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Elite News Coverage of Climate Change

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Summary and Keywords

During the past three decades, elite news media have become influential translators of climate change linking science, policy, and the citizenry. Historical trends in public discourse—shaped in significant part by elite media—demonstrate news media’s critical role in shaping public perception and the level of concern towards climate change. Media representations of climate change and global warming are embedded in social, cultural, political, and economic dimensions that influence individual-level processes such as everyday journalistic practices. Media have a strong influence on policy decision-making, attitudes, perspectives, intentions, and behavioral change, but those connections can be challenging to pinpoint; consequently, examinations of elite news coverage of climate change, particularly in recent decades, have sought to gain a stronger understanding of these complex and dynamic webs of interactions. In so doing, research has more effectively traced how media have taken on varied roles in the climate change debate, from watch dogs to lap dogs to guard dogs in the public sphere. Within these areas of research, psychological aspects of media influence have been relatively underemphasized. However, interdisciplinary and problem-focused research investigations of elite media coverage stand to advance considerations of public awareness, discourse, and engagement. Elite news media critically contribute to public discourse and policy priorities through their “mediating” and interpretative influences. Therefore, a review of examinations of these dynamics illuminate the bridging role of elite news coverage of climate change between formal science and policy, and everyday citizens in the public sphere.

Keywords: News, elite media, media coverage, climate change, global warming, discourse, climate engagement, behavior change

Dogs of War

Watch dogs, Lap Dogs, Guard Dogs

The contemporary spaces where culture, politics, and climate change interact have rapidly expanded over the past three decades. Media critically contribute to the architecture of these spaces through diverse and dynamic sets of institutions and actors, processes, and practices that together serve as “mediating” and interpretative forces (Laksa, 2014; Konieczna, Mattis, Tsai, Liang, & Dunwoody, 2014) and as carriers for researchers speaking directly through op-eds (Parks & Takahashi, 2016) between science communities, policy actors, and the public citizenry (Boykoff, 2011).

In this context, over time media have taken on varied roles in the climate change debate, from watch dog to lap dog to guard dog in the public sphere. Media representational practices have the potential to confront power as they critically engage with pressing contemporary issues. Media portrayals also have the potential to service political and economic power, reinforcing the status quo order. Thus, Dipensa and Brulle caution, “The news media [can] serve as an important institution for the reproduction of hegemony” or power (2003, p. 79). The role of media in society has varied across national contexts (Tong, 2014; León & Erviti, 2013; Escobar & Demeritt, 2012), in part attributed to political economy (Stoddart, Haluza-DeLay, & Tindall, 2016; Ford & King, 2015) and journalists’ priorities and cognitive frames (Engesser & Brüggeman, 2015). These swirling factors then play out through varying portrayals and representations of climate issues (Hart, Feldman, Leiserowitz, & Maibach, 2015; Painter & Ashe, 2012).

Because everyday people typically do not have access to their favorite corporation’s boardroom chatter or the break room in City Hall, citizens throughout civil society rely upon media representations to help interpret and make sense of the complexities relating to many issues including climate change science and governance. Therefore, media serve as critical inputs to both individual and collective public discourse about contemporary climate challenges (Wozniak, Lück, & Wessler, 2015). Maarten Hajer has defined discourse as “an ensemble of ideas, concepts, and categories through which meaning is given to phenomena. Discourses frame certain problems; that is to say, they distinguish some aspects of a situation rather than others ... discourses provide the tools with which problems are constructed ... [and they] dominate the way a society conceptualizes the world” (1993, pp. 45-46). In turn, media framing processes—inherent to cognition—effectively shape and contextualize interpretations of and explanations for the complex

environmental processes of climate change (Wiest, Raymond, & Clawson, 2015). Media framing has important effects on priorities within science and policy in various cultural, political, and social contexts, at times privileging and entrenching some discourses while marginalizing others (Castree, 2004). As such, media are key contributors—among a number of factors—stitching together the tapestry of people’s everyday lives.

Media representations of all sorts—from news to entertainment, from traditional media to new media—combine the textual and the visual to portray various dimensions of science, policy, and social movements in the public sphere (e.g., Rebich-Hespanha et al., 2014). Through different media forms—from newspapers and books, to television and films, to radio and the Internet—a diverse groundswell of actors and institutions make distant environmental issues meaningful and “bring climate change home” (Slocum, 2004, p. 413). Traditional media like television, newspapers, and radio shape representations of climate change that unfold across larger political and cultural contexts that then (re)cycle into ongoing media representations and treatments (Hart et al., 2015). This has been particularly evident since climate change burst into the public arena in the late 1980s. Meanwhile, the social media unwind a seemingly infinite potential of opportunities to establish parallel discourse arenas on all sorts of topics and political debates (Capstick, Whitmarsh, Poortinga, Pidgeon, & Upham, 2015; Jang & Hart, 2015; Williams, McMurry, Kurz, & Lambert, 2015; Schmidt, Ivanova, & Schäfer, 2013).

These spaces are what are called the “cultural politics of climate change”: dynamic and contested spaces where various “actors” battle to shape public understanding and engagement (Boykoff, Goodman, & Curtis, 2009). These are places where formal climate science, policy, and politics operate at multiple scales and are dynamic as well as contested processes that shape how meaning is constructed and negotiated. In these spaces of the “everyday,” cultural politics involve not only the discussions that gain traction in wider discourses, but also those that are absent (Derrida, 1978). Particularly, the digital arenas increasingly deal with those absent discourses involving actors from civil society, activists, NGOs, and other communities, all sharing and multiplying their knowledge in virtual spaces.

A Brief History of Elite Media Dogs and Climate Change Coverage

Moving from the 19th to the 20th century, rapid expansion of modern media communications set the stage for the impressive deployment of information and gave rise to a “prestige” or “quality” press, known together as “elite media.” “Elite” referred to

standards of journalistic professionalism as well as institutionalized social and ethical responsibility, which at the time stood in contrast to partisan presses that dominated to that point (McQuail, 2005). They also refer to influence that media sources have in public discourse and on the political agenda. Contemporary examples of “elite media” now include print sources such as *Ghanaian Chronicle* (Ghana), *Hindustan Times* (India), *The Nation* (Pakistan), the *Guardian* and *The Observer* (United Kingdom), *El País* (Spain), *Globe and Mail* (Canada), the *Washington Post* (United States), *The Press* (New Zealand), *Sydney Morning Herald* (Australia), *La Nación* (Argentina), and *O Globo* (Brazil). Radio sources include the British Broadcasting Corporation (BBC) (United Kingdom), Deutsche Welle (Germany) and Radio France (France), while television sources include Canadian Broadcasting Corporation (CBC), Netherlands Public Broadcasting (Netherlands), and ABC Television (Australia). Along with the rise of the elite press came the articulation of idealized journalistic standards of accuracy, accountability, and fairness (Jones, 2009). New York Times former Public Editor Margaret Sullivan has posited that “accuracy and fairness are paramount [to] keep accountability and watch dog journalism front and center” (2016, p. 9). Moreover, journalist Alex S. Jones has argued that the primary responsibility of such modern media institutions was “to be a democratic watch dog” (2009, p. 46). However, corporate concentration, conglomeration, and commercialization of elite media in the early 1900s carried conflicting impulses of expanding corporate capitalist pursuits of profit (Doyle, 2002; Graber, 2000). While elite media organs transformed into a large-scale commercialized news apparatus (Starr, 2004), the power of elite media became both amplified and more entrenched in society (McChesney, 1999). As an example of elite media becoming a powerful “weapon,” Walter Lippmann (1922) famously wrote about how propaganda had the power to shape citizen decision-making, contributing to the “manufacturing of consent” where common interests emerge from the “complex unseen environment.” Scholar Avram Noam Chomsky adapted this turn of phrase to describe how media representational practices significantly contributed to complicity and compliance among the public citizenry, and elite media actors themselves, on a range of cultural and political issues (Herman & Chomsky, 1988).

In these 20th century decades of elite media, coverage of climate change was dominated by interacting factors of food, weather, and climate, and coverage that sought to describe the significance of climate science research for society. For example, a short piece entitled ‘Coal Consumption Affecting Climate’ in the Rodney and Otamatea Times, Waitemata and Kaipara Gazette on August 14, 1912 reported:

The furnaces of the world are now burning about 2,000,000,000 tons of coal a year. When this is burned, uniting with oxygen, it adds about 7,000,000,000 tons

of carbon dioxide to the atmosphere yearly. This tends to make the air a more effective blanket for the earth and to raise its temperature. The effect may be considerable in a few centuries.

(Anonymous, 1912, p. 7)

As another example, Waldemar Kaempffert wrote four decades later in a *New York Times* article:

Today more carbon dioxide is being generated by man's technological processes than by volcanoes, geysers and hot springs. Every century man is increasing the carbon dioxide content of the atmosphere by 30 percent – that is, at the rate of 1.1°C in a century. It may be a chance coincidence that the average temperature of the world since 1900 has risen by about this rate. But the possibility that man had a hand in the rise cannot be ignored.

(Kaempffert, 1956, p. 191)

This coverage became more prominent during the “International Geophysical Year” of 1957. Journalist Robert C. Cowen wrote an article that appeared in the *Christian Science Monitor* called “Are Men Changing the Earth's Weather?.” It began:

Industrial activity is flooding the air with carbon dioxide gas. This gas acts like the glass in a greenhouse. It is changing the earth's heat balance. It could bring anything from an ice age to a tropical epoch ... Every time you start a car, light a fire, or turn on a furnace you're joining the greatest weather “experiment” men have ever launched. You are adding your bit to the tons of carbon dioxide sent constantly into the air as coal, oil and wood are burned at unprecedented rates.

(Cowen 1957, p. 13)

However, elite media coverage of climate change—in outlets such as the *Telegraph* and *Telegraph on Sunday* (United Kingdom), the *Toronto Star* (Canada), *The Australian* (Australia), and *La Nación* (Argentina)—remained sparse and rather fragmented. Climate science reports and meetings only generated occasional pieces in the 1960s and 1970s, such as the 1965 National Center for Atmospheric Research (NCAR)-hosted conference on “Causes of Climate Change.” Yet more generally, literature that took up science and environment themes moved more visibly into public discourse and popular culture. For instance, as the 1950s began, Aldo Leopold's *Sand County Almanac* prompted many to consider environmental stewardship through his discussion of the “land ethic.” In the 1960s, Rachel Carson's book *Silent Spring*—focusing on the disappearance of spring bird songs from fatal toxic exposure—raised public awareness on the environmental risk from

pesticide exposure and examined how chemical industry interests influenced the lack of environmental policy action. Carson's analysis has been credited for significantly shaping investigative environmental reporting and the profession of science journalism more widely, in the decades that followed.

The 1969 moon landing as well as the first Earth Day in 1970 were key contributions that prompted further considerations of interactions as the human-environment interface. The first picture of the "Blue Marble" from outer space unleashed a change in public perception, reframing the Earth as a blue and lively planet that needs to be protected. Furthermore, the global oil shocks in the 1970s began to draw elite media attention to questions of energy security and the environment. Then U.S. President Jimmy Carter called the energy crisis the "moral equivalent of war" (quoted in Corfee-Morlot, Maslin, & Burgess, 2007, p. 2763). During this time, scientific conferences exploring climate themes also increased. Bookending this decade, Stockholm, Sweden was the site of a 1971 conference entitled "Study of Man's Impact on Climate," and in 1979 the World Meteorological Organization (WMO) organized the first "World Climate Conference" in Geneva, Switzerland (Fleming, 1998).

Then the early 1980s began to see some increased coverage of climate science, prominently focusing on charismatic scientists such as NASA's James Hansen and then NCAR researcher Stephen Schneider. For example, a front page story at *The New York Times* in 1981 featured Hansen's recent *Science* study showing an increase in global mean temperatures along with a concurrent increase in atmospheric CO₂ emissions (Mazur & Lee, 1993). Meanwhile, international and domestic climate policy began to take shape in the mid-1980s, primarily through activities of the International Council of Scientific Unions, the United Nations Environment Program, and the World Meteorological Organization.

In the mid-1980s, academic research began to interrogate how elite media representations have fed back into ongoing formulations and considerations of environmental problems, issues, and themes. For example, an investigation by geographers Diana Liverman and D. J. Sherman examined portrayals of natural hazards in novels and films. This work was articulated in an edited volume by Jacquelin Burgess and John Gold examining intersections between media and culture across a number of environmental issues (1985). Furthermore, Dorothea Nelkin's book *Selling Science* was influential in examining reasons behind the elite media representations of science and technology (1987).

In 1986, the elite media in Germany coined the term "Klimakatastrophe" (climate catastrophe), which was previously introduced by the German Physical Society (DPG) and then prominently picked up by elite media with the news magazine *Der Spiegel* leading

the way displaying the Cologne Cathedral below sea level on their front page. Although the DPG revoked the term shortly after and toned it down to “climate change,” the term lingered on in public discussions and fuelled a new debate about human influence on the global climate (Weingart, Engels, & Pansegrau, 2000).

In 1988, the climate science and governance flowed into full public view—by way of these numerous historical tributaries—through large-scale media attention (Carvalho & Burgess, 2005). Then, elite media coverage of climate change and global warming increased substantially in Western Europe and North America (Weingart, Engels, & Pansegrau, 2000). Many factors contributed to this rise, and these can be further understood through the primary type or effect of each contribution.

In 1988, disastrous *ecological* events grabbed media attention with the North American heat wave and drought as well as forest fires in parts of Yellowstone National Park. These concomitant events were thought to sensitize many in the climate science and policy communities, as well as elite media and public, to the issue of climate change. David Demeritt has asserted, “The 1988 heat wave and drought in North America were arguably as influential in fostering public concern as any of the more formal scientific advice” (2001, p. 307).

Also, there were *political* issues that started to emerge. For instance, U.K. Prime Minister Margaret Thatcher spoke to the Royal Society in what became known as her “green speech” on the dangers of climate change. In a rare address of the issue, she offered a warning regarding potential impacts due to climate change. She asserted, “We may have unwittingly begun a massive experiment with the system of the planet itself” (quoted in Leggett, 2001, p. 10). Also, James Hansen said that climate change was “99 percent certain” and forcefully warned Congress that global warming has become a reality. He also asserted that “it is time to stop waffling so much and say that the evidence is pretty strong that the greenhouse effect is here” (Shabecoff, 1988), while his testimony was offered on one of the hottest days of the year in North America. In the US, the impending presidential election also played a crucial role, as campaign rhetoric became tinged with mentions of climate change and global warming. On the campaign trail that year, then candidate George H. W. Bush acknowledged the seriousness of global warming and promised the administration would substantively address the issue. These political events garnered front page coverage in *The Washington Post* and *The New York Times* among publications at that time.

Prominently, 1988 was the year when *scientific* stories began to shape elite media representational practices, from outlets like National Public Radio (United States) to the *Herald* (Zimbabwe). It was also the year in which the United Nations Environment

Program and the World Meteorological Organization created the IPCC in Geneva, Switzerland. Also, the WMO held an international conference called “Our Changing Atmosphere” in Toronto, Canada (Pearce, 1989). At this conference, 300 scientists and policymakers representing 46 countries convened, and from this meeting, participants called upon countries to reduce carbon dioxide emissions by 20% or more by 2005 (Gupta, 2001).

Together, *ecological*, *political*, and *scientific* factors intersected and dynamically brought the issue of climate change clearly onto the public arena (Wynne, 1994; Irwin & Wynne, 1996). At that time, narratives conformed to journalistic norms and informational predilections of elite news media. According to Sheldon Ungar, “What rendered 1988 so extraordinary was *concatenating* physical impacts *felt* by the person in the street” (1992, p. 490).

While media coverage increased in the late 1980s, research on the influence of elite media representations of climate and the environment burgeoned in the early 1990s. These projects focused largely on practices and products in the Western world: North America, Europe, and Australia/New Zealand. Only recent research projects started to broaden their scope to study elite media attention of climate change including other parts of the world like the Middle East, Africa, Asia, and South America (Luedecke et al., 2016; Schaefer et al., 2013).

In 1992, the United Nations Conference on Environment and Development took place in Rio de Janeiro introducing the first programmatic approach and plan of action for Environment and Development on an international level, also known as “Agenda 21.” The agenda intends under the chapter “Means of Implementation” that “Results of research concerned with sustainable development issues should be disseminated through technical reports, scientific journals, the elite media, workshops, forums or other means so that the information can be used by decision makers at all levels and increase public awareness.” The 1992 Earth Summit drew massive international media attention (Weingart, Engels, & Pansegrau, 2000; Trumbo, 1996), establishing the term “Sustainable Development” in the public sphere. The Earth Summit launched negotiations to strengthen global response to climate change, which subsequently led to the adoption of the Kyoto Protocol in 1997. However, the U.S. and China were not among the 192 parties that signed the legally binding treaty. Partly due to this abstention was the controversial perception of the topic of climate change especially in the U.S.

While climate change evolved into a polarizing media topic in the 1990s in countries like Australia and the U.S., where diverging political factions competed about primacy in the media (Chubb & Bacon, 2010; Bulkeley, 2000), the notion in countries like India and Germany was a little different. In both countries, despite their diverging cultural

backgrounds, elite media early adopted a more consensual tone about the human impact on the global climate. Schaefer, Ivanova, and Schmidt (2013) reason that, other than in the U.S. and Oceania, where economic power strongly influences the public debate on climate change, industry refrained from the media discourse on climate mitigation and adaptation in India and Germany.

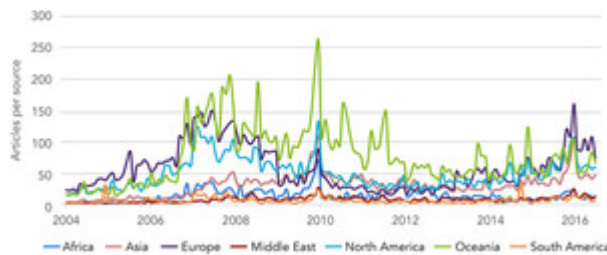
During the mid and late 2000s, a number of events around climate change provided good moments for the media to cover the topic and thereby increase public awareness. The publication of the *Stern Review*, the *IPCC Fourth Assessment Report*, the release of Al Gore's movie *An Inconvenient Truth* in 2006/2007 as well as the *United Nations Climate Change Conference* in Bali (2007) and Copenhagen (2009), shifted the public debate on climate change to a higher level. At the same time, international research on the influence of elite media representations gained ground (Olausson, 2009; Lázaro, Cabecinhas, & Carvahlo, 2008; Ferlini & Crúz-Mena, 2008; Carvalho & Burgess, 2005).

For instance, Olausson examined media's attribution of responsibility towards climate action along narratives and framings of global warming in three Swedish newspapers (*Dagens Nyheter*, *Aftonbladet*, *Nerikes Allehanda*), two of them being elite newspapers with national scope. Carvalho and Burgess (2005) identified three circuits of climate change in U.K.'s broadsheet media coverage between 1985–2003, which are characterized by different framings of global warming and show topic fluctuation in the media depending on political agendas, editorial interest, and other influencing factors. Ferlini and Crúz-Mena (2008) examined the coverage of the IPCC reports from three Mexican (*La Jornada*, *Reforma*, *El Universal*) as well as other elite newspapers (*The New York Times*, *El País*, *Le Monde*) to track how they communicated the findings reported by the IPCC up to that moment. Meanwhile, Lázaro, Cabecinhas, and Carvahlo, (2008) analyzed how practices of media consumption influence individual climate awareness and behavior among Portuguese students towards climate mitigation and adaptation.

In 2009, elite media attention of climate change, defined as coverage at trend-setting newspapers such as the *New York Times* or *The Guardian*, reached the highest level to date. It was the year when Barack Obama came into office making climate change a central issue of U.S. politics. By marking climate change as threat to national economy, safety, and health, Obama demonstrated his serious interest in climate policies through attending the *Copenhagen Summit* in late 2009 to negotiate terms for the extension of the Kyoto Protocol beyond 2012. Since that time, only at the end of 2015 and the press coverage of the Paris climate talks (COP21) has elite media attention to climate change returned to this level of public concern.

As shown in Figure 1, between 2010 and 2013, climate coverage at trend-setting newspapers across countries dropped to a lowest point worldwide since late 2006

(Luedecke et al., 2016). An exception to this trend was blanket coverage of Hurricane Sandy hitting the U.S. East coast in late October 2012, along with many connections made to a changing climate. Hurricane Sandy coverage was on top of all U.S. and international elite media coverage for several weeks (Hansen, Satos, & Ruedy, 2012; Kuzcinski & Irvin, 2012), although media attention still did not reach the aggregate levels of the preceding years. The public and scientific discussions on whether Sandy could be interpreted as a precursor of climate change seemed to take place as a small sideshow beyond the mainstream debate.



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Figure 1. 2004–2016 World Newspaper Coverage of Climate Change or Global Warming.

The newspapers are the following (listed by region, with country noted between parentheses):

Africa—*Business Day* (South Africa), *Ghanaian Chronicle* (Ghana), the *Herald* (Zimbabwe); **Asia**—*Bangkok Post* (Thailand), *China Daily* (China), *Hindu* (India), *Hindustan Times* (India), the *Indian Express* (India), *Japan News* (Japan), the *Korea Times* (South Korea), *Manila Bulletin* (Philippines), the *Nation* (Thailand), the *New Straits Times* (Malaysia), the *South China Morning Post* (China), the *Straits Times* (Singapore), *Times of India* (India); **Middle East**—*Daily Star* (Lebanon), *Gulf Daily News* (Bahrain), the *Jerusalem Post* (Israel), *The Nation* (Pakistan); **Europe**—*Daily Mail (Mail on Sunday)* (United Kingdom), the *Financial Times* (United Kingdom), the *Guardian* and *The Observer* (United Kingdom), the *Independent* and *Sunday Independent* (United Kingdom), the *Irish Times* (Ireland), the *Daily Mirror* and *Sunday Mirror* (United Kingdom), *El País* (Spain), the *Prague Post* (Czech Republic), *The Scotsman* and *Scotland on Sunday* (United Kingdom), *The Sun* and *The Sun on Sunday* (United Kingdom), the *Telegraph* and *Telegraph on Sunday* (United Kingdom), the *Times* and *Times on Sunday* (United Kingdom); **North America**—*Globe and Mail* (Canada), *Los Angeles Times* (United States), *National Post* (Canada), the *New York Times* (United States), the *Toronto Star* (Canada), *USA Today* (United States), the *Wall Street Journal* (United States), the *Washington Post* (United States); **Oceania**—*The Age* (Australia), *The Australian* (Australia), the *Courier-Mail* (Australia), the *Daily Telegraph & Sunday Telegraph* (Australia), *Dominion Post* (New Zealand), *New Zealand Herald* (New Zealand), *The Press* (New Zealand), *Sydney Morning Herald* (Australia); **South America**—*La Nación* (Argentina), *O Globo* (Brazil).

Source: Luedecke et al. (2016).

It was in 2014, when the U.S. and China jointly announced binding emission reduction targets to inject momentum into global negotiations on climate change. President Obama and President Jinping reaffirmed cooperation on adopting a protocol applicable to all countries joining the *United Nations Climate Conference* in Paris in 2015. Although this event could have been considered as a turning point in global climate politics with two major emitters committing to a binding legal instrument and agreed outcome, media coverage stayed far below the earlier years of media attention (Luedecke & Boykoff, 2016).

In September 2015, the Volkswagen “Abgas Skandal” (emission scandal) unleashed significant international media attention after the U.S. Environmental Protection Agency issued a notice of violation of the Clean Air Act. This issue well-covered by the media helped trigger the picture of the good and the bad in

climate wars by reducing the complex issue of global warming to a story of a villain (Volkswagen) convenient to blame for intentionally circumventing politics and regulations as well as deluding public trust.

In December, the 21st Conference of the Parties convened in Paris after terror attacks that temporarily caused concerns about whether this event should be held. Above the fear of further attacks from terrorism, many expressed skepticism as to whether political leaders would make meaningful progress given a long history of inaction or lukewarm engagement on climate change. At this conference, the pressure on countries to take coordinated action increased. Gurwitt and Roberts (2015) tracked U.S. elite media coverage during the Paris conference as well as a few days before and after the event in *The New York Times*, *The Wall Street Journal*, the *Los Angeles Times*, and *USA Today*. The authors found that all four newspapers covered the event from a different angle using different frames and connotations. Their overall finding was that, “Quality press coverage of the UN climate negotiations is crucial for the public to understand what was at stake in Paris and what was accomplished,” yet “Citizens informed by the U.S. print media gained only a partial understanding of the issues at the core of the climate change negotiations” (Gurwitt & Roberts, 2015), requiring background knowledge that cannot necessarily be postulated among the readership. The stories they argued that were not told or were downplayed within the coverage were topics around the allocation of mitigation- and adaptation-related responsibilities between developing and developed countries, social and human rights related to climate change, and transparency in aid and money flows between the global North and South.

Man Bites Dog: The Anatomy of Climate Storytelling by Elite Media

Telling stories relating complex and multi-faceted dimensions of climate change to the public is something that cuts to the heart of humans’ relationship with the environment. The cultural politics of climate change are situated, power-laden, mediated, and recursive in an ongoing battlefield of knowledge and interpretation (Boykoff & Goodman, 2009). Elite media link these varied spaces together, as powerful and important interpreters of climate science and policy, translating what can often be alienating, jargon-laden information for the broadly-construed public citizenry. Media workers and institutions powerfully shape and negotiate meaning, influencing how citizens make sense of and value the world.

There are many reasons *how* and *why* elite media influence and are influenced at multiple scales—from regulatory frameworks (bounding political opportunities and constraints) and institutional pressures (influencing political and journalistic norms) to individual decision-making about what becomes “elite news coverage.” These are dynamic and contested spaces of meaning-making and maintenance (Brüggemann & Engesser, 2014; Hiles & Hinnant, 2014).

As such, various actors, influencers, and voices have performed roles as “claims makers” as they have sought to access and utilize elite media sources in order to shape perceptions on various climate issues contingent on their perspectives and interests (Matthews, 2015; Nisbet, Hixon, Moore, & Nelson, 2010; Olausson, 2009; Nisbet & Mooney, 2007).

Regarding “claims makers” more generally, efforts to make sense of complex climate science and governance through elite media representations involve decisions regarding what are “experts” or “authorities” who speak for climate. This is particularly challenging when covering the topic, where indicators of climate change may be difficult for most people to detect (Andreadis & Smith, 2007). Moreover, in the advent and increasingly widespread influence of new and social media (along with fewer “gatekeepers” in content generation), the identification of “expertise” can be more, rather than less, challenging. The abilities to quickly conduct a Google search for information is in one sense very liberating; yet, in another sense, this unfiltered access to complex information also intensifies possibilities of short-circuiting peer review processes (and determinations by “experts”) and can thereby do an “end-run around established scientific norms” (McCright & Dunlap, 2003, p. 359). In other words, these developments have numerous and often-paradoxical reverberations through ongoing public discourses on climate change.

Elite media conflation of claims and claims-makers has been wrapped up in inherent and general challenges of translation. Within language resides the power to effectively (mis)communicate. However, differences in language use between science, policy, media, and civil society can unavoidably impede efforts to make climate change—or any other issue—meaningful in society. In this way, important research, effective arguments, and interesting insights can suffocate under a wet blanket of jargon. Andrew Weaver has noted, “For the average person, the scientific jargon emanating from [scientists’] mouths translates into gobbledygook” (2008, p. 29). Considered in this way, responsibilities for elite media conflation cannot be placed on journalists, producers and editors themselves. Instead, these can be partly attributed to long-standing differences between the “Two Cultures”—sciences and humanities—first explained by CP Snow (1959), and further

elaborated in recent years in the context of climate science policy by scholars such as Mike Hulme (2008) as well as Matthew Nisbet and colleagues (2010).

There are many reasons why elite media accounts can fail to provide greater nuance in these aspects of climate change. Among them, processes behind the building and challenging of dominant discourses take place simultaneously at multiple scales. Large-scale social, political, and economic factors influence everyday individual journalistic decisions, such as how to focus or contextualize a story with quick time to deadline. These issues intersect with processes such as journalistic norms and values, to further shape news content. Moreover, path dependence through histories of professionalized journalism, journalistic norms, and values, as well as power relations have shaped the production of news stories (Starr, 2004). These dynamic and multi-scale influences are interrelated and difficult to disentangle: elite media portrayals of climate change are infused with cultural, social, environmental, and political economic elements. Media professionals must also mindfully navigate through hazardous terrain in order to fairly and accurately represent various dimensions of climate science and governance (Ward, 2008).

Research on Media Coverage of Climate Change and Public Responses: Barking Up the Wrong Tree?

Media as key contributor to the public climate debate shape perceptions, opinions, and influence the spectrum of response to climate change. In this context, elite mass media assumed “a pivotal role in the attribution of responsibility for both the creation and resolution of societal problems” (Olausson, 2009, p. 422). Media contain unparalleled abilities to reach varied and wide audiences, so “mass” often proceeds the deployment of the term in order to indicate this influence. Elite mass media such as *Hindustan Times* (India), the *Guardian* and *The Observer* (United Kingdom), *El País* (Spain), *Globe and Mail* (Canada), the *Washington Post* (United States), *The Press* (New Zealand), *Sydney Morning Herald* (Australia), and *O Globo* (Brazil) are thus central for translating and interpreting information on societal level (Luedecke & Boykoff, 2016; Hulme, 2009; Bell, 1994). However, connections between media information and policy decision-making, attitudes, perspectives, intentions, and behavioral change are far from straightforward (Hellsten, Porter, & Nerlich, 2014). Often enough, claims-makers seek to utilize elite media outlets in order to shape perceptions on climate change issues contingent on their political ideologies or worldviews. Besides convincing people about their own convictions,

they also seek to make them engage in a certain way that aligns with the claims-maker's interest (Schuldt & Roh, 2014). Thus, it is critical to analyze ways in which elite media representations and symbols are produced, interpreted, and consumed. From visceral to emotional and intellectualized takes, the multifarious contributions that elite media make to public discourse deem it worthy of careful reflection and scrutiny.

Besides the challenge of proving how elite media representations of climate change affect individual and public concern and climate engagement, research often narrowed down to communicational approaches while neglecting socio-psychological attempts to explore motivated action originating in media coverage (Olausson & Berglez, 2014). For this reason, van Dijk calls for a stronger attempt in media studies to go “beyond a narrow social and political approach to power” that further involves “a study of the mental representations, including so-called social cognitions such as attitudes and ideologies, shared by groups of readers or viewers” (van Dijk, 1995, p. 11).

While a large number of research highlights the public *perception* and *awareness* of climate change influenced through elite news coverage (Olausson, 2010; Cabecinhas, Lázaro, & Carvalho, 2008; Lázaro, Cabecinhas, & Carvalho, 2008; Ferlini & Crúz-Mena, 2008; Carvalho & Burgess, 2005; Reusswig, Schwarzkopf, & Pohlenz, 2004), the amount of literature focusing on the *effects* on public and individual *engagement* regarding climate related issues is more limited (Hart et al., 2015; Hart & Leiserowitz, 2009; Reusswig et al., 2004). This might partly be due to the fact that the origin of media influence is difficult to disentangle from other aspects stemming from situational or socio-psychological factors (individual dispositions or societal constraints). For example, the Social Practices Model by Spaargaren and van Vliet (2000) considers the agency of individuals as being embedded in a wider social environment through correlating individual lifestyles with social systems. This perspective involves cultural habits, social norms, and media to communicate social representations (Moscovici, 1984) on everyday practices. In the context of media influence on perception and behavior change, media research has mainly appeared in negative contexts (Gunter, 2008; Grimes, Anderson, & Bergen, 2008; Gerbner, Gross, Morgan, Signorielli, & Shanahan, 2002). With a few notable exceptions (Nisbet, Cooper, & Ellithorpe, 2014), less attention has so far been paid to the positive potential of elite media coverage, including educating wider audiences about environmental issues such as climate change.

Thus, the question needs to be reframed to ask how media studies can help advance research on elite news coverage of climate change regarding public's engagement, which can be influenced significantly by media narratives. The latest research on the public opinion of climate change has reinforced the importance of focusing on the psychology of diverging audience segments from an interdisciplinary point of view, and tailoring

information to frameworks these audience segments understand (Roser-Renouf, Maibach, Leiserowitz, Feinberg, Rosenthal, & Kreslake, 2014; Roser-Renouf, Maibach, Leiserowitz, & Zhao, 2014).

Cry, “Havoc!,” and Let Slip the Dogs of the Climate Wars

This title draws from an influential phrase in William Shakespeare’s *Julius Caesar*.¹ As a pillar in modern democracies, elite media play important roles as arbiters of competing and divergent perspectives and stances, as interrogators of claims made by actor and institutions in the public sphere, and as translators of complex and privileged information for public audiences.

Joseph Pulitzer posited that, “our Republic and its press will rise and fall together,” meaning that the country’s power “will be in the hands of the journalists of the future generations,” who will always have to “fight for progress and reform, never tolerate injustice or corruption” and thereby “always remain devoted to the public welfare” (quoted in Vaughn, 2012, p. 430). Referring to Pulitzer, elite media comprise a community where climate science, policy, and politics are addressed, analyzed, and discussed. The way that these issues are covered in elite media can have far-reaching consequences in terms of ongoing climate scientific inquiry, as well as policymaker and public perceptions, understanding and potential engagement (Lück, Wozniak, & Wessler, 2016). In this contemporary environment, numerous “actors” compete in these media landscapes to influence decision-making and policy prioritization at many scales of governance. Multiple ways of knowing—both challenged and supported through media depictions—shape ongoing discourses and imaginaries, circulating in various cultural and political contexts and scales. Furthermore, varying media representational practices contribute—amid a complex web of factors—to divergent perceptions, priorities, and behaviors.

Elite media generally hold a major untapped potential to serve as a basis for objective information on climate change and offer opportunities for response to decision-making and engagement. However, more media coverage of climate change—even supremely fair and accurate portrayals—is not a panacea to better understand the facts behind climate change and thus feel encouraged to engage in climate issues. In fact, increased media attention to the issue often unearths more questions to be answered, and *greater* scientific understanding can actually contribute to a *greater* supply of knowledge from which to develop and argue varying interpretations of that science (Sarewitz, 2004). At

best, media reporting helps address, analyze, and discuss the issues, *but not answer them*.

Media portrayals will continue to influence—in non-linear and dynamic ways—individual to community- and international-level perceptions of the environment. Critical to ongoing conversations are considerations of how elite media discussions shape and influence wider public deliberations and priorities for climate science and policy. A growing trend toward interdisciplinary modes of inquiry can help design novel approaches and provide important answers to questions about elite media's potential to engage citizens at various stages.

Climate change as a topic in elite media coverage—from radio to print and television media—goes back into history over more than 40 years. As it developed from decade to decade, it continued going through different phases of attention along with scientific uncertainties and political claims (Weingart, Engels, & Pansegrau, 2000), and will expectedly continue reshaping, as climate wars in the political and societal arena are not yet contended. Media attention in elite press is not necessarily connected with the significance or size of certain events regarding climate change. Rather, it is the combination of incidents that leads to high media coverage and therefore public attention and concern towards climate change. Furthermore, interrogations of elite media coverage of climate change—arguably the most critical issue in the 21st century—inform ongoing examinations elsewhere. Analyses can inform media treatment of a range of science-in-society issues including genetically modified organisms and food, and threats from hydraulic fracturing on water and local air quality as well as on climate change and seismic activity. By unpacking and analyzing interactions that focus on climate change, representative challenges ranging from extrinsic issues (e.g., political economics) to intrinsic issues (e.g., uncertainty) can inform perceptions and decision-making in these associated environmental challenges (Hornmoen, 2016; Boyd & Paveglio, 2014). Going forward, constraints on media to perform this integral role must be assuaged. In other words, there must be slack in the leash (or one must let go of a proverbial leash altogether) so that media can thrive, particularly when it comes to covering high-stakes, high-profile, and highly-politicized issues associated with climate and the environment.

Keeping these thoughts in mind, critical questions regarding elite news coverage of climate change remain. For example, we will need to keep asking ourselves about the role of traditional elite media and their future meaning as watch dog, lap dog, or guard dog. Lindner (2008), for instance, uses climate change as parable to describe the rapid changes and melting points in elite media environments regarding multiple communication platforms and information technology, and what it means for elite media organizations. Traditional communication structures within different spaces (newsrooms, publishing houses, etc.) will continue to soften while facing environmental degradation.

The idea of the traditional public media sphere is corroding, and temperature is rising together with increasing information output. Newsrooms have to keep up with market pressure and rising audience demands. Under these changing conditions, mediated human–environment interactions will play out differently across different local, regional, and national contexts. Through this contribution, we have sought to lay some groundwork down for readers to then pursue these issues in more detail, as contexts and conditions change going forward.

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Notes:

(1.) Act 3, Scene 1, line 273.

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