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Popularity-driven science journalism and climate change: A critical discourse analysis of the unsaid

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ABSTRACT

This study traces popularity-driven coverage of climate change in *New Scientist* with the special aim of identifying which aspects of the issue have been backgrounded. Unlike institutional communication or quality press coverage of climate change, commercial science journalism has received less attention with respect to how it frames the crisis. Assuming that the construction of newsworthiness in popular science journalism requires eliminating, or at least obscuring, some alienating information, the study identifies prevalent frames, news values and discursive strategies in the outlet's most-read online articles on climate change (2013–2015). With the official statement of the World Meteorological Organization (2014) as a reference, it considers which dimensions of the coverage have been backgrounded, and illustrates how language is recruited to de-emphasize some representations through implicitness, underspecification, or syntactic and compositional devices. It finds that the coverage relies on threat frames, privileges novelty and the timeliness and impact of climate science, avoids responsibility and adaptation frames, and endorses the so-called progress narrative. It discusses how this may forestall social and personal mobilization by placing trust in science institutions and technologies to confront the crisis.

1. Introduction

The challenges for environmental journalism, particularly those of such a complex and multidisciplinary issue as climate change, are enormous. Not only does such coverage involve meaningfully translating the current scientific knowledge on climate phenomena to lay publics, but it should also mobilize these diverse publics to confront what Revkin (2014) sees as the biggest challenge to our planet since the threat of nuclear war. Although scientific knowledge is transient and subject to constant revision, journalism is expected to offer some certitude about prominent risks within the social realm (Beck, 2009). Climate change discourse in popular science journalism (CCD henceforth)[1] is regarded as a constellation of representations of climate science and climate policy debates that are relative to external critical moments (Carvalho & Burgess, 2005) and internal media production practices (Davis, 2007). However, science popularizers, notwithstanding their capacity to foster public understanding of science, are constrained by framing conventions and argumentative positionings that reflect editorial lines and market forces (Bucchi, 1998; Nisbet, 2009). CCD is thus seen here as a result of the filtering of scientific knowledge through commercial interests and newsworthiness agendas of media outlets.

It is assumed that newsworthiness priorities in popular journalism lead to constructing CCD as resonant with target readers' attitudes and beliefs, perhaps by displacing alienating information, and bringing in elements of entertainment (Nelkin, 1995). If highly and globally circulated science popularizers (e.g., *New Scientist* – NS henceforth) are primarily devoted to attracting and cultivating audiences,[2] the question arises whether CCD is represented in ways that can possibly mobilize the public to reconsider their current lifestyle habits, consumer choices and political affiliations. Therefore, this study is devoted to capturing "the unsaid" – a result of a discursive strategy of making information less accessible in a selection of most-read articles listed on NS's website. As finding what is unsaid in popular science journalism requires a reference sample, NS coverage is analyzed against the backdrop of institutional discourse, namely the official statement of the World Meteorological Organization (WMO, 2014). Taking inspiration from critical discourse analysis

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[1] This study analyzes a (less-researched) segment of climate communication, namely popularity-driven commercial science journalism targeting broad lay publics. It does not investigate scientific/academic or outreach discourse aimed at policy-makers (e.g. IPCC annual assessments) or its accommodation.

[2] Current statistics on NS readership and circulation that confirm its global reach and impact are available at https://www.newscientist.com/data/pdf/ns/mediacenter/us/us_mediakit.pdf.

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(CDA), the study aims to grasp the patterns of representation used to obscure the knowledge that is not compatible with the "ideology of newsworthiness" (Bednarek & Caple, 2014) and reflect on the consequences this may have for personal and social mobilization.

2. Review of literature on climate change discourses in the context of mobilization

According to Beck's (2009) understanding of risk management, media outlets and social movements have the potential to provide knowledge and mobilize global communities to face risks. One order of discourse (Foucault, 2000) that is shaping how the risks of climate change are represented, normalized and responded to is science journalism. In this perspective, *discourse* refers to institutionalized patterns of knowledge filtering, management and reproduction that stem from underlying power relations, and are manifested in strategic textual choices. CDA of CCD journalism is thus oriented towards (1) uncovering pervasive, yet naturalized, strategies of (mis)representation, and (2) critically confronting their ideological underpinnings and consequences (Fairclough, 1995; Hansen & Machin, 2013). Climate coverage can foster responsibility and mobilize the public (Olausson, 2009), or deemphasize risks (Painter, 2013), stir controversy (Eubanks, 2015), and make the public complacent (Boykoff, 2011). Indeed, recent research on various orders of CCD concentrates on their capacity for mobilization.

Journalism scholars note that climate change reporting has a deficit of credibility, because it is often seen as advocacy (Nisbet, 2009), or because it foregrounds "connotations of catastrophe, danger and uncontrollability" that breed cynicism or fatalism (Russill & Nyssa, 2009, p. 324). To regain the "semblance of neutrality," editors employ compensatory textual strategies (Tong, 2015): the use of the label *climate change* rather than *global warming* results from the need to avoid bias. Yet exposure to the term *global warming* is more likely to enable mobilization, as, according to Whitmarsh (2009, p. 410), it produces associations with heat-related impacts caused by pollution, CFCs, fossil fuel consumption, or misuse of earth's resources that result in ozone depletion, ultraviolet light penetration and the trapping of greenhouse gases. By contrast, the term *climate change* is more readily associated with a range of impacts on climate/weather and agriculture/food supply that might have natural causes. In this light, the normalization of the label *climate change* in popular science may be regarded as a discursive strategy of knowledge management that forestalls mobilization.

The pressure to obtain a balanced coverage of climate science has introduced a disproportionate number of sources contesting climate change (Revkin, 2014). Mediated CCD, influenced by PR efforts of powerful energy lobbies (Hansen, 2011), foregrounds *uncertainties* in climate science whereas focusing on *risks* could help confront it (Painter, 2013). While uncertainty is a driving factor in scientific progress, the stress on what is *not* known in popular science generates doubt, diversion and complacency. To effectively mobilize the public, it is also important to use risk estimates that are *alarming* but manageable, not formulations that are *alarmist* or catastrophic, and to include local perspectives and culturally relevant explanations of solutions (Risbey, 2008). Yet, this recommendation does not match with newsworthiness-driven coverage that highlights uncertainty, controversy, and negativity to attract attention.

The uptake of CCD depends on its multiple remediations. Based on prior research, Rudiak-Gould (2014, p. 143) finds that public engagement with CCD should be correlated not only with the intensity of the exposure, or prior commitments to such ideological stances as conservatism, the belief in the just world, and in the legitimacy of the present social system (all predictors of climate skepticism), but also with morally grounded "trajectory narratives." The trajectory theory explains why societies that subscribe to the *decline* narrative, in which the world is seen as degenerating from a pristine state, will be ready to confront the risks of climate change and advocate stricter measures, while ones that believe in the *progress* narrative will be likely to dismiss the issue "by portraying it as only moderately dangerous" (Rudiak-Gould, 2014, p. 145). As a result, decline narratives without alarmist formulations seem optimized for mobilization.

Eubanks (2015) studies CCD in terms of an argumentative situation, and notes how the media-induced crisis of the authority of science (with its competing theories) leads to demobilization. This results from discursive strategies not oriented towards deliberation but towards confirming the initial positions through arguments reduced to: (1) binary oppositions borrowed from politics, economy and ethics, (2) references to prominent figures,[3] (3) metaphorical concepts and false analogies, (4) slogan-like news with attractive visualizations (pp. xi-xii). In popular journalism, another barrier is the use of simplifications of scientific and social intricacies of the climate issue (Revkin, 2014). One example is the editorial preference for the *mitigation* frame (a proposition that political consensus on carbon emissions solves the problem), rather than the *adaptation* frame (a proposition than all people are responsible for various decisions leading to reducing their carbon blueprint) (Olausson, 2009). Sensationalist framings in CCD that are meant to draw attention are not likely to be productive either, because they lead to confusion and social divisions (Jensen, 2012).

By now, CCDs have shaped a broad spectrum of perceived engagements and political positionings: from industrial fatalism and green Keynesianism, to eco-socialism and climate skepticism (Anshelm & Hultman, 2015). It is harder than ever to reconcile elite (scientific, institutional) and popular (mediated) discursive representations of global warming in order to catalyze action. Demobilization is also a side effect of the discrepancies between *global* and *local* CCDs. Jasanoff, for example, warns against "an impersonal, apolitical, and universal imaginary of climate change, projected and endorsed by science" taking over "from the subjective, situated and normative imaginations of human actors engaging directly with nature" (2010, p. 235). Prospects for mobilization lie in the reintegration of scientific and social responses to climate phenomena that will foster productive debates at the local levels.

The gap between scientific and popular CCDs is well-known from agenda-setting research (Moser & Dilling, 2010), which underscores the role of popular culture in the ranking of climate issue as a concern. At the individual level, it means that the degree of mobilization often depends on science literacy levels, political stances and cultural values, which coincides with active seeking of climate-related information (Leiserowitz et al., 2010). The more exposure people have to specialist discourses (rather than superficial reporting), the more engagement they show (Stamm, Clark, & Eblacas, 2000). However, even the most informative media coverage cannot rectify one's tendency to seek and remember information that supports existing beliefs, which explains resistance to explicit mobilization appeals (Happer & Philo, 2016). At the social level, the research on the "cultural circuits" of climate coverage explains why CCD periodically falls off media agendas (Carvalho & Burgess, 2005, p. 1462), a trend that tends to coincide with economic downturns. Also, the coverage's saturation with incongruous details and the lack of critical episodes to collect attention may have caused desensitization – a longer-term media-instigated "fatigue" with CCD (Nordhaus & Shellenberger, 2009).

[3] See also Grundmann & Scott (2014) on the role of institutional endorsers and celebrity journalists.

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