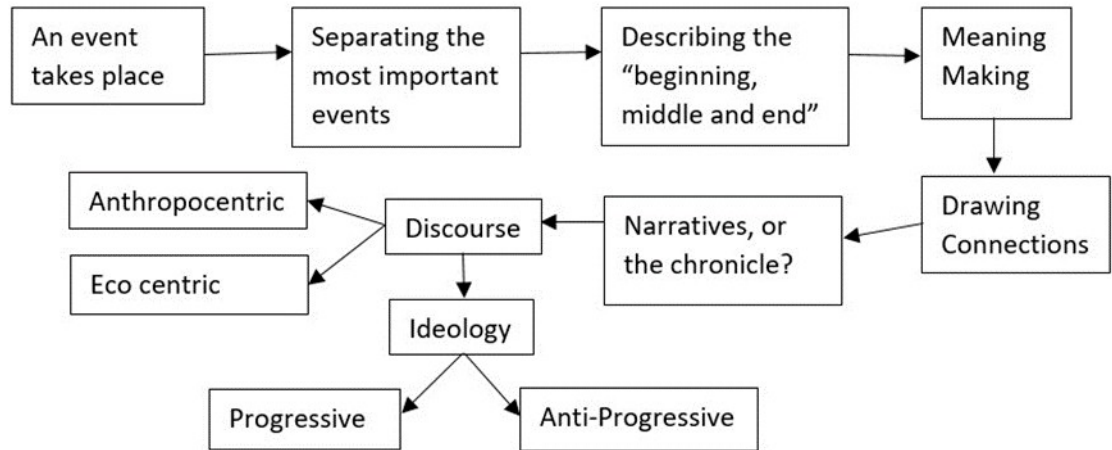


It becomes clear in Figure 1 that climate stories often take two forms, that is, either a cyclical form or a random one. Cyclical events such as the motions of the planets, or the seasons, are quite calculable and can be quantified. However, with random forms it is a bit more complicated – as is with climate change. Anderson (2009) has observed the dilemma of not just journalists but also the academia in climate communication of: firstly, the nature of effects of climate change; secondly, the best way to tackle the problem; and thirdly, identifying the actors involved in amplifying the climate crisis. This is because it is very difficult to estimate climate shifts which makes the climate change very unique in its own right. On the other hand, it has also been argued by scholars that shaping the subjectivity around bits of an objective truth about climate are going to sustain society in the best forms to adapt to the climate crisis (Wei et. al., 2014). Hence, the understanding of narratives is not just a step forward in climate communication but also the need of the hour given the poor state of climate reporting in the media.

3.3. Operationalization

In the last section on theory, Figure 1 highlighted the two forms of climate stories as distinguished by Cronon (1992). The figure also highlighted where this research would operationalize Cronon’s theory. The following diagram helps in understanding the form stories take with relational aspects of the insights from environmental history by Cronon (1992):

Figure 2. Diagrammatical representation of how stories come into being and the process of transforming into narratives entailed in discourses and ideologies.

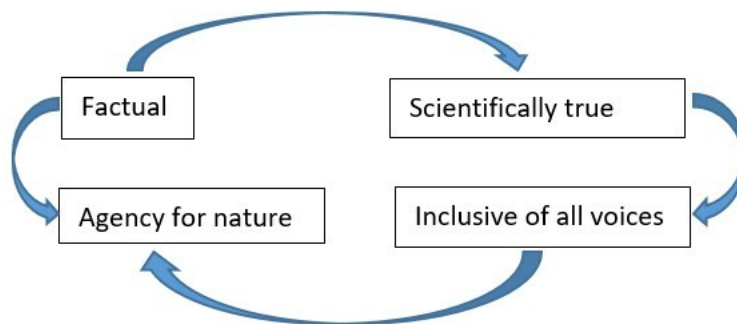


The breakdown of stories and the emerging narratives – followed by the ingrained discourses and ideologies help in operationalizing the knowledge gaps in climate journalism but also add to the existing literature. Figure 2 which demonstrates an environmental history perspective allows the study to draw similarities with examples from contemporary journalism that can then be applied to the case for this study, that is – the Luxembourg Times.

First of all, the separation of the most important events is an integral part of journalism which takes its form through news-prioritizing (Tsekos & Matthopoulos, 2007) and focusing on issues attention cycles (Anderson, 2009). This stage of filtering out the great amount of events taking place within a beat, like Luxembourg’s national territory for the Luxembourg Times, to become news is followed by the reporting phase of every journalist. This is to say that after a story is assigned to a journalist, he/she engages in a process of estimating the beginning, the middle and the end of an event by talking to the people involved or referencing documents, and so forth. After that, the journalist tries to make meaning out of the information gathered while drawing connections to write a story up. It is then that stories get published for the public to access and read, where the aftermath of the published material demonstrates a narrative which entails a discourse and an ideology (Cronon, 1992).

That being said, Cronon (1992) also describes some rules of thumb which remain an integral part of evaluating the journalistic climate content of the Luxembourg Times. The essentials in a good climate story are as follows:

Figure 3. The rules of thumb for a good climate story.



4. Methodology and Data Analysis

4.1. Research Strategy and Design

This study has opted for a qualitative analysis. In order to do that, it has taken a mixed approach of both the deductive and inductive methodology, which has allowed the researcher to prove their hypothesis about the given subject but also leave an open scope for new information generation. The philosophy used to approach this research is critical theory, which makes it possible to gain a deeper understanding of traditional journalism by breaking it down with recent academic insights.

4.2. Data Collection and Analysis

The study follows three main methods to explore the research question: “To what extent does journalism at the Luxembourg Times play a role in telling efficient stories of climate and environmental change for its readers?”

4.2.1. Observational Data

First of all, some observational data has been collected from the newsroom including from informal conversations to witnessing news-making on a daily basis for a span of nearly one month (February 21 2022 – March 25 2022). This observational data was used, along with the preliminary academic insights, to formulate the questions for the interviews of the reporters at the Luxembourg Times. This first step was initiated to build for a basis on which the researcher would get an opportunity to tally with their initial literature review about the subject, based on which, a further formalized investigation of the individuals concerned (journalists at the Luxembourg Times) was conducted through semi-structured interviews. However, the observational data has also helped in framing the narrative of the research findings because the researcher was an active part of the newsroom, working as a journalist, for nearly four months (February 21 2022 - June 24 2022).

4.2.2. Semi-Structured Interviews

After the process of gathering some observational data, the interview guide and questions were created. This was followed by setting up a semi-structured interview with all the journalists at the Luxembourg Times (including an ex-employee – who left the organisation in February 2022). The first hand interactions and interviews have heavily helped to grasp the understanding of the journalists at the Luxembourg Times about the environment and climate change, and how that influences their biases to report on the latter subjects. The interviews were audio recorded and then transcribed by the researcher for further analysis.

Table 1. List of journalists from the Luxembourg Times interviewed for this study.

	Name	Position	Country of origin	Citation Code
1				AO
.				
2				DM
.				
3				EM
.				
4				HP

.				
5	██████████	██████████	██████████	JM
.				
6	██████████	██████████	██████████	KO
.				
7	██████████	██████████	██████████	YH
.				
8	██████████	██████████	██████████	YL
.				

4.2.3. Content Analysis

Lastly, on the basis of the initial findings – through the gathering of observational data and the interviews conducted with the journalists – the climate change and environment-related articles published by the journalists interviewed were collected for a textual analysis to test the hypothesis from the theoretical framework.

Table 2. List of articles published by the Luxembourg Times and reviewed for this study.

	Title of article	Subject	Dated	Author	Citation Code
1.	Over €3 million paid to victims of summer floods	Flood	26 Nov 21'	████	AO1
2.	EU's energy efficiency scheme not fit for purpose, says ECA	Energy Efficiency	12 Jan 22'	████	AO2
3.	Luxembourg bans plastic food packaging in new waste law	Waste Management	27 Apr 22'	████	AO3
4.	Luxembourg City river to disappear into tunnel	River Construction	10 Jun 22'	████	AO4
5.	Luxembourg fails to get EU cash for environment plans	Green Funds	30 Nov 21'	████	AO5
6.	Major gaps in Luxembourg agriculture policy, says EU	Agriculture	6 May 22'	████	AO6
7.	More solar panels in Luxembourg, but wind subsidies	Renewable Energy	22 Jun 22'	████	AO7
8.	Spotting a secretive bird in Luxembourg's vanishing nature	Nature Pollution	15 Jul 20'	████	DM1
9.	Widespread problems found in EU spending	Green Funds Audit	10 Nov 20'	████	ED1
10.	ArcelorMittal to get another €280m to finance clean transition	Industry Transition	27 Sep 21'	████	ED2
11.	Changing climate alters Luxembourg's wine scene	Agriculture	16 Aug 21'	████	ED3
12.	Green group to continue fight against Google secrets	Energy Dispute	11 Nov 20'	████	ED4
13.	Paul Wurth sale prompted by pressure to	Industry	21 Apr 21'	████	ED5

	make steel green	Transition			
14.	EIB should open up about climate impact, investigator says	Green Funds	25 Apr 22'	■	HP1
15.	How to avoid fires and protect yourself from the heatwave	Heatwave	18 Jul 22'	■	HP2
16.	Luxembourg exhausts Earth's resources for the year	Natural Resources	14 Feb 22'	■	HP3
17.	Warning for heavy rain and thunderstorms on Monday	Weather	16 May 22'	■	HP4
18.	Weather warning lifted as heavy winds subside	Weather	18 Feb 22'	■	HP5
19.	Commission exaggerated EU's climate spending, say auditors	Green Funds	30 May 22'	■	JM1
20.	Joelle Welfring named new environment minister	Green Minister	27 Apr 22'	■	JM2
21.	Lawmakers set to ban plastic fruit and vegetable packaging	Plastic Ban	24 Apr' 22	■	JM3
22.	Luxembourg's carbon emissions increased by 3.5% last year	Carbon Emissions	24 Jun 22'	■	JM4
23.	No fireworks to end Schueberfouer because of drought	Drought	6 Sep 22'	■	JM5
24.	Plan to cut plastic ineffective and expensive – lobby group	Plastic Ban	25 Apr 22'	■	JM6
25.	Climate change cost Luxembourg €1bn over 40 years	Climate Cost	4 Feb 22'	■	KO1
26.	EU energy taxation not in line with bloc's climate goals	Energy Tax	31 Jan 22'	■	KO2
27.	Luxembourg under flood alert following heavy rain	Flood Alert	7 Feb 22'	■	KO3
28.	Opposition fails to push through independent flood enquiry	Flood Enquiry	20 Oct 21'	■	KO4
29.	Source of Moselle dries up as heatwave batters Europe	Heatwave	4 Aug 22'	■	YH1
30.	Government aid for Luxembourg floods slow in coming	Flood Aid	16 Aug 22'	■	YH2
31.	Heatwave on the way, so stay hydrated	Heatwave	12 Jul 22'	■	YH3
32.	No tax on profits in sight to help pay energy bills	Energy Cost	31 May 22'	■	YH4
33.	Potential risk of floods along Moselle river	Flood Alert	9 Apr 22'	■	YH5
34.	Protestors urge government to do more against climate change	Climate Protest	25 Mar 22'	■	YH6
35.	Trade along Moselle slows down as rivers dry up	Drought	11 Aug 22'	■	YL1
36.	Ex-colleagues support researcher's claim criticism led to firing	Flood Claim Scandal	8 Jun 22'	■	YL2
37.	Heatwave of 35 degrees to hit	Heatwave	17 Jun 22'	■	YL3

	Luxembourg				
38.	Luxembourg ministers in Norway ahead of EU energy meeting	Energy Meet	6 Sep 22'	■	YL4
39.	Luxembourg raps weak deal as EU bans petrol cars	Carbon Emissions	29 Jun 22'	■	YL5

The last stage of the analysis of the interview and articles' data involved inputting the whole data set into the Atlas-ti software for a systematic, qualitative analysis. This involved coding the gathered data with a deductive as well as inductive thematic approach, in an effort to gain a deeper understanding on the extent of the initial hypothesis about climate reporting in general but also, investigating for any new academic insights.

The process of coding the interview transcripts generated 146 codes. This included both data from the researcher (in the form of questioning and cross-questioning the interviewees based on the observations in the newsroom) and the data as answered by the journalists. The coding process led to the emergence of important themes such as the focus of the Luxembourg Times on business journalism, the dominance of business news due to the perceptions of the journalists about the reader's interests in Luxembourg, importance of page views in digital journalism, deadlines and some insights into the relevance of state sources as opposed to the civil society. All these themes were directly influencing the climate coverage as stated by the journalists at the Luxembourg Times and were the dominant themes in inducing the narratives at play in the making of climate content. Additionally, codes as extra independent observations by the researcher (either contradicting what the journalists said in the interviews as opposed to the happenings in the newsroom or in agreement of the given statement) also emerged.

On the other hand, the content analysis of the climate articles (5 from each journalist interviewed) generated 163 codes. In this process of coding, the themes from the interview transcript analysis were found to have a direct influence on the articles published. For instance, the themes on the relevance of business journalism at the Luxembourg Times were directly linked to the dominant codes of articles relating to the Luxembourgish State and European Union's efforts to invest in climate funds and tax the market institutions for the climate transition. Other visible rather not to dominant codes from the articles were the overrepresentation of the state sources and the underrepresentation of the civil society in the climate content at large. This representational quota was induced in a quantitative manner by literally checking where the articles contained members of the state, the market or the civil society.

Following this process of coding: both the interview transcripts (146 codes) and the climate-related articles published (163 codes) led to the generation of a total of "309 codes". These codes were then grouped into code groups in order to help the researcher in visualizing the data in a systematic way. This step was also important as the previous coding process dominantly made use of the "in-vivo" coding function in Atlasti and the grouping of codes into shallower branches helped put the inductive and deductive elements into perspective. Moreover, the function to make notes within the "Code Manager" has helped to make noteworthy comments during the process of coding about the codes that eventually emerged.

These codes and their code groups have helped to simplify the process of understanding the theoretical elements in a more scientific manner. For instance there was a clear high density of codes on business journalism from the interview transcripts and climate capital from the articles itself. The end product is an interpretation of the codes in the form of

a descriptive text as presented in the following sections, namely: the “Results” and the “Conclusion”.

Figure 4. Network of codes from the analysis of the interview transcripts.



Figure 5. Network of codes from the analysis of the articles published.



Figure 6. Thematic output from interviews.

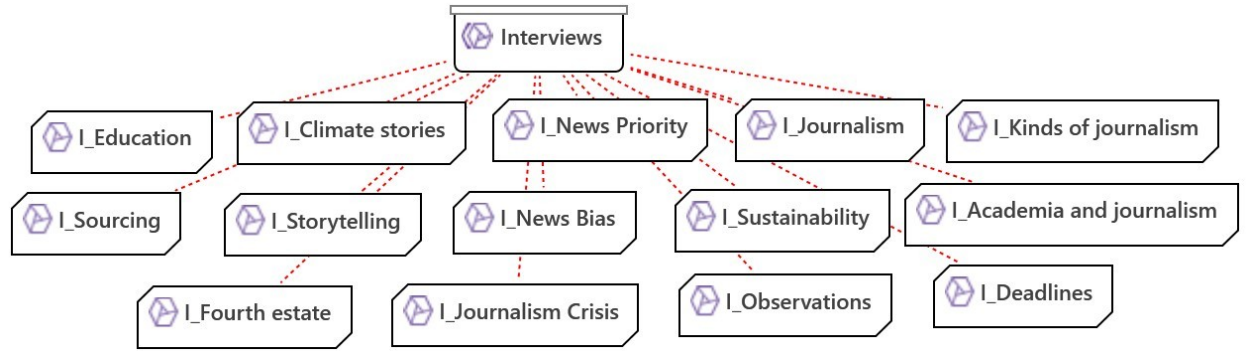
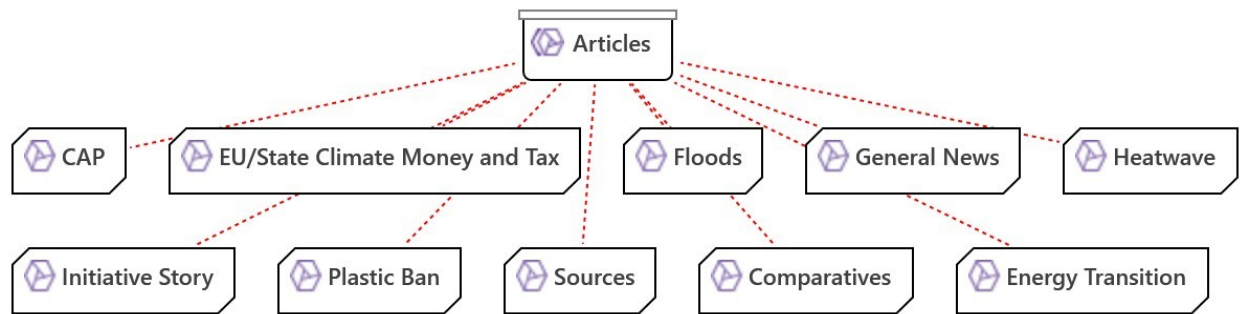


Figure 7. Thematic output from articles.



4.3. Validity and Reliability

The study has followed a sample of journalists – who currently work at the Luxembourg Times – but in the past have had international stints with global, legacy media such as Thomson Reuters, BBC, Associated Press and the Mirror. Also, the younger journalists have a track record of an international education and travel. This contributes to the external validity of the research, as the subjects of journalism and climate communication remain at the forefront even if the case of the Luxembourg Times is bounded for the study.

On the other hand, the internal validity of the research is enhanced due to the inclusion of a three tier approach of observing (the discourse within the newsroom by the researcher), analyzing the content produced (narratives which are evident in the climate coverage as effects of the newsroom discourse) and then interviewing the journalists themselves (to reveal the causes in the underlying ideology which is held by journalists and how it affects the climate communication). Hence, the extent to which the evidence supports the cause and effect within the context of the Luxembourg Times contributes heavily to the internal validity of the research.

Also, the research has applied methods with the most unbiased means. The researcher has been a part of the newsroom for nearly four months, as a journalist themselves, which gave them the added advantage to experience the everyday happenings at the Luxembourg Times – that adds strongly to the reliability of the research.

5. Results

The observations from the newsroom, conversations with the journalists and the analysis of the content produced by the Luxembourg Times have revealed some insightful evidences which can

help explain the underlying “narratives” which are represented in the material published by the news outlet and the structures of journalistic practice, shared by the people running the publication, which contribute to the process of news-making significantly through news-prioritization mechanisms and the information sourcing practices. The journalism practiced by the Luxembourg Times has both a foundational structure and greater potential for efficient climate communication through the “sustainable journalism” and “slow journalism” theoretical lens. Additionally, the findings have produced new insights on the subject of journalism and climate reporting where a few problematic phenomena contribute to dire motivation in pursuing good stories. The following sub-sections provide a detailed emphasis on these findings:

5.1. News as a “chronicle of capital flows”

According to the journalists at the Luxembourg Times, journalism is a pursuit of telling stories – unknown to society, where the privilege of access to the institutions of power enables the reporter to act as a curious skeptic to perform an approximation of multiple truths and present it to their audience in the simplest, most readable and objective manner. The interviewees suggest that journalists see their job as a generalized narrative to question power while representing the wider society and in turn, delivering a clearer reality of the subject at hand – as their duty to give back to society in their essential role as a watchdog. Hence, the audience or society remains a central and important figure in the process of making the news – or setting the agenda.

The audience is the ultimate decider for what a newspaper delivers. And, the newspaper’s editorial holds the power to approximate what might or might not be essential for the readers. For instance, the Luxembourg Times writes for a society which has “benefited from globalization” and since the readers have “money to spend” the newspaper represents a more “pro-business, liberal or social democracy” ideal in its coverage – which might fall in the “middle of the political spectrum” (DM, 2022). One journalist mentioned: “Hence we tend to have a coverage of the business world, although we do tend to try to report critically on it but I guess the orientation is broadly speaking – tends to be liberal.” And, this may place the news coverage as more right-wing as the readership is “more interested in business and less of social issues” (KO, 2022).

The findings include a constricted-limit to chronicle climate and environment-related news with an agenda to make the “risk” element clear to the audience or provide a record of the state’s progress on climate targets, the market’s energy transition, and so forth. For instance, headlines like “Luxembourg under flood alert following heavy rain” (KO3, 2022); “Potential risk of floods along Moselle river” (YH5, 2022); and “Over €3 million paid to victims of summer floods” (AO1, 2022). Moreover, a dominant theme was also relating the European Union and the State’s climate money and tax where headlines like “ArcelorMittal to get another €280m to finance clean transition” were observed (ED2, 2021). The published material is more in line with a “chronicle” centered on a primary ideal to follow the flow of capital (for example, green funds) and report on it (HP1, 2022). For instance, the 2021 July floods which caused havoc in the country’s capital produced a wide variety of coverage but no investigative analysis where time was dedicated to understanding the hidden causes of the environmental disaster which resulted in massive economic damage in the country (AO1, 2022).

The coverage of the Luxembourg Times has proved a clear “water problem” in the country – be it in relation to the “2021 July floods”, “groundwater pollution” or the “drying up of the country’s rivers” (KO4, 2021; YH6, 2022; YL1, 2022). There was one story where the cost of the environment-related emergencies was headlined as a “climate change”

problem that has costed the country about 1 billion euros over a span of 40 years (KO1, 2022). On the other hand, the drying up of the River Moselle on the German border received coverage which was also because the waterway happens to be a major trade route from the North Sea into mainland Europe – which was disrupting the transportation of goods. The drying up of the river was directly tied with the 2022 Global Heatwave but the lack of drawing up links with the climate change phenomenon in the coverage runs short of communicating the larger picture (YH5, 2022).

And, according to YL (2022) most of the coverage remains constricted to subjects such as pollution and its impact on the biodiversity while lacking a broader correlation with the climate change phenomenon because people are usually not interested in reading that. Whereas, YH (2022) agreed that the impact of climate change was very evident in the floods of 2021 where the link with the larger climate phenomenon was “barely readable”. He added that: “I think publications know that if we just stay caught up on the climate change angle then that can scare people and you do not want to do that. So in a way, you want to live in a bubble” (YH, 2022). DM (2022) thought that climate change is not “something which directly threatens people’s lives” or their “income”. And if one were to justify, they could well suffice in explaining that “the COVID pandemic was a consequence of globalization or travel” – or, “an infringement on natural habitats in China”. Hence, climate change is “a slow developing story” (ED, 2022).

The same form of chronicle-like news can be found in the coverage of the energy transition by the news outlet. A major weightage of the coverage stays on the European Union beat where the funds from the European Investment Bank (EIB) or their audits from the European Court of Auditors (ECA) (both supranational institutions based in Luxembourg) for environmental and climate action take the centre stage (AO2, 2022; AO5, 2021; ED1, 2020; HP1, 2022; JM1, 2022; KO2, 2022). Hence, it is clear that the publication is more interested in covering how money flows, and in turn, following the money as journalists for a climate transition than the climate phenomenon itself. One instance of covering a market entity and a steel-making company in Luxembourg – ArcelorMittal, makes the capital flow approach to news more evident as: the company received about “280 million euros to finance a clean transition” from the state institution (ED2, 2021).

This capital flow approach to setting an agenda for news-making may be well justified if the principle motto of the newspaper were to be understood. According to ED (2022): “the Luxembourg Times sees itself primarily as a business newspaper and I think that business – is and will have the biggest effect in making changes that lessen climate change. And businesses are being motivated to make those changes under pressure from the civil society – average people. And, average people are pressuring governments – to pressure business to make those changes. I think the key part is what business does – and I think, businesses are getting the message that as a result of pressure from people – that they need to change how they are doing it”. Hence, even within the chronicle, the journalists are motivated to maintain a thin narrative of how the money is moving around in the economy where the structural capacity of business journalism falls short of advocating for climate change in its own right. However, even if business journalism likes to focus on the corporate world – they do it with a critical eye and that makes them a distinctive force from the “public relations (PR)” industry, where the latter tries to promote and journalism the opposite (HP, 2022).

Although, the current state of reporting remains focused on recounting the environmental disasters and how climate funds move – the narrative element of inquiry to retell a story in the most engaging format for the reader remains missing in the “chronicle” of mere capital flows.

5.2. Deadlines and views

The Luxembourg Times has a commitment to deliver two newsletters (five stories each) for its audience. It was observed that out of the five stories, there are usually two stories which are republished as agency copies, or stories from another news outlet/agency (the “Financial Times” and “Bloomberg News”). Also, most of these agency stories go into the “European Union” or “World” section of the news website – which is to say that the news agency covers a jurisdiction that is not quite easily reachable for the local journalists. Considering that, it is a necessity for the editorial and the reporters to deliver a minimum of three good quality, national stories for the daily newsletter (making for 6 or more stories in 24 hours).

This is why a journalist in most situations does not get the time to conduct an in-depth analysis over a topic as: “You don’t have time for those kinds of things” (AO, 2022). According to DM (2022): “we need to interest readers' time. So time is important because if you have something first - imagine a room full of people, you know, and you say something that nobody else does then people stop talking, and listen to you because you are the first to say that, right? That's why being first is extremely important to journalism”.

In reference to climate communication, the news prioritization is highly dominated by what is read most which is directly related to the page views on the website. And within the environmental content, articles on travel, road, car and/or airplane pollution are perceived to do well, as opposed to – for instance – articles on agriculture. “I got the impression that (...) if it impacts the reader, who is reading it - then they will read it. But then, you know, if it’s about agriculture. They seem to not care because they're not farmers, you know? So well, (...) another one that does well though is like wine-making! Whereas like articles on growing crops and agriculture - don't do well. So things on sort of like growing the grapes for wine, you know, they do well” (HP, 2022).

According to DM (2022) news priorities can be drawn into four parts: first of all, “anything that jeopardizes the (people’s physical) safety” remains a top priority (for example, a fire or a war). Secondly, politics comes second as the readers always wonder whether their country is “politically stable?” Then comes the subject of money, or incomes – for instance, the stories about the “energy prices” do well as they determine for people: “how much money they will have left at the end of the month”, which is followed by where one can “find a job?” Hence, business stories are the third priority. And lastly, it is “culture stories” (DM, 2022).

Therefore, it is understood that the underlying discourse in making news remains the evaluation of a generalized threat to society. For instance, the coverage of the Ukraine-Russia conflict attracted a lot of views when it began in late-February. However, YH (2022) states that: “you have to be careful. Like you spoke of the war in Ukraine where we have had page views but that was the same for COVID. But nowadays not so much which is very telling as the people have been hearing it for two years and the war in Ukraine is dominating the page views at the moment. And it would pretty soon move on to the next thing. So I think with climate change – like if you have a story which will tell the people how bad it has become and then people get desensitized very quickly”.

Another discourse shared by the newsroom, as observed and also communicated by one interviewee is that more often than not – climate stories have the potential to come across as “catastrophizing” or “alarmist”. For instance as a follow-up to the 2021 floods, it is fair to write that “the chances of this happening more regularly – the disruptive floods – are amplified!” This as a follow-up may be considered as a priority as “people care about that – but that’s after the impact!” On the other hand, if something was to be written as: “Oh in ten years’ time – things would be like this and that in Luxembourg”. The probability of the latter

being labelled as “alarmist” is much higher. Hence, people don’t want to know “what the future holds for them” which is a problematic phenomenon for prioritizing climate communication but that is how things are in prioritizing news (YL, 2022).

Hence, it can be induced that the journalists at the Luxembourg Times have a fear of being labelled alarmist, covering something more than it deserves (in turn, desensitizing people to the subject), focusing on page views and deducing that the reader does not care about certain climate fragments (such as farming and agricultural policy) – with an added pressure of a deadline, directly affect what is covered and what is not. And, it is a democratically decided call in the morning news meeting on what is legitimate or not – where the Editor-in-Chief takes the final call. DM (2022) said: The editorial guidelines of the newspaper state that “we always highlight two sides of a debate - in case, there is a legitimate controversy. Now, of course, who decides what a legitimate controversy is? I do, because I am the Editor-in-Chief! So if I think there is a legitimate controversy about climate change, which I don’t then we will cover it. But I don’t because I don’t believe that there is a legitimate controversy about climate change. If you had a controversy about - let’s say, conversion therapy where you forced homosexual people to cure from their disease of sexuality then we would write about it. But those are the editorial choices you make!”

5.3. Poor agency for nature

It has been clearly established that the narrative and discourse to make news at the Luxembourg Times is anthropogenic in nature. However, another concern which garnered attention in the theory was the question of the inclusion of voices, representation and the sourcing of information through which the news outlet provides stories to society. The hypothesis for the overrepresentation of the state institution, and the underrepresentation of the academia has been proved right for the case of the Luxembourg Times. This in turn, also contributes to the poor agency of nature – as environment-related stories are only written about when there are major political or market developments relating to the green transition.

The research has analyzed 39 climate or environment-related stories published by the Luxembourg Times and it was found that 25 of the articles have no civil society source present, where 8 articles did have a civil society source but no academic input. Hence, only 6 out of the 39 articles had an academic opinion. When asked about the latter, YL (2022) said that it is inevitable to “get rid” of the state institution (as a source) because “you need to rely on government officials to get government data (...) which you can’t get anywhere else.” Moreover, the state is in “a position of authority” as well (YL, 2022).

Also, “when you hear something from the government – it always gives more credibility to what’s being told! And I think it also has to do with the readers – like readers hear that the government has said something, like the government has given some figures or the government has made a prediction. So people always tend to believe that a little bit more. I think it has to do with human nature to a certain extent! Again, my view is that people have an idea of authority and they have experienced authority in their lives! And for lots of people – it is like not like following but they trust governments, and here in Luxembourg – I think – that is the case. So people do trust the government! Not everyone but a large majority does. So when you hear from the government it makes it more predictable. So if you notice something happening, you rather prefer to get information from the government rather than a pressure group, an activist group or who knows – you know! So I do think that journalists generally prefer to get information from the government. And also, with lot of the issues they are the institution which has to know and they also know people who do know!” (YH, 2022).

KO (2022) tried to explain this phenomena where the “rush to get news out” might make the sourcing not as good. However, as a journalist – KO (2022) also added that a state source might not always “tell you the whole story because they want to make themselves look good”. On the other hand, the news rush also – only allows to “sort of report on (...) big reports” and nothing else. For instance, a report from the “Global Footprint Network” warning of the depletion of natural resources in Luxembourg was reported as a chronicle-like news for the readers (KO, 2022; HP3, 2022). But ED (2022) said that ignoring the civil society runs “directly contrary to my training and practice”. This is because a common person’s opinion, is not just an opinion but “knowledge” and as part of a journalist’s education – “we were constantly told to find out what the average person thinks”. Also, academic sources are “very trustworthy” and help in explaining complex problems (ED, 2022).

In fact, JM (2022) has a strong preference for the members of an NGO or the academia as they help in providing an important “balance” to the stories. The presence of environmental NGOs is reflected in his climate-related articles (JM1, 2022; JM3, 2022; JM4, 2022; JM5, 2022). On the other hand, AO (2022) could understand the underrepresentation of the civil society and relates it to power structures: “I think there (are a) lot of (...) views that believe that (...) NGOs (and) activists (...) have an agenda and they really push for it and therefore they're not as much as a reliable source and so they're often not as taken as seriously! Because whatever they publish is with an agenda. But then at the end of the day you know, politicians certainly have an agenda. But I guess politicians have a power that activists don't have. It's like it will be, it's more I guess logical that we report more and have more focus on them. But I do think that activists and people like that are not as represented in the media”. DM (2022) did say that civil society members have an “agenda”, where another interviewee warned of questionable problems with the academia as well. “There is a lot of people outside a familiar institution who can come up with great ideas of how you should do things but they don’t necessarily understand why things are as they are now. Or what it could take to change it! You know, in family dynamics, who knows your family might have problems and somebody outside says: Oh you need to do this and then you can fix it. That’s not what you need to do – it is more complicated than that. And so if you’re asking: do I think that academics and others are very quick to offer their advice on how things should change and pound the table for change, change, change! Ok how? What am I supposed to do differently?” (ED, 2022).

Moving ahead, there also might be some additional problematic phenomena which limit journalists from including the academia in their climate stories. According to YH (2022) the academia does not prioritize to speak to the media. Also, it is not their job to do so (YH, 2022). JM (2022) agrees that most often – academics take a lot longer to respond whereas the state has a communication cell to deal with press queries. Contrary to that, HP (2022) finds academic trends to be on mostly, “long-term basis” as compared to others. For instance, “housing” stories perform quite well on the Luxembourg Times website and HP (2022) prefers to talk to a real estate agency than an academic studying the same – because the agencies offer better answers on why things are the way they are in 2022, whereas an academic would have answers on why things have been the way they have been since the 1990s in Luxembourg’s housing market. This can be problematic because the readers expect more sharp, short-term objective interpretations on what to expect from the housing market (HP, 2022). Also, reading academic papers is quite difficult due to the complex terminology (JM, 2022), where preference is given to “ringing an academic” than “reading their research” (KO, 2022).

Therefore, as an overall – the idea, or the ideology, of fast-paced journalism allows for no scope to include either citizens or the academia in climate stories. This also highly compromises the agency for nature itself. As has been elaborated before, the articles transpose a heavily anthropocentric narrative but it can now also be said that there is an underlying ideology for the overrepresentation of the state which presents a view of dominantly the people in positions of power. This presents a problematic picture about the environment for the readers as goes it also against the initial fears of the journalists, that is, to not be alarmist. The content was found to communicate the risks, the negative impacts of the climate change phenomenon and/or chronicle the flow of capital for the green transition which only paints the environment as a headache for our times. There could be potential human interest stories such as on positive climate adaptation trends from long-term academic studies or on what a Luxembourgish local feels about the changes in the country’s land-use with some agency for nature itself but they remain largely missing from general, daily reporting.

Although, this changes and comes out as a completely different scenario for so-called “initiative stories” published by the Luxembourg Times. The analysis has revealed that the initiatives taken up by the reporters as long-term projects have produced a good amount of stories with a fair representation of the civil society (including the academia) where the comfort of time has provided for alternative narratives such as highlighting the concept of “bioabundance” as not being the same as biodiversity, etc. as well (YH4, 2022; AO4, 2022; HP1, 2022; JM1, 2022; DM1, 2020).

5.4. Initiatives as “slow” and “sustainable” stories

As was argued in the previous section, the lack of agency for nature, the pressures from deadlines and the struggle to gain page views, but also the effort to chronicle the flows of green funds is predominately the narrative, discourse and ideology which goes into the broader phenomenon of news-making. However, the so-called initiative stories give the journalists enough time to report on a long-term initiative project – which takes the form of investigative journalism as an example of: slow and sustainable journalism. The initiative stories offer an open window to gather information by being inclusive of many voices (including the academia), give the journalists an opportunity to narrative the trend of what is exactly happening, but also follows a discourse, or underlying language to engage the reader for a longer-read than average (YH4, 2022; AO4, 2022; HP1, 2022; JM1, 2022; DM1, 2020).

It was established that out of the 39 articles analyzed – 6 had a fair representation of sources from the civil society. And from those 6 articles – 5 were published as individual initiatives. Previous research has argued that journalists lack a sense of environmental education – and a formalized education in climate change is lacking in the Luxembourg Times, expect with one journalist (YL, 2022). But this research has found that journalists tend to be experts at information gathering and writing on numerous subjects rather than demonstrating an expertise in a single subject like climate change. And there are indeed “specialized” reporters who do not necessarily have an academic qualification – but they develop the expertise by reporting constantly on a particular subject like climate change over a period of time (YH, 2022). From the findings of this research, it could be said that a specialized reporter on climate change is missing from the Luxembourg Times.

Although this research has found that the structures of fast-paced journalism are even more threatening to environmental coverage than the educational backgrounds of the reporters. Most of them have an academic background in humanities and know how to tell stories by demonstrating the social links of climate change in their own right. However, the

fast-paced idea of journalism is also being tackled at the Luxembourg Times. For instance, the initiative stories show that the journalists have the capacity to go beyond the usual reporting and also, demonstrate competence to advocate for climate change in their stories (YH, 2022; AO, 2022).

For instance, DM1 (2020) shows how descriptive writing can engage the reader by elements such as: the market viewing nature as a commodity to be sold and used for tourism, retelling the environmental history of Luxembourg (Haff Remich as the birthplace of the environmental movement in Luxembourg) and also, pointing to how concepts such as bioabundance and biodiversity have differences in the way the public should understand it (DM1, 2020). The same has been demonstrated in other initiatives where the journalists have presented a detailed picture of the problems relating to Luxembourg and climate change – where a fair amount of agency is given to the civil society but also nature. The narrative and discourse in the language communicating the story remains far from the chronicle-like news writing and where a fair amount of freedom is visible in writing the articles as both long and slowly (in terms of gathering information over a period of time) (YH4, 2022; AO4, 2022; HP1, 2022; JM1, 2022).

There was a major missing link in the coverage of the 2021 floods which was later reported after another publication in Luxembourg broke the story (YL2, 2022). A researcher and hydrologist was sacked by the government because he made claims that the “government failed to warn communities of the 2021 flood”. It can be said now that the Luxembourg Times missed out on this link of the 2021 flood story where speaking to researchers and academics would have provided them with a good story and a “legitimate controversy” to report on as well (DM, 2022). The reason for this can be said to be the lack of an initiative on the 2021 floods where the reporters would have taken the effort to reach out to academics for better explanations on why the flood happened – which led to a great amount of economic damage in the country (AO1, 2021).

Hence, it is clear that the journalists demonstrate the competence to report on climate change but the problem of fast-paced news structures limits them from doing the same. On the other hand, the Luxembourg Times and their Editor-in-Chief has introduced the idea of initiative stories (HP, 2022) which enables to fill the gap for delivering both: a form of “slow” and “sustainable” journalism. And it is also interesting to note that journalists have a hard time to “understand academic language” (JM, 2022), “prefer calling an academic than reading their papers” (KO, 2022) and “finding a lack of a communication unit in universities or research institutions” (YH, 2022). From what was found in this study, the latter does not translate to journalists wanting to avoid sourcing the academia in their stories. Also, one journalist said that the newspaper needs to have a specialized climate reporter for efficient climate coverage (YH, 2022), where another said that – climate stories have potential but are less, or often not, discussed in the newsroom (YL, 2022).

6. Conclusion

Firstly, it was found that the Luxembourg Times practices business journalism which leads to a dominant narrative of climate coverage to be tracking green capital flows from the European Investment Bank. In covering these capital flows, a demonstrated form of chronicling the sequence of events as they happen within the power houses is evident.

Secondly, journalistic deadlines were found to have a high degree of influence on news priorities and what gets covered. Moreover, the Luxembourg Times functions on a digital medium so the page views on articles also influence what gets prioritized. For instance, articles

relating to EU's highly-polluting Common Agricultural Policy (CAP) never receive a lot of views so they are mostly least prioritized.

Thirdly, the sourcing of information is dominantly state-leaning. This is to say that the state institution receives the highest presence in climate articles where the journalists found it inevitable to ignore the government in coverage due to the perceived trustworthy and official information that they provide. On the other hand, this phenomenon leads also to an underrepresentation of the academia and NGOs in the stories. The academia was said to be an institution which is hard to reach for comment and the NGOs were shrugged off to have untrustworthy agendas.

Lastly, the Luxembourg Times and its journalists have demonstrated competence to improve on its climate coverage by introducing their own form of slow journalism through so-called initiatives. The initiatives grant the reporters more time than usual to report in an investigative manner where the element of time proved to even increase the agency for nature and the inclusion of varied voices, including the academia and NGOs.

Taking a look at the hypothesis, these findings reveal a problematic phenomenon within the coverage of climate content by the Luxembourg Times. It is problematic because the business journalism narrative places a high amount of focus on keeping track of the money, where the larger idea of sustainability for environmental good remains hidden from the climate content which demonstrates a high degree of anthropocentric variables. Moreover, this narrative lays its foundation in the interests of Luxembourg's population – who are less interested in non-economic issues as understood from the journalists interviewed for this study. However, this static narrative also poses a challenge for journalists at the Luxembourg Times to overcome the practice of just giving the readers what they want for mere page views – which comes back to the problem of economics, or capitalism, where the environment takes the blow.

7. Discussion

This research has delved into analyzing the environment and climate-related coverage of a newspaper as a “single bounded case” study, where the national daily called the Luxembourg Times in the Western European country of Luxembourg was chosen as a case. The aim was to understand how efficient is the coverage of the environment and climate change as published by the Luxembourgish newspaper, but also make an effort in understanding why the journalists publish what they publish and what drives their decisions in doing the same. This was achieved by answering the main research question, that is:

“How does a business newspaper like the Luxembourg Times negotiate communicating climate and environmental change for its readers?”

The eight journalists interviewed and their articles or content analyzed has revealed that the structural orientation of journalism gives rise to a powerful narratives within business journalism which drive the way climate communication is conducted at the Luxembourg Times and which in turn, influences the way information is gathered and how nature is represented in the news.

First of all, the journalists have argued for journalism being an institution which remains a publication medium producing “objectivity”, “truth” and “neutrality”. This is to say that journalism provides a balance of views in their articles and they do not necessarily translate to story-telling. In comparison to the theory of stories, the findings of the research prove that the journalistic craft as picked up by the journalists at the Luxembourg Times remains to be in a traditional social science lens where establishing reality through objective means stays the sole

focus. However, it was found that the articles do demonstrate a crucial form of narrative (predominantly, a human-centered and economic development narrative) where the tone of the narrative and agenda of the news is heavily dominated with communicating the “risk”, “ills of green capital flows” and “negative impacts” of climate change. This proves that a form of anthropocentric narrative does exist in journalism at the Luxembourg Times where the portrayal of climate change as a “headache of our times” is visible.

Secondly, the news agenda and news prioritizing were found to be directly linked to the preferences of the audience. It was understood that the audience in Luxembourg is a beneficiary of globalization and as a reader prefers to read more about business than social issues: making the publication more right leaning on the political spectrum – in terms of ideology. This does not necessarily mean that the Luxembourg Times covers business and its climate efforts in a good light – as journalism differs from public relations (PR) by being critical of businesses rather than promoting it. However, this agenda-setting and news prioritization mechanism for “business journalism” leads to a great amount of coverage for business activities such as the flows of green capital – where the European Investment Bank and the European Court of Auditors (both EU institutions based in Luxembourg) were found to dominate the climate stories. On the other hand, priority was highly given to communicating the risks of the environmental disasters such as the 2021 Luxembourg floods – but an in-depth analysis on the environmental disaster was found to be missing. Hence, it was found that environmental news is prioritized only when there is a direct threat to human life (like a flood) and if the capital movement within the institutions based in the country are demonstrating some questionable problems in their transactions – especially under the climate label. It can be said that the publication and its journalists strive to set the “beginning, middle and end” of their stories as a mechanism for progress where questioning climate change only comes forth when it costs the state or the market a heavy sum (for instance, investing in green action). This also helps in explaining why the journalists refuse from delivering regular climate content as then it just comes across as tragic, or declensionist, like Worster portrayed in their story on the Great Plains drought by blaming capitalism for the Dust Bowl. These factors avoid the Luxembourg Times from framing climate change as a systematic failure, as opposed to a crisis which requires more and more money or a crisis which brings forth a threat to the residents of Luxembourg sometimes – which is when you report on it. Moreover, this also opens a question of where the reader should just be given what they want or should they and their belief patterns be challenged through setting an alternative or a new narrative in the stories published by the Luxembourg Times? Wasn't this supposed to be the larger democratic role of journalism?

Additionally, the previous works on the overrepresentation of the state in the media was largely proved right in the case of the Luxembourg Times. This is to say that stories usually come from state sources as the journalists rely on the government for official figures and statistics and a general trend of the underrepresentation of the civil society (especially, the academia) was observed. The lack of agency for the academia and the citizens themselves translates to a problematic discourse and ideology in the articles published which, in turn demonstrates a poor agency for nature itself. This is to say that the coverage is prompted only when a state institution or a market entity is engaged in climate action through “political discussions” or “investing capital for the green transition”. It should be noted that the research was conducted when the 2022 Ukraine-Russia conflict broke out which also increased the coverage of the energy transition because it was directly linked to the survival of the country's economy due to uncertainty of oil supply from Russia. On the other hand, the floods attracted a great amount of coverage due to the massive economic loss that the country had to face. The sourcing of information is highly dominated by the ideologies of the journalists themselves where they take the call of including one source over another. The academia and other civil society groups such as

NGOs were found to demonstrate a problematic agenda in their stances which made them less credible for quoting in stories. This lack of inclusion of communities also causes a direct threat to the agency of nature in climate stories. This is because nature does not have its own voice and the agents of nature – like the academia or environmental NGOs are rarely quoted in articles. Moreover, Cronon (1992) has clearly stated the need for both the inclusion of communities and an agency for nature as rules of thumb for efficient climate communication. Hence, the current discourse requires academic material to enter the political stage before it receives any decent news attention.

The legitimacy of climate stories is ultimately decided by the Editor-in-Chief of the newspaper, who called most climate stories as not legitimate for coverage. Hence, the discourse of not considering the climate crisis as an agenda to cover – makes for coverage limited to only when nature is threatening human life. For instance, the 2021 July floods only became a problem when the disaster took place but there was hardly any media discourse which showed whether or not the River Alzette valley was actually vulnerable to such climate shifts. This helps in explaining and proving the hypothesis that climate stories are predominantly anthropocentric which adds to the element of poor climate communication. This is besides the structures of fast-paced journalism which make it even harder for the journalists to cover climate change, even if they want to deliver stories to the reader in a “slow” and more detailed manner. Similar discourses were also demonstrated by Bonnifield in their version of the Great Plains drought which ended on parallels with anthropocentric climate denial. Although, this is not to say that the Luxembourg Times promotes climate denial – but it is to say that the coverage falls short of engaging in the meaning-making process for the readers, where the connections in between environmental disasters and the climate change phenomenon remain missing in its coverage.

The journalists interviewed for this study have proved to have the required competence to pursue climate stories – although the factor of the lack of their own environmental education was proved right and might play a role in producing poor environmental stories. However, the findings of the research argue that journalists tend to be experts at information gathering than experts in a particular subject such as climate change. In respect to sourcing the right information, the journalists have expressed some valid points in why they miss out on quoting the academia or the relevant climate information brokers. The deadlines in journalism play a major role in getting the news out as soon as possible. And it was found that academics take longer to respond as compared to the state and the market – who have specialized communication units to speak to the press – which can be a part of the reason for the lack of the academia in news. On the other hand, journalists find it hard to read academic language and prefer to talk to academics rather than quote their research papers. Like deadlines, the new form of online journalism also prompts the newsroom to think about which climate stories attract the most page views. For instance, the “floods” and “energy” stories attracted more views as opposed to “agriculture” stories – which was directly linked to the coverage of the subjects, which could be called the fragments of climate communication to be aced for good environmental stories.

However, the same trend was proved contrary to the hypothesis when the so-called initiative form of investigative stories at the Luxembourg Times were analyzed. The initiatives demonstrated a higher inclusion of voices (including the academia) and a greater amount of information diversity (due to the freedom of time to pursue the story) which in turn, highlighted the unusual climate aspects which remained missing from the news communication in the regular coverage. Although, the initiatives were only about 5 out of the 39 articles analyzed. Hence, a clear imbalance in the detailed climate stories as opposed to the ones published as a reaction to direct environmental impact on human well-being, such as the floods. But it can be said that the journalists do demonstrate motivation to produce efficient climate stories if the fast paced idea of

journalism is slowed down and the freedom of time remains key for pursuing environmental stories. Also, more discussion about potential climate stories is lacking and falls short of unveiling the ability of climate stories to be pursued.

8. Recommendations

This section has been presented as a recommendations for potential changes in the practice of climate and environmental journalism at the Luxembourg Times.

- a. The newsroom of the Luxembourg Times needs to discuss climate change, its impact on Luxembourg and the collective potential of the same to be translated into publishable stories more often.
- b. The reporters need to make a conscious effort on building connections with potential climate experts (members of the academia) who can help with climate stories as sources when required. Also, maintaining and developing a working relationship with these experts is recommended so as to ensure the importance of a climate story being published in the Luxembourg Times, which may remain away from the public eye – if these working relationships with the academia were to not exist.
- c. The Luxembourg Times needs to establish a climate section on their website, but also hire a specialized climate reporter to cover affairs relating to both the environment and climate change in Luxembourg.
- d. Limiting climate communication for the public as being alarmist must be overcome, as must the aspect of challenging the dominant human-centric, business journalism narrative to cover climate change.
- e. Journalism must deliver stories which the audience might not always agree with, or like – where the need of the hour remains to set the record of the climate enormity straight. Hence, it is recommended to assert and advocate for agents of climate change (including the academia or environmental NGOs) even if the Luxembourg Times operates in a market with an audience which remains not too interested in non-economic content.

9. Critical reflection

This section will present the shortcomings and recommendations for future research from this study:

- a. The study was conducted as a single-bounded case study due to a time constraint. Also, the results are largely applicable to only one newspaper rather than the whole Luxembourgish or a larger media market. A comparative case study based on a similar methodology and theoretical foundation may result in some interesting findings for future research.
- b. The study has added to the existing literature of the underrepresentation of the civil society in climate and environmental journalism literature. In this specific aspect, the validity of the research findings is far-reaching. A future path for further research will only add to the relevance of this subject, but another alternative strategy may be to bring together these findings into one research review paper to account for and highlight the underrepresentation of the civil society in the climate content of newspapers globally.
- c. This research has revealed that journalists lay a large claim on delivering the readers “what they want”. Research must be conducted into how global audiences are consuming climate content in the news which might potentially help journalists in overcoming their fear of coming across as alarmist when communicating about climate change.

- d. The researcher has been a part of the news organization as a trainee journalist for nearly four months while conducting this research. Any potential bias regarding this aspect must be considered!

Lastly, the academia and other relevant research institutions need to set up a sophisticated form of communication cells to deal with press inquiries. This is not just going to take their research closer to the public, but it would also travel in the most accurate means as is possible.

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