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'Wise contrarians': a keystone species in contemporary climate science, politics and policy

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In the 1980s, celebrity climate contrarians, which we might understand as a kind of 'keystone species' or 'charismatic megafauna', emerged through resistance to dominant interpretations of scientific evidence, and through divergent views regarding what are the best ways to respond to climate threats. Our research here examines the growth pathways of these beings through historical accounts of the 'Wise Use' movements rooted in the United States (US) West, as well as interview data and participant observations at the 2011 Heartland Institute's Sixth International Conference on Climate Change, and through tracking of media coverage of climate change and contrarian think tanks over the last 25 years. This contribution helps to better understand celebrity climate contrarians embedded in countermovement activities through a threefold analysis: of the *motivations* that prop up these contrarian stances, such as ideological or evidentiary disagreement to the orthodox views of science (also known as scientific consensus); the *drive* to fulfil the perceived desires of special interests (for example, carbon-based industry); and the *exhilaration* from self-perceived academic martyrdom and the more general desire for notoriety. In these ways, celebrity is a vehicle for influence, and influence is vital to decision-making within the dynamic architectures of contemporary climate science, politics and policy.

Keywords: climate change; contrarians; celebrity activism; Wise Use; conservative ideology

Introduction

In the summer of 2012, speaking about scepticism toward the theory of evolution, well-known paleoanthropologist Richard Leakey claimed, 'If you get to the stage where you can persuade people on the evidence, that it's solid [. . .] we have a chance of a world that will respond better to global challenges' (Eltman 2012, p. 1). Leakey suggested that evidence provided vital pathways to engagement: enough information could squelch opposition. Yet, history has shown that even in the face of overwhelming evidence, opposition persists, opposition ranging from diagnosis (the evidence itself) to prognosis (recommended actions emanating from the evidence). Leakey's comment must be expanded to account for what Moser (2009, p. 172) has acknowledged through her work on communication at the science–policy interface: 'providing information and filling knowledge gaps is at best necessary, but rarely sufficient to create active, behavioral engagement.'

In the case of climate change, one can consider the overwhelming convergent agreement within relevant expert communities in science that humans play a significant role in

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today's changing climate (amidst an ongoing background of natural climate contributions, such as volcanic activity and orbital shifts). But movements from this diagnosis to calls for action are filled with contention. In other words, the path from appraising the way things are to the way it is thought they ought to be are fraught with discussion, debate and disagreement. It is within these spaces that one finds clashes as well as confluences of culture, politics, economics and society over time.

For our purposes here, we focus on a heterogeneous yet loosely configured set of people dubbed 'climate contrarians', who have achieved veritable celebrity status in contemporary discussions of climate science, politics and policy in the twenty-first-century public sphere, often through the guise of public intellectualism. In this paper, we trace these celebrity contrarian voices as a kind of 'keystone species' – a species that has a disproportionally large effect on its environment in relation to its numbers – through the lineage of the anti-environmentalist, free-market 'Wise Use' movement, which has shaped the culture of climate contrarianism in the US. We examine the motivations of these actors and the amplification of their rhetoric and actions on the public stage by way of interviews conducted at the 2011 Heartland Institute's International Conference on Climate Change, and by media analysis of 110 climate countermovement groups in English-language news outlets around the world over the past 25 years.[1]

Keystone contrarians

Studies of fame and celebrity have emerged mainly through the disciplines of film, media and cultural studies. As their influence and purchase in the public arena has grown (Marsh, t' Hart, and Tindall 2010, Holmes and Redmond 2006), celebrity causes have adapted to changing public demands (Marshall 1997), have grown more 'responsible' (Littler 2008, Ponte, Richey, Babb 2009), and evolved through a 'confluence of care, politics, foundations, activism, NGOs, media, popularity and stardom' (Goodman 2013, p. 1). Moreover, celebrity engagements have often taken up questions of development (for example, Richey and Ponte 2008), conservation (for example, Brockington 2008) and environmental issues more broadly (for example, Brulle 2010).

In previous decades, scholars such as Boorstein (1961) and Alberoni (1972) have explored intersecting influences of power and influence, while Monaco (1978) has worked through notions of notoriety gained from accomplishments and contributions to society. From these foundations, Dyer (1987) then explored the cultural contexts and variable images of particular celebrities. In the years that followed, scholars such as Rojek (2001), West and Orman (2002), Street (2004) and Turner (2004) developed considerations of the significance of celebrity's structural characteristics and cultural attributes. The intermingling of celebrity and environmental issues has provided new insights to these ongoing considerations. Examples include work on intertwined issues such as environmental conservation (Brockington 2009) and consumption (Littler 2009).

In this article, we build upon the taxonomy of climate-change celebrities developed by Boykoff and Goodman (2009), and in particular, the 'celebrity-as-public-intellectual'. We do not wish to suggest that these voices necessarily constitute a coherent or homogeneous brand of celebrity; rather, our approaches here are consistent with those of Boykoff and Goodman (2009, p. 401), who described them as privileged and amplified voices that 'are routinely called on for comment'. In this way, we can then look to the contrarian public intellectuals as influential celebrity actors much the same way as Cooper (2008) has explored 'celebrity diplomacy' and Kapoor (2012) has considered 'celebrity

humanitarianism'. Building further, we explore these 'wise contrarians' as celebrities who gain distinction primarily by way of activities associated with anti-regulatory, anti-environmental, 'sceptical'[2] and neoliberal environmental movements aligned with those on the ideological right. This approach meshes with that of McCurdy, where celebrity *activism* is identified as emerging from those who gain prominence in the media by way of their activist works (see elsewhere in this issue).

As such, these wise contrarians of contemporary cultural politics can be usefully considered as a keystone species, in that their influence in larger media ecosystems surpasses their relevant expertise in climate science and policy. Heywood (1995, p. 290) has defined keystone species as those 'whose impacts on its community or ecosystem are large and would be greater than would be expected from its relative abundance', while Meffe and Carroll (1997, p. 238) have described them as 'a species whose impact on its community or ecosystem is large, and disproportionately larger relative to its abundance'. Furthermore, Simberloff (1998, p. 254) has defined keystone species as 'having impacts on many others, often far beyond what might have been expected from a consideration of their biomass or abundance'. We find that such bio-scientific literature can illuminate these issues: by considering climate contrarians through the lens of conservation biology, in what are highly politicised arenas, the debate over the influence of such positions is not pre-emptively foreclosed (Barua 2009). However, there are shortcomings associated with this focus on wise contrarians merely as keystone species. Among them, there are dangers that such treatment may come at the expense of attention paid to connections between their interventions and macro-level political, economic and societal dimensions. In other words, when focused on the movements of individual contrarians, such attention could displace deeper structures and architectures that give rise to the effectiveness of their claims in the public arena.

Questions taken up here involve considerations of how various outlying or extreme views – particularly those associated with movements from the ideological right – influence public discussions on climate change. How we identify outliers, then, as contrarians is worth some elaboration. While many have pointed out that scepticism forms an integral and necessary element of scientific inquiry, its use when describing outlier views on climate change has been less positive, so others have opted for the term 'contrarian' instead. McCright (2007) defines contrarians as those who vocally challenge what they see as a false consensus of mainstream climate science through critical attacks on climate science and eminent climate scientists, often with substantial financial support from fossil-fuels-industry organisations and conservative think tanks. O'Neill and Boykoff (2010) further develop a definition of 'climate contrarianism' by disaggregating claims-making to include the ideological motives behind critiques of climate science, separating individuals who are thus far unconvinced by the science from individuals who are unconvinced by proposed solutions. Moreover, labels of contrarianism must be cautiously derived by evaluating the *content* of the claims themselves, rather than the attributes of claim-makers or their funding sources (Oreskes 2004). Without such care, analyses run the risk of dismissing legitimate and potentially useful critiques out of hand by dismissing the individual rather than the arguments put forward. In other words, pre-emptive and dismissive labelling of claim-makers overlooks the varied and context-dependent arguments put forward, focusing, like much popular-celebrity discourse, on individual characters rather than the arguments or discourses running through or being mobilised by them. Yet, these totalising characterisations have often been features of reactions to climate contrarian comments and assertions, by way of labels such as 'sceptic' and 'denier'.

United States Wise Use movements and climate contrarianism

Climate contrarian movements have emerged from a wider historical context of American conservatism mapping on to anti-environment stances that took hold in the late 1960s and 1970s, around the time of progressive environmental legislation in the United States (McCright and Dunlap 2010). Among resistance movements were the Sagebrush Rebellion and the Wise Use movement, which, under the direction of charismatic and well-connected leaders, sought to reform public land management with privatised decision-making and rights (McCarthy 2002, Dunlap and McCright 2011). Yet in the mid- to late-1980s, in the context of Reaganomics and corollary efforts to reduce the regulatory power of the Environmental Protection Agency (EPA) as well as the Department of the Interior, the notion of climate contrarianism emerged.

History and strategy of the Wise Use movement

The Wise Use movement arose in the American West in the late 1980s, later spreading across the country as a national anti-environmental effort. Wise Use fought for private property rights, decreased environmental regulation and unrestricted access to public land for mining, logging, grazing, drilling and motorised recreation. It was a coalition of individuals, movement leaders, NGOs and corporations who aligned behind an environment-or-economy dichotomy. The birth of Wise Use marked the rise of the modern neoliberal, anti-regulatory, anti-environmental movement prevalent today, in which individual rights, private property and free enterprise are prioritised over environmental protection. Wise Use presented itself as advocating for rural residents' and resource labourers' rights, conceiving of environmentalists as distant, urban elites who remained out of touch with the needs of those who were on the ground and engaged in the production of natural resources. On the other hand, Wise Use had many corporate ties and simultaneously served the interests of extractive corporations, whose profits could be affected by implementation of environmental regulations.

Wise Use has been understood as an expansion of the earlier Sagebrush Rebellion land revolts that spanned the 1960s and 1970s, which were a reaction to the advent of the new, vigorous environmentalism of the 1960s and 1970s. The movement's name is borrowed from Gifford Pinchot, the first Chief of the US Forest Service, who was the first to conceive of a more sustainable forestry practice. Ron Arnold, one of Wise Use's leaders, borrowed the term 'wise use' since it was conveniently 'ambiguous and fit neatly in newspaper headlines' (Burke 1993), and since he believed that rural residents were the true stewards of the land. Overall, Wise Use attempted to appeal to the ideologies of hardworking, rural America – the individuals and families that made their living doing honest work to provide the country with essential resources such as timber, beef and oil. According to geography scholar James McCarthy (2002, p. 1283), Wise Use:

> . . . claimed to be a grassroots social movement, rooted in a regional culture, responding to overly intrusive outsiders. It defined itself mainly in opposition to the environmental movement, environmental regulations and federal agencies governing land uses, all of which it portrayed as arrogant, ignorant outsiders intruding on local communities and denying them their livelihoods and right to self-determination.

Wise Use gathered momentum at its first national meeting in 1988, the Multiple-Use Strategy Conference, which was sponsored by the American Freedom Coalition, a conservative, Christian-right interest group, and attended by nearly 200 groups supportive of

Wise Use premises, many of them trade organisations and motorised-recreation advocates. Out of the conference came a unified platform aimed to 'destroy environmentalism' and to advocate the 'wise use' of land and natural resources (Gottlieb 1989). In 1989, movement leader Alan Gottlieb edited *The Wise Use agenda – The citizen's guide to environmental resource issues*, which outlined the movement's main beliefs and suggested 25 priority goals. Four years later, Arnold and Gottlieb (1993) published the 'bible' of Wise Use under the self-explanatory title: *Ecology wars: Environmentalism as if people mattered*, as well as the later *Undue influence: Wealthy foundations, grant-driven environmental groups, and zealous bureaucrats that control your future* (1999).

Gottlieb and Arnold were an influential pair – well known within the world of the Wise Use movement and upon the larger neoliberal, anti-regulatory environmental stage. Referred to as 'political entrepreneurs' (Burke 1993), the pair divided their labour so that Arnold provided the mouthpiece through the media and through the countless articles and books he authored, while Gottlieb provided political fundraising expertise. Similarly, Wise Use enjoyed leadership and support in the realm of politics, including Secretary Watt, Ronald Reagan and Congressman Rob Bishop (R-Utah), who co-founded the Western States Coalition, a political arm of the movement. Wise Use thus relied on the leadership of outspoken public intellectuals as well as the support of politicians such as these.[3]

Central strategies of Wise Use included denouncing environmental science, appropriating environmental rhetoric and using front groups and 'astroturfing' to service corporate agendas. Astroturfing refers to the secretive creation of seemingly local, grassroots-level groups or campaigns by corporations and public relations firms (Dunlap and McCright 2011, p. 154). As Representative Rob Bishop, explained in 1993, 'There has been a lot of bad science that's been thrown around in the name of environmentalism. And, that bad science has produced [. . .] efforts that have been costly to people and harmful to the land' (*PBS Newshour* 1996). In this way, Wise Use leaders were science contrarians in their own right, pushing a neoliberal agenda by attacking what they deemed environmental junk science – the rising tide of ecologists and environmental scientists – and making knowledge claims based on their constituency's experience of living upon the land that itself constituted the contested natures. As Ron Arnold stated during a 1992 *Nightline* report, 'We think that people really want man and nature to live together in productive harmony, and not to be subservient to nature or somebody's idea of nature' (as cited in Helvarg 1994, p. 269). The propitious rhetoric of personal property rights, freedoms from regulatory structures and the promises of free-market environmentalism fronted the movement's larger neoliberal agenda and the rising tide of the second New Right within the context of Reganomics. As we shall see, out of this era – for similar reasons and with similar strategies – also grew the contemporary climate contrarian movement.

Climate contrarianism: a new battle in anti-environmentalism

Alongside the lands-based, anti-regulatory Wise Use movement of the late 1980s and 1990s, the seeds for a parallel climate-contrarian movement were planted. Furthermore, political, social and cultural norms – rooted in Wise Use activities – sprouted in climate-contrarian actions that followed. Public awareness of the global warming problem grew after climate scientist James Hansen's widely reported testimony before Congress in 1988 and government discussions about what to do ignited a new reactionary movement with neoliberal, free-market interests.[4] Antonio and Brulle (2011, p. 1) have argued that the climate countermovement has become the most 'pivotal issue in battles against

environmental regulations' due to the threat climate regulations pose to fossil-fuel companies and other industries. Indeed, there are many parallels in strategy, claims and ideology. The use of front groups and backing by conservative think tanks funded by industry-interest groups by the climate countermovement was carefully mapped by Dunlap and McCright (2011) and Jacques (2012).

Wise Use proponents made use of 'common-sense' appeals to the conservative middle-class, speaking to the ideology of freedom and liberty, above all, which connects dually with the individual-centric doctrine as well as that of neoliberalism and the free market. For instance, the slogan of the Cooler Heads Coalition, a climate countermovement front group, is 'May cooler heads prevail', and this rhetoric of common sense is prevalent amongst both the Wise Use and climate-contrarian movements. In 2012, news and events highlighting these contrarian stances show connections to these Wise Use roots, calling for the repeal or diminishment of environmental regulations, while labelling the 'other' (environmentalists) and their policies as extremist, communist, un-American and diametrically opposed to prosperity, jobs and profit. For example, the prominent climate contrarian group Americans for Prosperity (2012) held a counter-protest to Global Wind Day, which occurs each year on 15 June around the world in support of wind energy, labelling such an event as an example of environmental 'fanaticism'. In 2010, Utah's House of Representatives passed a resolution urging the United States Environmental Protection Agency (EPA) to 'cease its carbon dioxide reduction policies, programs, and regulations until a full and independent investigation of climate data and global warming science can be substantiated' (State of Utah Legislature 2010). Representative Mike Noel, a leading climate contrarian within Utah's legislature, declared that global warming was fabricated as a conspiracy to advance population-control policies (Fahys 2010).

Both Wise Use and the climate countermovement self-label ambiguously (for example, Alliance for Climate Strategies and Citizen's Coalition on Climate Policy) and in ways that invoke environment–economy and regulation–freedom dichotomies (for example, Americans for Prosperity, Freedom Works).

Over the past half-decade, conservative think tank the Heartland Institute has emerged as a leading climate-contrarian organisation that questions both the diagnosis that humans contribute to climate change, and a range of prognoses for mitigation-policy action. The Heartland Institute was founded in 1984 and has been motivated by free-market approaches to a number of critical public issues such as healthcare, education, taxation and tobacco regulation. Since 2008, the Heartland Institute has organised near-annual meetings called International Conferences on Climate Change: the 2011 meeting was ICCC6 (where interviews for this study were conducted) and the slogan for the meeting was 'Restoring the scientific enterprise', embodying one of the core arguments levelled against climate policies.[5] In recent years, the Heartland Institute itself has achieved celebrity status as 'the primary American organization pushing climate change scepticism' (Gillis 2012). This climate-countermovement organisation has gained 'celebrity status' (Drake 2010) through the currency of media attention in recent years. Figure 1 represents nine of the major countermovement organisations, including the Heartland Institute (see the following section for more).

Scholars have identified a range of motivations that drive the climate countermovement, and most of these are also at play in Wise Use efforts. Jacques (2012, p. 12) has theorised that this 'organised deflection of accountability' is also inspired by the drive to defend the notion of an 'American' ideology and 'the defensive fear that the possessive individualistic ontology of the West lies uncomfortably in the guillotine'. Still others profess that, beyond special interests and ideological adherence, climate contrarianism is motivated by cultural

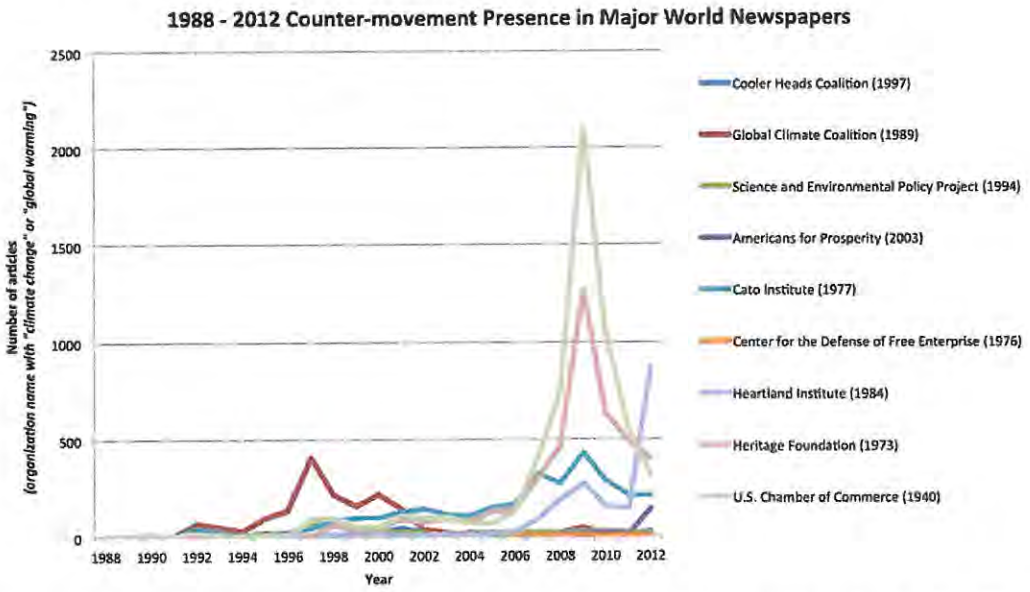

Figure 1. Climate countermovement presence in English-language news outlets, 1988–2012. This graphic represents nine of the 110 groups that were identified as the 'core' of the US climate countermovement. Years noted in parenthesis after each organisation's name denotes the year of formation.

dynamics and disagreements within the academic institution (Lahsen 2013). Protecting corporate freedom and, thus, profits is another motivator.

Overall, these historical explorations of Wise Use movements from the US West have provided insights into perspectives, commitments, actions and motivations of the contemporary movements of celebrity climate contrarians. We will further explore these propositions and offer insights into these notions in the next section, through interview data from the Heartland Institute ICCC6 gathering in 2011 and media monitoring of countermovement organisations over the past 25 years, which we will discuss in relation to their use of celebrity culture.

Motivations (and amplifications) of 'wise contrarians'

Scholars such as Philip Drake (2010) and John Street (2004) have shown how the celebritisation of politics has shaped power, influence and decision-making in a wide range of contemporary issues. Decision-making on climate change – an issue that cuts to the heart of how we live, work, play and relax in modern life – certainly is shaped by celebrity influences on our lives, lifestyles and livelihoods. Therein lies the dynamism and contestation between various actors working and struggling to influence attitudes, perspectives, intentions, beliefs and behaviours on climate change.

Within these battles, some – largely from within the movement itself – argue that contrarian stances have staked out part of a contemporary Copernican revolution in climate science and policy, helping the general public to overcome collective delusion that humans play a role in modern climate change and that migration and adaptation actions need to be taken to address associated challenges (Michaels 2011). Representative of these stances, celebrity climate contrarian Joe Bast – President and CEO of the Heartland Institute – proposed during an interview at the 2011 conference, '[O]nce you're aware of that literature

[climate science], I think it's impossible for you to just blindly accept the alarmists' claim that man-made carbon dioxide is having a significant impact on climate' (interview, 30 June 2011). He elaborated that he was converted from 'a naïve, well-intended, but ill-informed environmental advocate' to someone holding what Bast views as a fuller perspective. Bast and others argue that 'liberals', on the other hand, have not been enlightened because they have 'no reason to question the science' since it:

> . . . supports their entire political agenda. [. . .] If you want more wilderness, well, growing more trees to absorb carbon dioxide, that helps stop global warming, so believing in global warming supports your agenda on forestry topics. Conservatives and libertarians [. . .] they come across this issues, and the proposal is [a] large increase on the cost of energy in order to encourage more recycling and more energy efficiency, mandates that we use renewable energy sources, outright bans on certain things like coal [sic] plants, and we said, 'Whoa, this is a major expansion of the power and size of government. This is a restriction on individual freedom.' Before we agree to this, we want to look under the cover and check out if that science is for real (interview, 30 June 2011).

Throughout the interview, as well as through statements and speeches that he gave throughout ICCC6, Bast expressed a clear drive to reveal the erroneous ways of the climate-science orthodoxy, and appeared exhilarated by the recognition he had garnered through his efforts to 'look under the cover' of approaches to climate knowledge through scientific processes.

These claims about supposed corruption of the science extend to finger-pointing at what is perceived as disproportionate allocations of funding to climate science over other scientific objectives. Celebrity climate contrarian Marc Morano of Climate Depot – a project of the Committee for a Constructive Tomorrow (CFACT) – claims that climate activism is persisting because, '[I]t's got so much money. It's a whole funded movement, and it corrupts the science' (interview, 1 July 2011). Celebrity climate contrarian Pat Michaels confirmed this perspective, saying, '[I]n the scientific world, there are very, very large stakes. [. . .] I saw a recent calculation that we've spent $103 billion just on climate research alone pertaining to climate change' (interview, 1 July 2011). To climate contrarians, climate science is not only a farce, but a corrupt enterprise that, according to Morano, has 'intoxicated universities and so much foundation money' (interview, 1 July 2011). In this interview and throughout his contributions at the Heartland-sponsored event, Morano was driven to promote and advocate for these perspectives.

Perceived exclusion from academic institutions and the unravelling of the scientific method are also complaints levelled against climate science and activism. They can also be elements that appear to generate exhilaration within climate-contrarian communities, particularly within the celebrity members themselves. Pat Michaels expressed and embodies these elements, claiming, 'Every science is a ward of the state, and every successful scientist is a ward of the state. [. . .] This is not a value-free environment. [. . .] [T]here really isn't free speech in the academy on this subject [climate change], I hate to tell you.' Michaels went on to explain that the CATO Institute was the first place he had worked 'where people actually like me' (interview, 1 July 2011). Moreover, Michaels appeared to gain satisfaction from this development and from the recognition he has gained through his work.

Comments like this one have been found to be representative of wider contrarian movements, and have also been found to be part cultural and psychological: through research by Lahsen (2013), it has been observed that many contrarian scientists who cut their teeth in the 1960s and 1970s have tended to view climate modelling and other developments in climate science that followed in the 1980s and beyond as inaccurate, variable and ungrounded.

Meanwhile, these articulations have been found to be part politics and economics. It has been argued that these celebrity climate contrarians act as contemporary courtesans, where politics are pinned to the highest carbon-based industry and politically conservative bidder (Dunlap and McCright 2011). For instance, at the time of the release of the United Nations (UN) Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report, *The Guardian* revealed that the US-based American Enterprise Institute (AEI) – a group receiving funding from Exxon Mobil Corporation – was soliciting contrarian voices. At that time AEI was reportedly offering $10,000 'for articles that emphasized the shortcomings of [the Fourth Assessment] report from the UN IPCC' (cited in Sample 2007, p. 1). In this way, the group was calling out for particular and dissenting inputs and therefore undermining the integrity of what could have been concatenate questions regarding Fourth Assessment Report's findings (Oreskes 2004). As such, it has often been the case that funding-driven influences cohere with ideology-driven motivations by way of contrarian arguments questioning a range of relevant expert views across the climate-science and policy spectrum (Barringer 2012).

Amidst these highly contested, highly politicised and high-profile cases of climate science and policy, answers to questions of commitments, motivations and actions are complex, dynamic and varied across claims-makers and the claims they make. Yet the amplification of these arguments in the public sphere influences public understanding and engagement as these anti-regulatory, anti-environmental, 'sceptical' and neoliberal environmental movements coalesce in the epistemic communities dubbed 'climate contrarians'.[6] Celebrity public intellectuals such as Myron Ebell (Competitive Enterprise Institute) and Tim Phillips (Americans for Prosperity) have shown themselves to embody this notion of keystone contrarians while they have also thrived on recognition gained from these stances in the public arena. Such amplification through media channels have then provided the space for speculative memes to then find traction. For example, speaking to Fox News the day after the 'Forward on Climate' rally in Washington DC in February 2013, Marc Morano proclaimed to Neil Cavuto, 'NASA's resident ex-con James Hansen is inspiring these people to potential acts of eco-terrorism' (Cavuto 2013).

Within the particular context of the past US right-of-centre social movements discussed above, and media tracking of countermovement organisations below, these interview data assembled at the Sixth International Conference on Climate Change point to a confluence of interests, motivations and goals that are consistent with the future protection of free-market approaches to ongoing carbon-based energy commitments. And, wrapped up in these stances are the dismissal, denigration and demonisation of evidentiary statements that are contrary to these views. Also evidenced in interviews from the 2011 meeting are indications that the notoriety and celebrity– even popularity – that may be gained from these stances clearly provide further motivation to continue to stake out these spaces of contrarian arguments, and exhilaration from the perception of meaningful intervention in contemporary climate-science-policy discussions in the public arena. In short, celebrity climate contrarianism – as heroic to some and anti-heroic to others – has ongoing benefits that outweigh self-perceived costs of academic alienation, martyrdom and marginalisation from the mainstream.

Through work in cultural politics, one can effectively consider claims and claims-makers, as well as capture the processes and effects of media representational practices. Cultural politics refers to dynamic and contested processes behind how meaning is constructed and negotiated. As Boykoff (2011) has demonstrated, mass media often turn to climate contrarians for alternative interpretations of climate science and policy information. Moreover, claims are often conflated in media outlets into a 'great global warming

debate', rather than accurately represented through science–policy nuances and complexity (Boykoff 2013). Thus, actors within mass media are constantly making decisions regarding how to articulate climate concerns by who they select as 'experts' or 'authorized definers' to frame the issues (Carvalho 2007). These factors shape how public citizens consider possible responses (Brulle, Carmichael, and Jenkins. 2012).

Further, Hoffman (2011) analysed the construction of 'expertise' in contrarian communities through US newspaper editorials and letters to the editor from September 2007 through September 2009. He found that the majority (59%) of sceptical perspectives articulated through media pieces came through letters to the editor while citizen perspectives were attributed to over half the articles (55%). These 'citizen' perspectives and voices 'from the people' via letters readily map on to libertarian, individualist and freedom logics that prop up celebrity contrarian edifices (and are also rooted in their forbearer Wise Use movements). These findings help to understand that public visibility of contrarian perspectives, as media representations – from news and opinion to entertainment and advertising – is a critical link between people's everyday realities and experiences and the ways in which these are discussed at a distance between science, policy and public actors.

Connections between media information and attitudes, perspectives, intentions and behavioural change are far from straightforward. From regulatory frameworks (bounding political opportunities and constraints) and institutional pressures (influencing political and journalistic norms) to individual decision-making about what becomes news, these interactions are dynamic and contested spaces of meaning-making. Recent developments, such as findings that the Donors Trust and Donors Capital Fund have routed anonymous donations over the past decade to a network of conservative think tanks (Goldenberg 2013), have pointed to how various twists and turns in the high-profile, highly contentious science, policy and politics around climate change have enabled contrarians to gain an increased foothold in the battle for public understanding and engagement regarding the causes and consequences of climate change (Leiserowitz et al. 2013). Yet, Kahan (2013, p. 9) has pointed out that '[T]rying to figure out why there is public controversy about climate change is to guide efforts to figure out what to do to dispel such conflict.' Yet when celebrity climate contrarians such as CATO Institute Senior Fellow Patrick Michaels are spending up to 40% of their working hours doing media outreach in the public arena (interview, 1 July 2011), this can amplify certain outlier perspectives on key climate-science-policy issues and therefore influence public understanding, discourse and engagement.

To trace these influences, as mentioned in the previous section, we explored the presence of climate countermovement groups in major world news outlets (see Figure 1). Media presence was tracked for each group, starting with the year 1988 and for each year through the end of 2012.[7] We defined a 'climate countermovement organisation' as one that advocates against policies that seek action to mitigate climate change, especially mandatory restrictions and penalties on greenhouse-gas emissions. Climate countermovement organisations are found to employ a variety of arguments, substantiated with a variety of reasoning and evidence, in their actions again climate policy (for example: climate change is not occurring; climate change is occurring, and it is due to humans, but it is too expensive to deal with, and so on). We compiled a list of 540 climate countermovement organisations (which included think tanks and non-profit advocacy groups), gathered by appraisals through criteria such as sponsorship of the International Conference on Climate Change (hosted by the Heartland Institute), participation in the one of three climate countermovement coalitions (Cooler Heads Coalition, Climate Strategies Coalition, or Global Climate Coalition) and testimony before US Congress. Inter-coder reliability

comparisons were conducted and achieved an agreement level of 91%. From this, the core of climate-countermovement organisations comprised 110 organisations.[8]

This work builds upon and interacts usefully with wider assessments of the presence of 'climate sceptic' (sic) arguments in the media where coverage was found to be particularly amplified in the US context (Painter and Ashe 2012). Overall, we see countermovement presence increasing greatly after 2006, likely in response to the release of Al Gore's documentary film, *An inconvenient truth*, which became the ninth highest-grossing film in the US. Additionally, we see a significant increase in media presence at the end of 2009 and through 2010, following the November 2009 so-named email hacking scandal emanating from the University of East Anglia (also known as Climategate). Lastly, note the significant uptick in the Heartland Institute's media presence at the end of 2012, as well as the minor increase for Americans for Prosperity. Heartland's increase in media presence could be due to fallout from the release of its May 2012 billboard ad comparing climate believers with Ted Kaczynski (the Unabomber), which ultimately prompted several major corporate backers to withdraw their funding and the resignation of many board members. Overall, tracking countermovement presence in world media does not provide us with the context for *how* each group was covered by the media, but it does provide us with a larger perspective as to the trends and visibility these groups maintain in the public eye. And as celebrity is a vehicle for influence, this monitoring of climate contrarian influence in the media helps to illuminate how climate science, politics and policy, as well as public discourses, are shaped by these perspectives.

Conclusion

Moving between climate science, politics and policy, scholars such as Schneider (2009) and Dunlap (2013) have pointed out differences between contrarianism derived from ideology and contrarianism derived from scientific evidence. The anti-regulatory, anti-environmental and neoliberal environmental movements dubbed 'climate contrarians' have emerged as a form of celebrity in the public arena. As these wise contrarians have populated the public sphere and have drawn from historical influences from Wise Use movements, these amplified views are a reflection of contemporary cultural politics, and they will not disappear any time soon. In some sense, the traction gained in the public arena is a function of the fundamental notion that it is easier to muddy waters than to clean them up (Lewandowsky et al. 2012). However, as we have shown through historical analysis of Wise Use movements, interviews and media attention, the celebrity status of climate contrarianism is also a function of cultural, journalistic, political and social norms.

Yet, dominating the public arena is the enduring notion that events may unfold where these outlier views may eventually be pushed to the fringes and made irrelevant. Two brief and recent examples illustrate such stances. First, in the wake of Superstorm Sandy in November 2012, numerous Democratic members of the US Senate spoke of the extreme weather event as a 'turning point in the public's blurred perception of climate change' (Lehmann 2012). Among them, Senator Sheldon Whitehouse from Rhode Island commented, 'The reason that we have this new normal, and new extremes, is because global climate change is happening and is real. [. . .] Sandy shows the price of not being attentive to these acts' (Lehmann 2012). A second example emerged from the December 2012 United Nations-sponsored Conference of Parties (COP18) meeting to negotiate international climate-policy action on climate change. While stating that '[D]anger signs are all around' and '[T]he abnormal is the new normal', Secretary-General Ban Ki-moon told

negotiators that it was time to 'prove wrong' those with ongoing doubts regarding the evidence of climate change (Ritter 2012).

Both cases, and the statements from Senator Whitehouse and UN Secretary-General Ban Ki-moon, suggest that resistance will fall away with the progress of scientific evidence. However, work in the social sciences, and cultural cognition in particular, suggests otherwise. Kahan (cited in Irfan 2011) has commented that:

> The way to fix the problem is not to turn up the volume on the evidence. The way to deal with the problem is to change that meaning, to remove what makes it threatening to other people. It is about framing it in a way that does not antagonize or come across as an assault on one side.

In short, it is a mistake to look for turning points or proof that will ultimately send these perspectives to the fringes of media and public attention.

By focusing on outlier perspectives often aligned with ideologically right-of-centre perspectives, and with current manifestations tied to Wise Use movements of the past, this paper has sought to help to better understand the motivations that prop up these contrarian stances, such as ideological or evidentiary disagreement to the orthodox views of science, drive to fulfil the perceived desires of special interests and exhilaration from self-perceived academic martyrdom and a more general desire for notoriety. Findings from interviews and participant observations at the Heartland Institute-sponsored ICCC6 and tracking of media coverage of climate change and contrarian think tanks, placed in the conceptual framing of celebrity ecologies, endeavour to help better understand these dynamic interactions.

While some point to climate contrarians as fossils of climate science, politics and policy, the fossils among us are those who fail to recognise the importance of trying to understand their actions as contemporary and influential right-of-centre social movements. Thus, this paper is motivated by the interest to better understand how these celebrity interventions have contributed to (mis-)perceptions and (mis-)understandings that shape the spectrum of possibility for responses to contemporary climate challenges.

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Notes

1. The purpose of this organisational coding is to identify the organisations that make up the climate countermovement (CCM) in the United States. CCM advocacy contains several different arguments, such as: climate change is not occurring; climate change is occurring, but it is not due to humans; climate change is occurring, and it is due to humans, but it does not pose a

sufficient threat to justify large scale action or climate change will be beneficial; climate change is occurring, and it is due to humans, but it is too expensive to deal with; and, climate change is occurring, and it is due to humans, but voluntary actions will be sufficient to address this issue. There were two steps involved in the creation of a listing of CCM organisations. First, a comprehensive listing of possible organisations was compiled using the following lists:

(1) Organisations represented by a speaker at International Climate Conference (ICC)/ Heartland Conference.
(2) Sponsorship of ICC/Heartland Conference.
(3) Organisation participated in UNFCCC Meetings.
(4) Organisation participated in Global Climate Coalition.
(5) Participation in Alliance for Climate Strategies Coalition.
(6) Participation in the Cooler Heads Coalition.
(7) Organizational representative testified before Congress.
(8) Organisational representative cited in *New York Times* story focused on climate change.
(9) List of organisations used in the book *Merchants of doubt* (Oreskes and Conway 2011).
(10) Organisation listed in Greenpeace studies of climate countermovement.
(11) Organisation listed in Union of Concerned Scientists studies of climate countermovement.
(12) Other scholars – specific books.

This process created a listing of 540 organisations then examined at a second stage of coding. To code an organisation in this second stage, the first step was to examine its participation in several well-known climate countermovement events or coalitions. These are: participation or sponsorship of the ICC, or participation in the Global Climate Coalition, Alliance for Climate Strategies, or the Cooler Heads Coalition. Generally, participation in these coalitions signifies a minimum coding of 3 for this organisation. The second step was to do a Google search of the organisation. Decisions were made regarding whether there is/was evidence that this organisation is generally perceived to be part of the climate countermovement. The third step was to go to the organisation's website. Coders explored the website, looking for statements regarding the extent/nature of the organisation's involvement with climate change. The fourth step was to review the most recently available copy of the organisation's IRS 990 form at the time of the coding. The final step was to code the organisation into one of four categories, based on the information obtained from the steps above. These four categories were:

(1) Climate Countermovement single-focus organisation – climate change sole policy focus.
(2) Climate Countermovement multiple-focus organisation – climate change substantive policy focus, but not sole focus.
(3) Climate Countermovement peripheral organisation – climate change minor policy focus.
(4) Not Climate Countermovement organisation.

Through these steps and the final decision rendered, intercoder reliability comparisons were conducted and achieved an agreement level of 91.44%. For our study here, we selected and tracked media coverage of the organisations that were coded either a 1 or a 2 as constituting the core of US-based climate countermovement organisations over the past 25 years (due to data availability). Thus, our sample size was 110 organisations.

2. According to Jacques, Dunlap, and Freeman (2008), the term 'sceptic' has been most commonly invoked to describe someone who: (1) denies the seriousness of an environmental problem, (2) dismisses scientific evidence showing the problem, (3) questions the importance and wisdom of regulatory policies to address them, and (4) considers environmental protection and progress to be competing goals. Yet for reasons we outline below, we choose to use the term 'contrarian'.
3. Though centred on attacking environmental regulation, Wise Use branched into other tenets of conservative ideology. In 1993, the movement began forming links with anti-gay activists in Oregon, as well as with the religious right to advance a broader conservative social and economic agenda. For example, the Oregon Citizens Alliance, a right-wing Christian organisation famous

for sponsoring anti-gay initiative Measure 8 in 1988, also sponsored Wise Use initiatives that sought to deregulate Oregon's land-use planning laws.

4. In 1988, NASA scientist James Hansen forcefully warned Congress that global warming was a reality. He said on the Senate floor that he was '99% certain' that warmer temperatures were caused by the burning of fossil fuels and that they were not solely a result of natural variation (Weisskopf 1988). 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, p. A1)
5. For more Heartland Institute qualitative interviews, texts and observational analyses from ICCC4 (in May 2010), see Hoffman 2011.
6. These issues were also discussed and demonstrated on the 2012 PBS programme *Frontline* entitled 'Climate of doubt'.
7. A Boolean string was used to search for the organisation's name *and* 'climate change' *or* 'global warming'.
8. This work is part of a larger project involving Robert Brulle, Michael Henry, Lucy McAllister, Marisa McNatt and Joshua Wolfe. They helped with the design and independent coding of the dataset.

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