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Voicing climate change? Television, public engagement and the politics of voice

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This paper examines a body of TV commissions made for BBC Television that formed components of the BBC Climate Chaos season (2006–2007). These commissions represent the first and, to date, only concerted attempt to address the issue of climate change with a range of approaches across a number of broadcast and online platforms within a public service broadcasting context across an extended season. The paper contributes to the task of balancing the relatively extensive body of research into news media coverage of climate change with that of longer form broadcast content. It examines these programmes as a particular moment in the history of broadcasting, lying on the threshold of a proliferating number of TV channels and the burgeoning growth of interactive digital and social media based forms of leisure and public engagement. It takes as its starting point Couldry's plea to make voice a key focus for the promotion of more democratic media spaces. Specifically, it examines this assertion in relation to calls for polyvocality and the need for new and expanded political spaces in relation to human-induced climate change. The paper contributes to the developing geography of voice in relation to public understanding and debate of complex global issues. At the most practical level, it also assesses a body of innovations and experiments in content, tone and media mix in broadcast television commissions on climate change, and points to areas for future investment.

KEYWORDS

climate change, cultural politics, digital media, public engagement, television, voice

1 | INTRODUCTION

This paper examines a body of TV commissions about climate change made for BBC Television during the period 2006–2007 with the objective of understanding better how different voices relevant to the subject are represented in this medium. These programmes, and the wider season that they formed part of, represented a concerted attempt to address the issue of climate change in a public service broadcasting context. They were all elements of the BBC's Climate Chaos season – the first and, to date, last major integrated body of commissions on the theme by a public service broadcaster. The selected programmes include material commissioned for different genres and channels. The paper approaches the material with a specific interest in “voice”: in other words, who and what is made present in scripts, images, casting and edits, and the

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nature of their representation. It draws on Couldry's and others' work with the concept of voice, but applies the theme specifically to broadcast accounts of climate change.

One of the authors, Joe Smith, worked as an academic advisor on the programmes, and maintained a research diary based on this participant observation. Another reason for focusing on these programmes is that they were commissioned at a key moment in the history of broadcasting, lying both on the threshold of the proliferation of TV channels and the burgeoning growth of interactive digital and social media based forms of leisure and public engagement. The paper considers these in relation to other developments within BBC programme-making at the time, including the series *Springwatch*, and its derivatives, first broadcast in May 2005.

Climate change is one of the most substantial collective action problems facing contemporary societies. Yet, both politicians and policy communities have complained of a lack of "political space" around the issue (e.g., Carvalho & Peterson, 2009, p. 131). In this respect, the terms of public debate and the fora in which this is conducted are crucial. Within the context of public engagement concerning human-induced climate change, political and other climate change stakeholders, including researchers, NGOs and the wider policy community, see the media as a key determinant of public understanding and commitment to action on climate change. This paper draws on Couldry's (2010) conception of voice as a means for understanding how media spaces afford different actors and entities a presence in climate change debates within the processes of programme-making. Contributing to a developing geography of voice (Kanngieser, 2011; Matless, 2014; Revill, 2016, 2017), it critically examines the idea of voice as a key concept in public engagement and democratic debate around questions of climate change.

Geographers and other social scientists have begun to explore and experiment at the boundaries of culture and climate change. This work addresses a wide range of arts- and digital-based public-research engagement strategies, including participatory and performative methods in relation to climate change (see Boyce & Lewis, 2009; Boykoff, 2011; Butler et al., 2011; Crow & Boykoff, 2014; Doyle, 2011; Endfield & Morris, 2012; Gabrys & Yusoff, 2012; Hansen, 2009; Hawkins & Kanngieser, 2017; Hulme, 2009; Smith & Howe, 2015; Smith et al., 2017; Tyszczyk & Smith, 2009; Whitmarsh et al., 2010). Reviews note how inclusion of consideration of politics, including the fast-evolving political economy of the media, into the climate-media relationship raises further distinctive challenges (Anderson, 2009). This has been answered in relation to how climate change is represented within the media in the Global South by a maturing body of scholarship, including Billett (2010) on the Indian media, Schmidt et al.'s comparative analysis of 27 countries (2013) and Manzo and Padfield's (2016) paper on climate change and development in the Malaysian media. Consideration of social, policy and media interactions around climate change have been further extended in a recent paper that explores dimensions of "usefulness" in different kinds of climate change films (Manzo, 2017).

Televised mediation of environmental change has been considered over a long period in geography and cognate disciplines, exemplified by the agenda-setting work of Burgess (1990; see also Castree, 2005; Gold & Burgess, 1985; Hansen, 1993; Philo & Happer, 2013; Smith, 2000). However, in spite of the prominence of documentary film-making in making climate change public, there has been relatively little research into this compared to the fairly extensive and long-running studies of print journalism, and some work on broadcast journalism. Exceptions include Boykoff and Goodman (2009), Debrett (2015), Goodman and Littler (2013) and Smith (2005, 2017). Furthermore, in the field of climate change, there is no direct parallel to Davies' (2000) work on natural history or Brockington's (2008) work on conservation programme production.

The relative scarcity of research into climate change on longer-form television can in part be explained by the challenges of access both to archive content and to the internal processes of long-form media production, and the comparative ease of content gathering and analysis in relation to print and online news media. However, a demanding job has recently become more difficult. It is tempting to think of the broadcast versions of TV programmes as complete and self-contained cultural objects. Yet as Burgess (1990) discovered in her pioneering engagement with TV documentary-making, what is broadcast on TV is often both highly provisional and always very much a product of cooperation, negotiation and compromise. Increasingly, digital technologies allow programmes to be re-versioned and re-packaged for different audiences and channels, either within one region or around the world, to the extent that the idea of a definitive cut of any particular media output is increasingly outmoded. In addition, programmes are shaped and given substantive form within a variety of institutional, technological and environmental structurings, not least the channel and slot/s where they appear.

From the perspective of media producers at the time the programmes discussed in this paper were being made, these include commercial imperatives, comprising both international and national drivers, as well as renewed interrogation of the public service obligation of broadcasters such as the BBC. Also important was a rapidly evolving media landscape related both to the proliferation of new channels and rapid technological innovation in digital media. Hence programmes are here understood as complex assemblages produced through a range of socio-technical resources, processes, techniques,

technologies, social relations, and material and cultural entities. This paper adopts the term commission rather than programme to signal the multiplicity of bureaucratic, creative, technical and audience-facing actions, interactions and decisions involved in bringing a production to the screen.

The three climate-change themed TV commissions central to discussion in this paper were each made, with this paper's first author acting as academic advisor. Based on this experience and the exploration of a 60-year archive of BBC environmental programme-making, which have formed part of our *Earth in Vision* project, the paper asks: what difference is made to our understanding of programming, and specifically the representation of voice, when it is examined as a process of making? Often, for audiences, the immediacy and impact of broadcast media belies the complexity of sourcing, creative decision-making, organisation and rhetorical structure which is intrinsic to the craft of its production. This paper examines the programme-making as sometimes contingent, pragmatic and compromised sets of processes and practices. The concept of voice is important in the context of TV programming concerning climate change because it highlights the ways programme makers deal with and give airtime to multifaceted and conflicting arguments and interests. At the same time, it problematises the increasingly complex relationships between audiences and makers, or producers and consumers, within a fast-evolving media landscape.

This paper is formed of four parts. The next section outlines the methodological and theoretical foundations and explains the way it works with and seeks to extend Couldry's concept of voice. Section three briefly summarises each of the three BBC commissions central to the paper. Section four considers the degree to which these programmes have served to extend polyvocality on the topic of climate change in the media. A final discussion ties some prominent strands together, and in particular reflects on Couldry's conception of voice in relation to televised mediations of climate change. The section concludes with a discussion of *Springwatch*, a BBC commission from this period that has also sought to push the boundaries and definitions of voice in broadcasting as these relate to climate change.

2 | MEDIA, VOICE AND CLIMATE CHANGE

Hulme identified the roots of conflict about climate change in "our different ethical, ideological and political beliefs; our different interpretations of the past and our competing visions of the future" (2009, p. xxvi). In similar vein, Boykoff argues that "(a)lthough tricky, putting the complexities of climate science and governance into context is critically important for successfully communicating climate change and for achieving greater connectivity between communities of science, policy, media and the public citizenry" (2011, p. 98). Climate change is difficult to turn into stories in any medium. It is run through with spatial and temporal complexities and uncertainties. These can be summarised as six elements, including: global pervasiveness, far-reaching limits to predictability, interdependencies (both social and ecological), the reverberations of history (particularly colonial and postcolonial), inherent interdisciplinarity and a constantly shifting distribution of human vulnerabilities and responsibilities (Smith, 2014, p. 15).

Television producers and other media decision-makers are enmeshed in a cultural politics fashioned by these complexities and uncertainties. These six elements play a role in shaping what goes on the screen and in the script, and they inform design, filming and editing decisions. They also play a role in inhibiting commissioning and ensuring that many ideas simply don't make it beyond the stage of an outline pitch document. With complex issues such as climate change, the identification of specific voices as legitimately speaking about or on behalf of climate change is itself problematic. Who or what speaks for climate change, whether this is a graph of mean annual temperatures, the testimony of scientists or advocates of sustained fossil fuel use, is itself a complex and politically charged issue.

One implication of this is the need for media producers to be attentive to the multiplicity of both human and non-human voices implicated in stories around climate change. A criticism levelled at public service broadcasters such as the BBC in relation to issues such as human-induced climate change is that polyvocality is reduced to "balance": a circumstance in news outputs that has been more generally described as "balance as bias" (Boykoff & Boykoff, 2004). Following this scenario, "proportionate" air-time is given to "advocates" and "deniers," creating polarised arguments with little regard to the complexities of the situation, the rootedness of particular arguments in peer-reviewed natural science and hence the different kinds of authority being deployed. Such procedurally based accounting exercises in polyvocality are to a large extent grounded in the wider institutional pressures faced by major media organisations. One of the authors of this paper has previously argued that one route to creating editorially robust narratives that audiences will select and stay with, while respecting the editorial policy demands made on public service broadcasters, is to focus on a risk frame (Smith, 2005) and to allow debates within climate change research and policy communities to become the core of storytelling (Smith, 2014,

2016). Nevertheless, “contrarian vs. mainstream” coverage remains a strong current in news media, particularly in the US context, a narrative boosted by the 2016 election of President Trump.

In this context, it is relatively easy to understand media sociologist Nick Couldry’s argument that changes in the political economy of the media have resulted in the erasure of diversity of expression. He calls for a restoration of “voice” as a way of coping with the way that “neoliberal discourse evacuates entirely the place of the social in politics and politics’ regulation of economics” (Couldry, 2010, p. 2). In this respect Couldry’s thinking is in line with much western thought concerning the concept of voice. As Weidman (2015, p. 232) says, western metaphysical and linguistic traditions have given us the idea of voice as a guarantor of truth and self-presence, from which springs the familiar idea that the voice expresses self and identity and that agency consists in having a voice. In these ways voice becomes a marker of individuality, authorship, agency, authority and power, reflexive self-realisation, social reach, political power and democratic process.

For Couldry narrative and voice are closely connected to agency expressed as democratic process, thus narrative is: “an embodied process of effective speech” (2010, p. 12). “*Voice is a form of reflexive agency* . . . the act of voice involves taking responsibility for the stories one tells” (2010, p. 8, emphasis in the original). In this context, the capacity of both broadcast and wider digital and social media to enable and facilitate storytelling, creating new narratives and novel interpretations, is key to the emancipatory potential of such media to give voice and widen participation in debate (Mihalidis & Cohen 2013; Mulholland et al., 2004; Ryan & Thon, 2014). Where climate change is concerned, a key issue is the capacity for media to afford and facilitate more imaginative cultural responses to issues of environmental change. Key to such cultural responses are the tasks of providing different publics with the resources and opportunities to make arguments and create narratives and stories that explore, revise or challenge conventional accounts and set out agendas and points of view that might contribute, for example, to rethinking environmental challenges in potentially more constructive and sensitive ways (Smith et al., 2017).

Couldry argues for the need to seek “new spaces of narrative exchange: it requires a pragmatic understanding of political space whose concern is more with ‘seeing connections’ than with reproducing existing boundaries” (2010, p. 147). Hence voice operates as a signifier of presence, meaning and purpose at a variety of geographical scales in ways that are widely accepted but often taken for granted. As an indicator of presence, voice is a key marker of recognition for members of a polity. For those granted “voice,” or achieving the right to speak through the conventions of communicative interaction, democratic process and political action, it carries the gift of recognition marking out legitimate members of a polity and by implication the right to be heard as part of the collective. At the same time, voice also carries the responsibilities of participation in shared conversation governed by the rules set by being a member of a broader collectivity. Hence voice is a necessary component of and marker for citizenship.

The idea that audiences are active co-creators of meanings and messages rather than simply passive consumers has been around in literary and media theory for some years (Barnett, 2003). Increasingly, the very mass media for which classical reception theory was devised, including the advertisers and broadcasters who have long imagined their audiences as passive consumers, are embracing the potential of active and participatory audiences. Contemporary developments in social and digital media play an important role in facilitating this change (see for example Harrington et al., 2013; Jenkins, 2006; Jenkins et al., 2016). The concept of transmedia television begins to capture the developing possibilities for broadcasters to work across blended combinations of broad and narrow cast digital media and open up both novel forms of narrative and new vocalic spaces (Clarke, 2013; Evans, 2011; Mittell, 2014). Furthermore, these media open up a domain for “digital acts” as novel forms or versions of the practice of citizenship (Isin & Ruppert, 2015). In terms of the sort of creative and emancipatory politics encouraged by Couldry, a key recognition is that media and publics are mutually co-constitutive. Rather than media simply drawing on and engaging existing publics, the media themselves, and the narratives and democratic spaces they enable and afford, actively produce new publics and new public spaces. In other words, the relationship between media, voice and democracy is “an internal, constitutive one, not an external, causal one” (Barnett, 2003, p. 3).

Empirical research into media decision-making and production around these themes presents some specific challenges. Decision-making in the media sector leaves little evidence in the way of public and/or archived presence. Programme archives for the BBC, for example, are not released for researcher use for at least seven years. In any case, media decision-making and production have long been primarily oral professional cultures, with limited paper and digital traces. Hence this research has drawn on four sources of evidence: readings of the programmes themselves and associated publicly available materials; notes from participant observation in most of the media productions discussed; research notes drawn from mediation processes between media decision-makers and environmental expertise; and three bodies of interviews with media decision-makers and producers. Interviewees were selected for one of two reasons: the responsibilities and hence insights linked to their post or their particular knowledge and experience related to their programme-making or commissioning background.

The participant observation by one of the authors has taken two forms. First, he has served as academic advisor on the programmes discussed in the next two sections. This has comprised offering extensive comment on script detail, sources and locations, and also drafting supplementary (web, print, media advisory) materials. The time period of participant observation varied according to the production cycles for the programmes. It also varied in terms of contexts, but it centred almost exclusively on the commissioning and editorial process rather than craft-production. The paper also draws on his experience of devising and producing a series of seminars, bringing together senior media decision-makers and environmental research expertise that has run in various forms since 1996. Some (anonymised) recordings and transcriptions have been made over the course of the seminars, but in most cases research notes were taken. These materials inform the paper's insights into media decision-making, but in the context of this paper provide context and insight rather than primary empirical data.

Three bodies of interviews with media industry presenters, producers, commissioners, channel controllers and other executives, as well as commentators, have been undertaken since 2013. The first comprised 18 interviews conducted for an International Broadcasting Trust (IBT) report (Haydon & Magee, 2013); the second body of 20 interviews were conducted for a further IBT report (Smith, 2016) and the third represents a body of 26 interviews conducted in support of the Earth in Vision research project. These latter are available online in video with full transcriptions (Creative Climate). It is important to note that, with the exception of the Earth in Vision interviews, the terms of the data-gathering dictate anonymity.

3 | TELEVISION CLIMATE CHANGE

Since 2008, explicitly climate-focused commissions on terrestrial BBC TV have been relatively sparse. Commissions include two science-based one-off shows *Climate Change by Numbers* and *Climate Change – A Horizon Guide*, both presented on the primarily documentary-based channel BBC Four in March 2015, the channel with one of the smallest audiences across the BBC's TV network. Natural history programming has started to more regularly stitch reference to climate change into the editorial, including in the 2016 broadcast series *Arctic Live* (BBC Two) and the return of the high-profile "blue chip" documentary series *Planet Earth* (BBC One). Furthermore, the return of the oceans-focused natural history documentary series *Blue Planet* (BBC One, 2017) saw a steady pulse of references to climate change and other environmental research, and human impacts on the non-human natural world of the oceans, throughout the series. BBC and other channel controllers and commissioners have indicated that they relish the "creative challenge" of making watchable TV on the subject of climate change, and often suggest the need to "smuggle climate change" into the schedules (Haydon & Magee, 2013). There are certainly instances of such "challenge" and "campaign" television on BBC networks, including the popular science show *Bang Goes the Theory's* cycle-powered house episode (2009) and an anti-waste campaign show *Hugh's War on Waste* (2015–2016) by celebrity presenter Hugh Fearnley-Whittingstall. However, examples remain sparse when compared with the scale of climate change as a policy, economic and cultural concern (Smith, 2017). Reticence among both commissioners and producers only increases the urgency of questions concerning programme commissioning, making and audience engagement in relation to climate change. The programmes considered below represent some of the most prominent commissions concerning climate change by the BBC made since the turn of the century, and hence important reference points globally in consideration of how to televise this difficult topic.

The three significant BBC TV commissions that directly address climate change discussed here include a multiplatform project *Meltdown/Climate Change: Britain Under Threat* (BBC Four, 20 February 2006; BBC One, 21 January 2007), a pair of documentaries *Are We Changing Planet Earth?* and *Can We Save Planet Earth?* (BBC One, 24 May and 1 June 2006) and the drama *Burn Up* (BBC Two, 23 and 25 July 2008). Other than *Meltdown/Britain Under Threat*, each has also been screened on television networks internationally. With the exception of *Burn Up*, these programmes were all BBC/Open University co-productions, and included a print and online public offer written by the academic advisers and printed and distributed by the Open University (2006).

Meltdown/Climate Change: Britain Under Threat was linked to a still ongoing climate science project that in this instance blended public participation in a climate change experiment with TV films. At the core of the media production was the distributed computing project *Climateprediction.net*. It became the source for two BBC/Open University TV programmes: the first, *Meltdown: A Global Warming Journey* (February 2006, BBC Four) invited viewers and online users to join the project and outlined its aims. The marked success of the programme, in terms of both relatively high ratings for the channel and also very high levels of online participation, led to a second showing on BBC Two and one of the most successful examples of cross-platform (i.e., integrated TV and online) commissioning that the BBC had experienced up to

that point. This formed the first component of an extended climate change themed season marketed by the title *Climate Chaos*. The unexpected scale of online and TV audience response also helped *Climate Change: Britain Under Threat* (BBC One, January 2007), the follow-up show, to gain substantial investment and migrate to the most popular British TV channel, BBC One, for the announcement of the results.

The project hinged on web participation by users for its marketing pitch and for a denouement (i.e., “what will participants discover about Britain’s future climate?”), but also offered a means of giving the broadcast a long tail of attention through the provision of slices of content of the “results” show as short films offered online. The online content included weather forecasts for 2020, 2050 and 2080 (performed by TV weather forecasters) as well as short films on, for example, impacts of a warmer climate on the non-human natural world and on the built environment. These were given specific locations, and were made in the BBC Natural History Unit’s established idiom within the field of factual entertainment. The broadcast was fronted by presenters well known to UK television audiences, including David Attenborough and Kate Humble. Familiarity of presentation and tone, combined with the “time-travel” element, were designed to bridge audience expectations of natural history programming and the complexity of climate models. The presentation of the results in a concluding programme, with a magazine format and lead presenter (Attenborough) on BBC One, gave a profile to the project that had not been envisaged at the launch of the collaboration between climateprediction.net and the co-producers (BBC and Open University).

Are We Changing Planet Earth? and *Can We Save Planet Earth?* were the undisputed flagship programmes in the *Climate Chaos* season. This pair of one-hour documentaries made for BBC One (May and June 2006) gained viewing figures for the first UK transmissions in excess of 5.5 million – a good audience for factual programming in this slot. The US network Discovery also joined as a co-producer, allowing an expansion of the range of locations and further investment in graphics. Different parts of the BBC (the Science Unit and Natural History Unit) had been developing ideas for documentaries that would summarise the state of knowledge about climate change, and the Open University’s long-running interdisciplinary environment curriculum had also generated an appetite for a long-form factual commission. It also became clear that one of the BBC’s most celebrated presenters, David Attenborough, had indicated that he wanted to contribute to public engagement with the topic.

The initial emphasis on the science of climate change, and on terms such as “fact” and “truth” from the media production team in early discussions, revealed differences in the ways the academic and media teams were approaching the topic. An initial treatment was titled “The Truth About Global Warming.” In one early meeting of the Open University academic advisory team and the BBC producers and executives, the academics suggested that reference to the word “truth” within the programme or title would be unhelpful and suggested working with more open-risk and scenario-based frames. With encouragement from the academic advisory team, the original proposition was extended to address actions to respond to (mitigate) and cope with (adapt to) climate change. Yet in moving beyond a summary of the state of the science, the production team would inevitably be carried further into contentious areas relating to policy and political and ethical questions. The first element of a solution lay in the commissioning of the two linked films (*Are We Changing ... ?* and *Can We Save ... ?*). These were later edited into one film for co-producer Discovery Channel (*Global Warming: What You Need to Know*, recut and with a new script, this time fronted by leading US factual presenter Tom Brokaw). In the BBC broadcast version, the first of two films would attempt to offer a “definitive” summary of the state of the science of climate change and the second would review a body of potential actions.

The capacity to invest substantially in graphics allowed the use of animated visualisations of, for example, carbon emission “blocks” above the house of a fictional “Carbon family.” The blocks were then visibly erased on-screen in the wake of simple carbon emission reduction measures taken in the “typical” developed world family household. The “Carbons” were clearly figured as a North American family, with both an eye on the US co-production investment and the fact that US per capita emissions were among the highest globally. Measures that helped erase the blocks hanging over the Carbon family household ranged from daily transport choices to energy management. Both technological changes and shifts in social practices were included. Everyday scenes of family life saw modest changes and choices deliver tangible “carbon block dissolving” effects. The filmmakers acknowledged rapidly growing emissions among the middle classes of the developing world/Global South with the introduction of a fictionalised newly high-consuming urban Chinese couple, the Tans.

The two-part three-hour drama *Burn Up* made a provocative and clearly positioned intervention of a very different nature. This two-part drama (BBC Two, July 2008) was born of writer Simon Beaufoy’s (*The Full Monty*; *Slumdog Millionaire*) desire to explore political dimensions of climate change in a recognisable near-term future. The production company Kudos, which had a strong record in contemporary TV drama series (including *Life on Mars* and *Spooks*) took on the project. With a successful writer and production company, and access to high-profile TV acting talent, they won a commission from BBC Two and Canadian co-production investment.

Beaufoy set out to reveal the relationships between carbon-intensive industry interests and political lobbying in the USA, as well as to take viewers inside the UN system and the internal processes of negotiations around climate change. His research was extensive, including interviews with a range of leading figures in climate change policy debates from business, science and government. He also attended a UN Conference of the Parties. Beaufoy scripted the piece with close attention to the language, culture and processes of the individuals and institutions that he was representing, including the oil and insurance industries, UN science and policy processes and environmental NGOs. *Burn Up* remains one of the fullest dramatisations of a UN conference that exists in TV or film drama, and is also the first full-length TV drama to place climate change science and policy at the centre of the action.

4 | VOCAL CITIZENS, CONSUMERS OR CONSTITUENTS?

Returning to the two questions raised by consideration of Couldry's work in relation to the concept of voice, this section examines the extent to which the makers of these television programmes framed their viewers as active vocal citizens. This is followed by consideration of the extent to which these commissions serve to give voice to the multiple constituencies of climate change.

If *Meltdown* was designed to invite members of the public to interact with the production of climate change science, the *Planet* films were constructed in the craft tradition of the "one to many" presenter-led linear documentary. Within the BBC, the fact that *Meltdown* recruited so many people globally to engage online in a science experiment led to it being held up as one of the most successful examples of multi-platform commissioning: "(t)housands of you took part in the world's largest climate experiment" (BBC, undated). In truth, the volunteers were not themselves participating in the experiment so much as lending unused capacity on their computer hard drives to an ongoing body of climate modelling experiments. The sense of participation in an experiment, although prominent in the marketing of the programmes and wider project, was slight, and constituted only the most modest "mode of social agency" (Dahlgren, 2009, p. 57). The use of spare capacity on participants' computers represented little more than online extensions of the processing power of a distant lab. The success of the project as a form of induction into one form of science practice, but not any sense of *practising*, fails to satisfy most definitions of citizen science (e.g., Irwin, 1995). Indeed, in the fast-turning world of media decision-making, the project permitted some in commissioning discussions to argue that they had "done" climate change and citizen science for the time being. Notably, this had been achieved within the relatively safe editorial confines of a computer-mediated physical modelling experiment. It was clear from the production and advisory meetings that *Meltdown/Britain Under Threat* did not seek to provoke audiences with ethical or political questions generated by the modelling outcomes.

The interactions between the different parties investing in and producing *Are We Changing Planet Earth?* and *Can We Save Planet Earth?* served to shape a narrative that also sought to invite viewers into a more civic, discursive and participatory understanding of policy and societal responses. Hence, although the value of household actions was acknowledged, there was also a more implicit invitation to active citizenship regarding larger scale actions. This is primarily evident in the way that *Can We Save Planet Earth?* was structured around choices among actions. It was loosely organised around US climate researchers Pacala and Socolow's (2004) "wedges" approach to mitigating carbon dioxide emissions. This device allowed climate change action to be represented as flowing from societal and policy choices, avoiding the presentation of a pre-determined conclusion. In other words, the second film framed climate change policy as a collective deliberation about selecting from a range of actions. Indeed, the proposal to use the wedges device by the academic team was driven by a concern to represent climate action as an active and wide process rather than the imposition by distant parties of a pre-formed strategy.

In these ways, *Can We Save Planet Earth?* was intended to permit hopefulness in terms of humanity's capacity to address climate change within existing democratic processes that allow for learning and change. In other words, it sought to allow for the citizenry of a democracy to accept outcomes that they may not agree with, knowing that "next time the result might go my way." This helps to address possible tensions concerning the public service broadcaster's obligations to impartiality and is an appropriate answer to long-standing concerns with "balancing" the voices engaged. It is also a constructive contribution to debates about the representation of knowledge about global environmental change issues and the deliberation of political responses. In this context, giving voice is particularly concerned with bringing into presence particular forms of knowledge. Data cannot speak for itself through broadcast media. It has to be represented through images, script and characters, whether in fiction or factual content. Knowledge, information and data concerning climate change becomes an active voice only when it is taken into the political conversation as part of the exchange of views, interpretations and understandings, between others.

Burn Up's status as drama allowed a very different kind of work with ideas of citizenship and voice. Among other things, the characters are free to carry carefully developed dilemmas of climate change citizenship for the audience. These expressions of citizenship range from intimate, routine, everyday domestic exchanges, for example "travel to work by bike day" at the oil executive's daughter's school, to the behind-the-scenes machinations of non-state actors in international negotiations. A drama script can also carry heightened expressions of the stakes involved in the clash of professional norms and private ethics. These clashes were expressed as explicit debates or tangible tensions within the household of the central protagonist, the oil executive Tom and his relationships with friends. But it also managed to portray relations within international NGOs, between national negotiators at the UN, and shifting alliances and interests both within industry and between industry and mainstream politics. In the years that followed the transmission of *Burn Up*, these debates and tensions have been played out many times for real. The substantial cultural work around themes of ethics and citizenship that might be done with such malleable forms as drama and comedy have rarely been exercised in television beyond this project.

The fact that *Burn Up* was a drama set in a "realistic" near future gave it opportunities unavailable to the other commissions in terms of voicing climate policy and politics as contested, multiple, unresolved and open to influence – above all in this case by powerful interests. However, this polyvocality is the result of a clearly pre-scripted and consciously authored narrative. The author engaged in extensive research into the constituencies with a stake in the topic, followed by exhaustive re-drafting of scripts, and there were further revisions and decisions in the edit suite by the wider creative team behind *Burn Up*. This process of research and revision in developing script, direction and edit left the team free to give presence and voice to a wide range of interests and ideas. However, the drama does not aim for impartiality or balance: it delivers the viewer to a denouement selected from many possible outcomes, above all by the writer.

In terms of the multiple voices and constituencies of climate change, viewers and online participants of the *Meltdown* project were invited into a sense of climate change science as an unfinished process. Appreciation of the complexity of climate modelling, and, to a lesser extent, its place in the wide and diverse disciplinary discourses of climate change, were central to the offer to the participant/viewer. It is rare that linear factual programming allows this kind of open-endedness: the grammar of television, including long-form documentary, generally insists on a conclusion within the broadcast, offering viewers a sense of resolution.

Climate change is voiced here with a very particular scripting of possible futures. The "bookend" *Meltdown*-related TV programmes and the by definition unknowable results of the online experiment were mutually dependent. In an expressive echo of its larger subject, albeit in heavily truncated form, the "jeopardy" or pay-off that is normally considered so necessary within the course of an individual programme was held over for a year as the collectively generated model ran in a way that mimics but compresses the much slower paced unfolding of planetary processes of climatic change. This represented an intriguing example of what Wolf terms the "subjunctive documentary" (1999, p. 274), wherein the collective computer-modelling project was re-presented in ways that transported the viewer to future events. *Meltdown* was a response to the challenge, noted by Mellor (2009, p. 146), that climate change science did not at the time fit into the dominant modes of documentary storytelling. The subjunctive is often used to consider the hypothetical or not yet realised, and conjures the imagined, hoped for, demanded or expected. *Meltdown* adopts techniques that invite audiences to consider the range of possible outcomes for climate change. While the claims to have delivered a large-scale online citizen science project were over-stretched, the devices used to draw viewers into a familiar but undeniably climate-changed future with personal and policy implications represented a distinctive innovation in climate science television. *Meltdown/Climate Change: Britain Under Threat* coped with the potential disconnect between future impacts and present-day viewers via the use of familiar faces, tones and places, including the deployment of imagined but purposefully located future natural history stories and weather forecasts. These allowed audiences to inhabit the future in ways that acknowledged change and hazard without recourse to a familiar, but problematic, repertoire of dramatic globalised and/or generalised threats (see Corner et al., 2015; Doyle, 2011; Manzo, 2010; O'Neill & Smith, 2014).

In terms of the "voices" associated with climate change, both *Are We Changing Planet Earth?* and *Can We Save Planet Earth?* sought to present broad and dynamic fast-evolving science in progress rather than a summary conclusion. The first part saw the presenter travelling to visit climate science researchers and their places of work or sites of study. The script and visuals served to personalise the research process, and aimed to communicate some of the key foundations of climate science through graphics, interviews and voiceover script. The separation of the two programmes allowed for climate change research to be portrayed as an unfinished, ambitious and unfolding project in Part 1. This presented an account of the natural science that allowed it to be simply "interesting" rather than contentious.

In the drama *Burn Up*, the setting in a recognisable near-future means that the physical processes associated with climate change are largely voiced through the seminar room summaries of the main science character (a senior UK

government science adviser) and other “explainers.” Indeed, graphic devices, including for example placing PowerPoint projections of climate science graphs within an on-screen conversation, were very close to those used in the *Meltdown* commissions and the *Planet* films. Whether it was a senior scientist explaining the basics to a civil servant, or the lead characters going out to see methane released from permafrost in the Canadian Arctic, the freedoms of drama production allowed natural science research to be inter-planted among the plotlines of the human drama.

5 | VOICE, POLYVOCALITY AND THE DIGITISATION OF MASS MEDIA

Each of the commissions discussed above go some way towards enabling voices relating to climate change to be heard as part of mainstream and primetime TV viewing in the UK. Strategies of giving voice in these commissions include: involving citizens in science experiments; providing a platform for scientists to talk about their research in their own words; giving presence to climate change data and knowledge; and dramatising climate change in ways that connect with viewers’ own lives. *Meltdown* demonstrated that television documentary forms could handle open-endedness and a project where results build over time. A collaborative science experiment was deemed sufficiently “watchable” to move to the most popular channel. The achievement is exceptional in a decision-making environment that has been made increasingly conservative by intense competition for audience share.

Both the *Planet* and *Burn Up* two-part series gave prominence and space to exploring climate researcher testimonies, at the same time winning good viewing figures for their transmission slots. But the decision for the *Planet* films to move beyond a summary of the state of the science represented a risk for the presenter and broadcaster. The *Planet* films were clear in their referencing of the research community as the driver of concern, but moved to personal, ethically driven arguments concerning the motivation for and need to take action. In other words, the science and policy complexities were aired, but ethical and affective dimensions regarding loss, vulnerability and responsibility were also explicitly voiced. Hence while the content met stringent editorial guidelines for a factual documentary, the motif of the intellectual and ethical journey travelled by the presenter permitted more editorially testing questions to be broached, albeit carefully. The story can carry different voices.

For many involved with the commissions discussed in this paper, storytelling provides the main means for giving a voiced presence to the multiple processes and strands of climate change science and its environmental and human implications and consequences. This is not in itself particularly surprising or innovative. Most conventional media formats work with and encourage the use of narrative. Stories angled towards human interest, programmes framed in the form of quests and journeys, plotlines and programme structures set up to create senses of “jeopardy” and with clear trajectories of unfolding choice and resolution are the common currencies in mainstream documentary-making. These conventions are as typical of programming made during the “golden age” of public service broadcasting as they are today within a more plural multi-format and deregulated media landscape. This aids academics and programme makers who wish to inject senses of polyvocality and multiple environmental processes, interests and experiences into mainstream media outputs. A focus on storytelling registers positively with viewers who are well used to following and untangling complex, fast-moving and interwoven plot lines familiar from many dramas and soaps.

Yet the simple presence of narrative in a programme does not in itself constitute voice. Where narrative is tightly constrained, perhaps by the conventions of a form such as TV serial thriller or popular natural history documentary, multiple storylines, characters or speaking heads can only ever provide a ventriloquised illusion of polyvocality. At best, such authorial strategies can gesture towards the contested multiple understandings and interpretations of environmental questions. They can mime, simulate, represent and display debates. But their closed form means that they are not themselves the public conversation or debate that might be sought or required. In this context, voice is a useful means of raising consciousness concerning debates, but does not in itself necessarily provide the political and vocalic space in which to engage in them. Several of the commissions considered here perform this role by either dramatising climate change, as in *Burn Up*, or adopting the “subjunctive” “what if” mode of *Meltdown*. As such, they perform a useful role by simulating the contours of debate around climate change, but the extent to which they are able to provoke and animate debate among publics remains unproven.

Couldry’s concern for voice in the media is particularly directed towards adding polyphony to what he perceives to be an increasingly monophonic commercialised media. However, the commissions discussed above were made by a public service broadcaster faced with the pressures of a UK broadcasting landscape increasingly open to both external competition in the form of the proliferation of terrestrial, digital and satellite channels and internal competition in the form of competitive tendering and outsourcing. Although Couldry expresses a rhetorical pessimism, it is clear that there are possibilities and

opportunities for those concerned with voice in the media as a democratic imperative, even within the severe institutional and creative constraints of the media industry. A common feature of all the programmes discussed is their status as risky commercial and creative enterprises. Yet each shows that even within relatively unpromising institutional contexts it is possible to find a willingness to innovate in response to the creative challenge of climate change. However, this clearly requires confidence from commissioners and innovation from makers. On complex topics such as climate change, it also demands a high level of interaction between media producers and research and/or policy communities. This might suggest that even within very conventional media institutions and formats it is possible to undertake innovative work in terms of giving voice, even though this is often compromised in the face of cautious decision-making among gate-keeping programme commissioners and schedulers. This might result, for example, in the use of well-trying formats or presenters with a high public profile.

A potential criticism of Couldry here is that his critique hangs substantially on a model of mass media as an already defined legitimate political space. Such thinking needs to evolve to take full account of the potentials opened up by the unpredictable and ongoing digital transformations of media. Neo-liberalisation of the media landscape with all its attendant threats to the goal of an open and engaging media environment has taken place hand in hand with the proliferation of channels and the blending of conventional broadcasting with digital and internet-based platforms, including social media. These processes of neo-liberalisation have intensified across 30 years since the late 1980s, and include consolidation of print and broadcast media, and concentration of media ownership into companies with increasingly global and diverse interests (Anderson, 2009). These processes of global market development, with parallel diminishment of nation-state influence, have also included the emergence of influential digital platform or service provision companies (e.g., YouTube) (Burgess & Green, 2009). In some cases, these have not only provided a platform for content (subscription video on demand), but also now commission or co-produce dramas and documentaries (e.g., Netflix). These developments have served to intensify competition for attention, and public service broadcasters are not exempt from these pressures. This has prompted Couldry (2015) to describe the “myth of us” in relation to digital networks. However, although commercialisation and commoditisation continue to present challenges to anyone concerned to engage diverse publics in complex long-term issues, there can be little doubt that to date these media radically extend and expand the potential and possibility for both polyvocality and meaningful interaction.

In this context, conventional broadcast media, despite their sustained influence, no longer constitute the only site for legitimate and meaningful debate among and between publics and broadcasters. Rather they exist both in competition and dialogue with other more interactive media. Increasingly, mainstream broadcasters such as the BBC operate within a blended digital media landscape able to mix online and conventional broadcasting to provide multiple related simulcasts. This provides opportunities for some measure of polyvocality even within the constraints of mainstream broadcasting. In this context, the potentials of “transmedia television” open up a range of possibilities for environmental programming to create new vocalic spaces in which to give voice to the very wide range of constituencies (future as well as present) relevant to climate change issues.

One prominent example is the annual BBC series *Springwatch* and its seasonal spin-offs *Autumnwatch* and *Winterwatch*. Broadcast since 2005 mid evening on BBC Two, the programmes chart the fortunes of British wildlife at key moments in the changing seasons in the UK. It is easy to read *Springwatch* as popular entertainment rather than science broadcasting; indeed, the producers to a large degree intend this. *Springwatch* and its related programming is high energy and fast moving, and with broad appeal across the age ranges. It appeals to enthusiastic amateur bird watchers, naturalists and environmentalists in addition to more casual viewers. The programmes are broadcast live usually over four consecutive days per week for a period of between one and three weeks from a specific wildlife reserve and are hosted by a core team of presenters. They are characterised by the deployment of many (50 plus) hidden and remotely operated cameras based in animal sets and burrows and bird nesting and feeding sites. These are available as live feeds to presenters on set and for broadcasting. This allows the programme to dip in and out of any number of ongoing wildlife stories, including nestings, birthings and predations as these shape up over three weeks.

In *Springwatch*, the use of multiple wildlife cameras viewable 24/7 via the Internet and the ability to interact and share experiences via social media further connects the stories and experiences of viewers with those of the presenters and the wildlife. Executive Producer Tim Scoones called the programme an “ongoing experiment” and pointed towards some of the possibilities of citizen science within the programme format. He highlights the *Springwatch* surveys undertaken in 2004, 2005 and 2006 that involved a third of a million people gathering data. This citizen science dataset exercise promoted by *Springwatch* became part of a body of scientific evidence submitted to the European Commission in 2007 (Scoones, interview, 2015). The success of BBC *Springwatch*’s Red Button show *Unsprung* exemplifies the ways in which active and

enthusiastic publics can build around new channels, platforms and other media of engagement. These spaces represent, to our minds, examples of new “action-contexts” in Couldry et al’s terms (2007, p. 195).

6 | CONCLUSION

This paper has considered three BBC commissions themed around the issue of climate change. It has taken as its starting point Couldry’s (2010) plea to make voice a key focus for a more democratic media and it has examined this assertion specifically in relation to climate change. It has examined Couldry’s conception of voice in relation to these three commissions and placed them alongside contemporary developments in digital and blended media broadcasts or transmedia television represented by the popular but experimental BBC series *Springwatch*.

Although Couldry’s work is a useful starting point, this paper has argued that, when his assumptions are interrogated in the context of specific media histories, there remains further work to be done in order to unpack the value and potential of the concept of voice. In terms of media spaces and the geographies of media, both past and future, Couldry’s claim that the neo-liberalisation of contemporary media gives voice to a diminishing variety of relevant constituents provides an overly simplistic account.

The programmes discussed in this paper were commissioned and produced at a hinge point in broadcast media production (they were also, crucially, commissioned as an integrated season). The notion of multi-platform combined broadcast and online commissioning was still very much in its infancy. Yet they demonstrate that blended and digital media outputs, and themed season commissioning across genres, including drama, provide opportunities for a significant expansion in the number and type of voices. This body of commissions also hints at the possibilities for larger overlaps and interactions between producers and consumers, and new opportunities to voice a more diverse body of constituencies of climate change. Even acknowledging the “myth of us” generated by digital networks that Couldry (2015) has recently drawn attention to, public service broadcasters in particular hold the potential to support a dramatic opening out of learning and discursive spaces. However, as Couldry might suggest, it is important to acknowledge that commercial media companies are working hard to control and direct digital and social media in order to protect or grow income streams. In the absence of civic obligations derived from regulation or strong and sustained consumer feedback, these interests will inevitably shape and, more likely than not, limit, those opportunities.

This paper has investigated the cultural politics of a prominent body of climate change related TV programming as an act of commissioning and making, and hence plotted acts of giving voice in mainstream broadcasting. However, the fast-evolving media ecology calls for a commitment to ongoing attention and innovation from scholars if they are to interpret and critique, and increasingly take opportunities to participate in, the generation of content. The softening of boundaries between production and consumption can be matched by more active commentary and participation by the research community in meaning-making and the voicing of constituencies. This implies a need for vigilant attention to the adjustments, compromises and serendipities that arise as programme makers, academic consultants and programme commissioners work together. In these ways more nuanced understandings of media processes, particularly in this period of rapid change in production and consumption of media content, can help to support more active and expanded debates about choices and actions on climate change or indeed any other demanding topic.

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CONFLICT OF INTEREST

The peer-review process for this paper was completed before Joe Smith was appointed as Director of the RGS-IBG. The usual peer-review process was followed and the editors of *Transactions* were not aware that Joe was being considered for the role of Director.

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