

‘The Story Is Part of the Success’ *Narrating Climate Change*

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Stories matter for the Earth.¹

20.1 Introduction

Climate change is not only about science, and science is not all we need to mitigate climate change. Science has little impact on how societies perceive themselves and the world around them, and thus it has little direct impact on communal and individual behaviours and attitudes. It is a social discourse shaped by dominant social attitudes and cultural convictions, fashions, politics, and media content that has the most significant impact on a broader social response to climate change. Ultimately, these are stories we tell that inform our attitudes, motivate our actions, and have the potential to influence policies.

Enric Sala, the conservationist and former academic, confesses that it was only when he left academia that he realised that having enough information does not necessarily lead leaders, policymakers, or broader society to making rational decisions. Neither do increasingly alarming reports on climate change and environmental degradation spur people into action. There are two basic assumptions Sala points to that are crucial for thinking about climate action. The first one is that climate change action is, to a large degree, about communication, which so far has seemed insufficient and ineffective. The second assumption is that simply stating the facts is far from adequate.² Irrespective of the evidence, gravity, or relevance of the information, as Sala insists, ‘[e]nticing both a lifestyle and policy decisions that diminish climate change needs more than communicating facts’.³

However, climate change is a complex problem to communicate. Talking about environment and climate does involve a lot of science. It is not easy to translate scientifically understood urgency into a call for action to be taken seriously by individuals for whom

¹ C. Bonneuil, The geological turn: narratives of the Anthropocene, in C. Hamilton, C. Bonneuil, F. Gemenne (eds.), *The Anthropocene and the Global Environmental Crisis* (Routledge, 2015), pp. 17–32.

² D. A. Chapman, B. Lickel, E. M. Markowitz, Reassessing emotion in climate change communication. *Climate Change Nature* 2017, 7(12): 850–852; K. Fløttum, Ø. Gjerstad, Narratives in climate change discourse. *WIREs Climate Change* 2017, 8(1): e429; S. C. Moser, Communicating climate change: history, challenges, process and future directions. *WIREs Climate Change* 2010, 1(1): 31–53.

³ Podcast ‘The Nature of Nature: Why We Need the Wild with Enric Sala’. Outrage + Optimism, 31 July 2021; www.outrageandoptimism.org/episodes/the-nature-of-nature.

climate change is slow and unobservable on an everyday basis. If something cannot be seen or fully recognised, is not relatable or contextualised, it is unlikely to engage an audience on a personal level and trigger emotions that may motivate action. If we do act, our action does not usually bring immediate results and in this sense is meaningless. If talking about climate change is limited to communicating abstract and distant risks, we are discouraged from listening critically and engaging. After all, people prefer to leave difficult and unrelatable problems, even those considered important, to be taken care of at a higher, collective, and non-personal level. We are content to think government will know what to do, will take proper and informed action and implement relevant public policies, even though we know well that public policies are driven by the preferences and demands of citizens. Finally, talking about climate has become a politically polarised issue, and is often considered biased, manipulative, and divisive, not only along the line separating those who believe in science from those who distrust it. As such, narrating climate change to encourage deep reflection, change thinking patterns, inspire action, and, ultimately, decision-making processes, has become a major challenge in responding to climate change.⁴

Over the years numerous analyses of environmental discourse have been developed, approaching the subject from various political, sociological, and cultural perspectives.⁵ Particular approaches to nature have emerged as the main elements defining and differentiating these approaches. Examining the existing literature, Gustafsson identified three most common approaches to nature:⁶ (1) nature narrated as a resource for society; (2) nature as an ethical entity and the sources of emotional and moral values; and (3) nature as an object of knowledge. Within these views of nature, particular environmental discourses emerge: (1) the sustainable development discourse and the discourse on ecological modernity; (2) the Arcadian discourse and the poetic discourse (with humanity being outside or part of nature respectively); and (3) scientific discourse and the ecosystem discourse.⁷

Similarly, there are various approaches to communicating science and different forms of public engagement. They include the contextual model or the public engagement model,⁸ the lay expertise model,⁹ the fear and security argument,¹⁰ or the economic argument.¹¹ These models offer different opportunities and challenges in their attempt to expand the way

⁴ C. Jones, D. W. Hine, A. D. G. Marks, The future is now: reducing psychological distance to increase public engagement with climate change. *Risk Analysis* 2017, 37(2): 331–341; A. Leiserowitz, Climate change risk perception and policy preferences: the role of affect, imagery, and values. *Climatic Change* 2006, 77(1–2): 45–72. See also, for example, A. Spence, W. Poortinga, N. Pidgeon, The psychological distance of climate change. *Risk Analysis* 2012, 32(6): 957–972.

⁵ Cf. K. M. Gustafsson, Environmental discourses and biodiversity: the construction of a storyline in understanding and managing an environmental issue. *Journal of Integrative Environmental Sciences* 2013, 10(1): 39–54.

⁶ Ibid. at p. 42. ⁷ Ibid. at pp. 42–43.

⁸ B. V. Lewenstein, Models of public communication of science and technology. *Public Understanding of Science* (2003), <https://perma.cc/S8ZL-TPKB>.

⁹ D. Brossard, B. V. Lewenstein, *A Critical Appraisal of Models of Public Understanding of Science: Using Practice to Inform Theory* (Routledge, 2010).

¹⁰ S. O'Neill, S. Nicholson-Cole, 'Fear won't do it': promoting positive engagement with climate change through visual and iconic representations. *Science Communication* 2009, 30(3): 355–379.

¹¹ T. Morton, A. Rabinovich, D. Marshall, P. Bretschneider, The future that may (or may not) come: how framing changes responses to uncertainty in climate change communications. *Global Environmental Change* 2011, 21(1): 103–109; D. M. Harris, Telling stories about climate change. *The Professional Geographer* 2020, 72(3): 309–316; W. Tayebwa, C. Wendo, A. S. Nakiwala, Theories and models of science communication, in C. Wendo, *Science Communication Skills for Journalists: A Resource Book for Universities in Africa*, vol. 1, CABI, 2022, pp. 14–23.

we understand, deal with, and frame science communication with the public.¹² This chapter focuses on an approach that still does not have a unified or coherent theoretical framework, but has been proven to engage audiences, allow diversity, accept abstraction, and encourage multiple interpretation and creativity. Assuming that most effective communication incorporates social and cultural contexts, and that climate change is a societal and cultural story, as Max Boykoff explains,¹³ the chapter suggests a narrative approach to storytelling as a means of overcoming imaginative limitations and radically rethinking climate change and human impact on the Earth. Because facts and figures are 'at best necessary but rarely sufficient to create active behavioural engagement',¹⁴ the chapter argues that culturally situated storytelling, when informed and enriched by deeper reflection on the Anthropocene and human–nature relationship, offers a valuable approach to climate change, the contemporary condition, and to thinking who we are as humans.

For the purposes of this chapter, storytelling means sharing stories that enable us to make sense of the world, events, and ourselves. It is a way of sharing content to provoke reflection by describing events, contextualising them, engaging emotions, and identifying personal connections and universal patterns. In this way, storytelling improves understanding, affects worldviews, and stimulates action.¹⁵ Culturally situated narratives and individually relatable stories neither oppose a rational stance on climate change nor challenge scholarly deliberations about climate change, but are believed to be necessary sources for deeper reflection, motivation, and moral impact.¹⁶ They are also a necessary component of climate literacy and thus of individual, regional, and global responses to climate change. If treated seriously, as Moezzi, Janda and Rotmann call for in their 2017 special issue of the *Energy Research and Social Science* journal, stories can become tools in effective climate risk communication that brings effective behavioural changes, entices moral reflection, and motivates a more sustainable living.¹⁷

Building on the existing literature, Harris provides a concise overview of the features of storytelling relevant in the context of communicating social concerns such as climate change.¹⁸ It is relevant and useful to quote the fragment in full:

Storytelling engages directly with the politics of perception, identity, and imagination (Gottschall 2013). It is useful for communicating and translating complex realities across different audiences (Cameron, Mearns, and McGrath 2015). It is often derived from and enacts counterepistemological and ontological projects (Blaser 2010). It is a democratic form of information creation and sharing

¹² They remain relevant for scholars, media and a broader audience, justifying the need for theoretical reflection on science communication and its value for understanding how knowledge and science operate in society. See Tayebwa et al., Theories and models of science communication, p. 21.

¹³ T. Brock, A conversation with Max Boykoff: climate change and the media. *Boulder Magazine*, 2016. <https://getboulder.com/conversation-max-boykoff-climate-change-media>; M. Boykoff, *Who Speaks for the Climate?* (Cambridge University Press, 2011).

¹⁴ Moser, Communicating climate change, p. 31.

¹⁵ Fløttum and Gjerstad, Narratives in climate change discourse; S. van der Leeuw, The role of narratives in human–environmental relations: an essay on elaborating win–win solutions to climate change and sustainability. *Climatic Change* 2020, 160(4): 509–519; E. O. Wilson, The power of story. *American Educator* 2002, 26(1): 8–11.

¹⁶ Chapman et al., Reassessing emotion in climate change; Fløttum and Gjerstad, Narratives in climate change discourse; Moser, Communicating climate change, p. 31.

¹⁷ M. Moezzi, K. B. Janda, S. Rotmann, Using stories, narratives, and storytelling in energy and climate change research. *Energy Research & Social Science*, 2017, 31: 1–10.

¹⁸ Harris, Telling stories about climate change, p. 310.

(Rice, Burke, and Heynen 2015) and can be a culturally appropriate way of representing multiple truths in which the storyteller, rather than the researcher, retains control (Bishop 1999). Further, as an art form, it is able to respatialize and retemporalize a listener's experience of the world (Hawkins and Kannigieser 2017). If climate change is difficult to perceive because of its spatial and temporal span (Markowitz and Shariff 2012), then it seems that storytelling has much to offer in the study of climate change specifically (Moezzi, Janda, and Rotmann 2017). (Harris 2020, p. 310)

The special issue of *Energy Research and Social Science* edited by Moezzi et al. presents research that looks into 'collecting and interpreting stories as data, as modes of inquiry and as forms of engagement'.¹⁹ The issue acknowledges the multitude of directions climate research can take using stories as research objects. It presents various ways in which research in climate change uses the notion of stories to deal with specific topics such as climate change communication, news coverage of extreme weather events, traditional weather knowledge systems, public apathy and engagement, or institutional 'storytelling' – that is, methods used to convince the public to adopt certain mindsets.²⁰

The 2018 book *Climate Change and Storytelling: Narratives and Cultural Meaning in Environmental Communication* by Annika Arnold also discusses methods and stresses the value of narrative and literary theory in improving our understanding of social and political issues of the climate change debate. Referring to the existing research and approaching stories as modes of inquiry and effective forms of engagement with a broader public (through media and public initiatives), the chapter opens with a discussion on effective communication and transformations taking place in the approach to communicating climate change that have a potential to motivate communities, challenge social passivity, and encourage agency. The chapter adopts a broad understanding of 'story' and 'storytelling' to refer to ways of conveying information, events, and ideas that include a character and a plot, are contextualised and personalised, engage emotions, and allow space for interpretation. It adopts Kieran Egan's view that '[s]tory' does not necessarily imply a fictional narrative; rather, it involves 'the narrative shaping of any content'.²¹

While a shift from reporting facts to telling stories has been taking place, and the significant role of emotions, personalisation, and relatability of a story has been widely recognised, both in research and popular media, what is also observable is the ongoing split (in mainstream media and public discourse) between social/cultural topics and topics dealing strictly with science and the environment. This division, and its consequences for communicating climate change, will be discussed in the first section of the chapter in the form of a brief analysis of data gathered for the report on climate change narrative's shortcoming developed by 'The Twenties' initiative.²² This split seems to replicate a centuries-long and still prevalent paradigm of duality between culture and nature. It also resonates a broader philosophical reflection on our inability (or resistance?) to break thinking paradigms, surmount imaginative limitations and, ultimately, overcome our inability to 'see things'.

¹⁹ Moezzi et al., Using stories, narratives, and storytelling, p. 3. ²⁰ Ibid. at p. 4.

²¹ K. Egan, *Imagination in Teaching and Learning: The Middle School Years* (University of Chicago Press, 2014), p. 70.

²² M. Galica, M. Marczuk, How to word it: the nature and climate change narrative's shortcomings. *The Twenties* (2021). <https://lata-dwudzieste.pl/en>.

This chapter argues, particularly in its last section, that a broader acceptance of a narrative approach and storytelling as a mode of inquiry may help the efforts of interdisciplinary scholarship focused on reconfiguring concepts,²³ renegotiating established paradigms, and reformulating premises and theories²⁴ in response to an 'Anthropocene turn'.²⁵ It can provide means and channels for this higher-level reflection to enter popular discourse, by facilitating inter- and trans-disciplinary exchanges and strengthening the connections between science and humanities. Even though the use of stories in communicating science and the knowledge of the world has been long recognised, strong reservations persist. Stories remain associated with subjective and unverifiable information, and are treated as being firmly within the realm of arts and humanities, rather than science. According to Moezzi et al., 'stories simplify, lie, change, and resist verification. They do not lend themselves to experiments, tests, or sampling. This makes them relatively unsuitable, and in fact uncomfortable to deal with, within current scientific paradigms'.²⁶ Breaking these paradigms has become a goal of the reflection on environmental rhetoric of the twenty-first century with storytelling proving its potential.²⁷ The main question is broad and focuses on how we should talk about climate change, both in terms of framing the climate change narrative to encourage change in everyday behaviours and reframing existing paradigms, patterns, and approaches to inspire deeper transformation, including a radical reconfiguration of concepts we use to make sense of the world.

20.2 Communicating Climate Change

20.2.1 Changing Narrative Approach

Telling a story is a more complex process than simply commenting on climate change in the media. Still, the most obvious and immediate means of communicating climate change (and generally science), and of reaching the public, is via media coverage. The approach to communicating climate change in media has been evolving, gradually shifting the focus from reporting facts to emotions, from global and distant issues to local problems, from general to personal concerns, and from apocalyptic visions to resilience-focused messages.

For many decades, a popular approach to science communication has been the information deficit model, which 'assumes that gaps between scientists and the public are a result of a lack of information or knowledge'.²⁸ It is a relatively simple model, but does reflect the way researchers often think about the production of knowledge. According to this approach, it seems sufficient to provide the public with relevant information to impact their attitudes and behaviours. In his 2011 work *Who Speaks for the Climate? Making Sense of Media Reporting on Climate Change*, Maxwell Boykoff emphasises that such an approach

²³ E. Bińczyk, *Epoka człowieka. Retoryka i marazm antropocenu* (Wydawnictwo Naukowe PWN, 2018).

²⁴ G. Dürbeck, P. Hüpkes, *The Anthropogenic Turn: The Interplay between Disciplinary and Interdisciplinary Responses to a New Age* (Routledge, 2021).

²⁵ R. Nixon, The Great Acceleration and the Great Divergence: vulnerability in the Anthropocene. *Profession* 2014, 14.

²⁶ Moezzi et al., Using stories, narratives, and storytelling, p. 3.

²⁷ Cf. Bińczyk, *Epoka człowieka. Retoryka i marazm antropocenu*; N. Castree, The Anthropocene and the environmental humanities: extending the conversation. *Environmental Humanities* 2014, 5(1): 233–260.

²⁸ B. Suldoovsky, The information deficit model and climate change communication. *Climate Science*, September 2017. <https://doi.org/10.1093/acrefore/9780190228620.013.301>.

presumes that ‘audiences are ignorant and need to be ‘supplied’ with good, factual information’.²⁹ The deficit model has been widely criticised – importantly for ‘inaccurately characterising the relationship between knowledge, attitudes, beliefs, and behaviours’,³⁰ and has been debunked by scientists themselves. Yet, it is still used in various kinds of communication and governs what and how we learn from mainstream media, social media, websites, reports, films, and books.³¹

While reporting facts to fill in gaps in our knowledge is still practised by scientists, media commentators, advisors, or policy makers, it has been widely recognised that contextualised and personalised communication will more easily grab attention and trigger emotions. Hence, personal and emotional connections are being made with increasing frequency in media coverage on climate change. We could see this clearly, for example, in the coverage of the bushfires that engulfed much of Australia across the summer of 2019–2020. In addition to learning about extreme weather patterns, temperature records, and drier climate, we predominantly heard the stories directly from those who endured the fires, about loss and personal tragedy, as well as resilience, courage, and kindness. While we were advised by the experts that it is ‘very difficult in general to attribute climate change impacts to a specific event’ (Richard Thornton) and that ‘[i]t’s not every weather event that is the direct result of climate change’ (Glenda Wardle),³² it was clear that whatever was happening resulted in loss, grief, and, hopefully, recovery that would follow. It was the lived experience of individuals that gained prominence in Australian media and beyond.

The article published in *The Guardian* by Graham Readfearn and his team, ‘Inside Australia’s climate emergency: the new fire zone’, is one of the examples of such an approach.³³ It does not overload readers with scientific facts, but rather weaves the text about human-caused – as it was stressed – climate change and high-risk bushfire weather, together with short videos of a father and daughter taking readers through the surroundings of their burnt family property and telling about ‘memory in the place’.³⁴ The readers can read the text in between the videos or have it imposed onto the recorded scenes. The format of the story with all its sensory elements, visuals and sounds, including the victims’ voices, facilitates emotional reception of the story and supports empathetic connection that develops throughout the reportage. At the end, readers are likely to find themselves nodding to the father’s words: ‘I’m calling it a climate change fire – some of the firemen might disagree but, to me, that’s what caused this fire.’ A certain degree of interactivity allowed by the format of the reportage – that is, navigable textual sections, which are less personal and more factual, together with video and audio – conveying very personal experience of two individuals, gives a sense of immersion (even if minimal) and of agency. While we cannot change the story, we have some choice as to how we will engage with it, what elements of it we will allow to impact our interpretation, and how we will imagine its broader context.

²⁹ M. T. Boykoff, *Who Speaks for the Climate? Making Sense of Media Reporting on Climate Change* (Cambridge University Press, 2011).

³⁰ Suldovsky, The information deficit model. ³¹ Ibid. ³² Ibid. Cf. www.bbc.com/news/world-australia-50341210.

³³ G. Readfearn, et al., Inside Australia’s climate emergency: the new fire zone. *The Guardian*, 12 February 2020. www.theguardian.com/environment/ng-interactive/2020/feb/12/living-in-the-climate-emergency-australias-new-fire-zone.

³⁴ Ibid., quoting Lisa Groom.

It is also the lived experience of cultures that has become more visible and important in media coverage of recent climate change events. Another interactive article in the same series of *The Guardian*, 'The frontline Inside Australia's climate emergency: the killer heat' (2021) by reporters Helen Davidson, Adam Morton, and Lauren Molan, informs its audience that Australia is heating faster than the global average.³⁵ The climate change facts are provided within the context of a story from the siblings from Tennant Creek located on Warumungu land, one of the hottest regions of Australia, telling about extreme heat affecting lives of Wupurarni people and breaking 'a connection with the land that stretches back millennia'. The relevance of this personalised communal experience is particularly important as the severity of climate change consequences remains under-recognised not only by policymakers but also by the wider community that is living through these changes.³⁶

So, there has been a clear shift from reporting facts (following the deficit model) to reporting the lived experiences of individuals and cultures. This shift is based on the recognition that relatable and personalised stories of ordinary people and communities more directly and effectively communicate the urgency and consequences of climate change. They are more likely to capture the imagination, build connections, foster empathy and have a lasting impact. And yet, stories about the experiences of ordinary people, which are relatable and personal, rather than abstract and distant, are still to a large extent missing from climate change communication.³⁷

One of the reasons is the reluctance to recognise emotions as reliable and informative. However, Sabine Roeser, in her article 'Risk communication, public engagement, and climate change: a role for emotions risk communication', suggests that 'Emotions might be the missing link in effective communication about climate change in a two-fold way: they lead us to more awareness of the problems and to being motivated to do something about climate change.'³⁸ She refers to Elke Weber's argument that 'risk communication strategies should explicitly appeal to emotions' and to the reasoning of Meijnders et al.,³⁹ who argue that 'communication about climate change should appeal more directly to feelings such as fear'. Roeser supports her claims with philosophical theories and trans-disciplinary research to suggest that emotions are important determinants in risk perception, make things relatable, enable our moral and practical judgments, stimulate reflection, and support critical decision-making.⁴⁰ They are essential for effective communication and motivation to act, and thus, according to Roeser, for integrating emotions into the debate about climate change:

[This] can lead to a more thorough understanding of the moral impact of climate change, by sympathizing with its victims and future generations, but at the same time, it can serve as a more reliable source of motivation than purely rational, abstract knowledge about climate change.⁴¹

³⁵ H. Davidson, A. Morton, L. Molan, The frontline inside Australia's climate emergency: the killer heat. *The Guardian* (2021). www.theguardian.com/environment/ng-interactive/2020/feb/27/killer-heat-how-a-warming-land-is-changing-australia-forever.

³⁶ G. Readfearn et al., Inside Australia's climate emergency, quoting Diana Egerton-Warburton.

³⁷ For example, K. Razavi, Have We Improved the Way We Talk about Climate Change? 2019. <https://opencanada.org/have-we-improved-way-we-talk-about-climate-change>.

³⁸ S. Roeser, Emotional engineers: toward morally responsible engineering. *Science and Engineering Ethics* 2012, 18(1): 103–115.

³⁹ A. L. Meijnders, C. J. H. Midden, H. A. M. Wilke, Role of negative emotion in communication about CO₂ risks. *Risk Analysis* 2001, 21(5): 955–956; S. Roeser, Emotional engineers, p. 1033; E. U. Weber, 'Experience-based and description-based perceptions of long-term risk: why global warming does not scare us (yet). *Climatic Change* 2006, 77(1–2): 103–120.

⁴⁰ Cf. L. Zagzebski, Emotion and moral judgment. *Philosophy and Phenomenological Research* 2003, 66(1): 104–124.

⁴¹ S. Roeser, Emotional engineers, p. 1038.

Of course, there is more to it – emotions differ, and are not always positive. They include feelings of justice, sympathy for victims, care, worry, but also fear, distress or anxiety. Moreover, emotional responses may lead to ethical problems, such as manipulation,⁴² or errors in risk perception.⁴³ Roeser suggests that emotions trigger critical reflection that should not be underestimated, and thus appealing to moral emotions about climate change can enable more thorough ethical reflection, provided these appeals are not ‘limited to alarmist images’ but also offer ‘narratives and portraits of people who undergo the effects of climate change’.⁴⁴

What this research points to is that to be more effective, communication about climate change should appeal to emotions and feelings to entice moral reflection and motivation.⁴⁵ It should also convey emotions and the ethical concerns of experts and scientists themselves.⁴⁶ But perhaps the role of emotions in climate change communication should be understood from a broader perspective. In order to understand what advice should be offered to scientists on how to tell the story of climate change, Dylan Harris conducted semi-structured interviews with self-identified climate storytellers in Appalachia and Alaska.⁴⁷ According to the interviewees, what matters to them is ‘context and connection’. In other words, abstract and universal concepts should be communicated in a way that connects with people and specific, contextualised (personal and collective) experiences.⁴⁸

Harris’ research focuses on a small group of storytellers working with specific communities. Yet, understanding contextualised experiences is essential also when communicating to a broader audience.⁴⁹ This implies knowing audiences and their different ways of responding to climate change, as Leiserowitz argues in his research *Global Warming’s Six Americas*.⁵⁰ But this also requires scholars, educators, and communicators to make the effort to better understand communities and cultures, specific local concerns and anxieties, reaching beyond strict climate science and becoming better ‘listeners’ – after all ‘storytelling is a conversation’.⁵¹

The focus on the contextualised and personal does not need to divert from universal truths, just like emotions do not have to be inferior to reason and analytical procedures. The outcomes of Harris’ interviews with self-identified storytellers from the Appalachia and Alaska regions suggest that what holds ‘the contextual and the universal in is some degree of abstraction which is a useful element of climate change communication’ and ‘abstraction gives ability to tie universal issues with specific context, encourages analysis and creative interpretation’.⁵² *The Guardian* series ‘Inside Australia’s climate emergency’ shows this approach well both by tying abstract facts to place-based experiences, and by drawing on ideas that are emotional and reinforce particular feelings.

⁴² S. R. J. Sheppard, Landscape visualisation and climate change: the potential for influencing perceptions and behavior. *Environmental Science & Policy* 2005, 8(6): 637–654; Meijnders et al., Role of negative emotion in communication about CO₂ risks.

⁴³ C. R. Sunstein, Moral heuristics and risk, in S. Roeser (ed.), *Emotions and Risky Technologies* (Springer, 2010), pp. 3–16.

⁴⁴ S. Roeser, Risk communication, public engagement, and climate change: a role for emotions. *Risk Analysis* 2012, 32(6): 1033–1040, at pp. 1036–1037.

⁴⁵ Ibid.; Weber, Experience-based and description-based perceptions of long-term risk.

⁴⁶ Cf. B. Ross, W. Davis, Marketing risks: the mindless acceptance of risks is promoted by emotional appeals, in S. Roeser (ed.), *Emotions and Risky Technologies*, p. 61.

⁴⁷ Harris, Telling stories, p. 309. ⁴⁸ Ibid., p. 312.

⁴⁹ See, for example, A. Leiserowitz, *Global Warming’s Six Americas*. Yale University (2016). <http://climatecommunication.yale.edu/about/projects/global-warmings-sixamericas/>.

⁵⁰ Ibid. ⁵¹ Harris, Telling stories, p. 313. ⁵² Ibid. at p. 312.

Storytellers interviewed by Harris also argued that, in telling climate stories, some degree of ambiguity is quite useful. It helps to engage the audience, but most importantly it gives the audience agency and allows them to interpret the information themselves. Contrary to what might be expected from climate change communication, some interpretative freedom does not necessarily imply the acceptance of insufficient knowledge or bypassing truth,⁵³ but rather encourages the audience's active engagement with the content. Research suggests that some degree of uncertainty stimulates critical thinking and decision-making both about how audiences relate to the conveyed message and about the acceptability of risks.⁵⁴ The sense of agency and the ability to make sense of what we hear ourselves inspires responsibility. This is in addition to the responsibility assigned by the very structure of a narrative and roles played by its actors, heroes or villains; as Krauß and Bremer observe: '[n]arratives assign responsibility for risk governance; who is to be held accountable and who is entitled for action'.⁵⁵

How stories and storytelling are or could be operationalised in the context of science and climate change communication needs to be explored further. Lessons from storytellers working with communities are very valuable, particularly on how to connect with local audiences and how to account for the cultural specificity of places.⁵⁶ Equally important is cultural and literary scholarship, especially on features of narratives, structures, semiotic processes, and techniques of storytelling which over the centuries enabled people to engage with phenomena they may not have observed themselves, or the complexity of which they may not have fully understood. Most importantly, it is crucial to think about narratives and stories outside of their traditionally perceived disciplinary boundaries. The term 'narrative' has been evolving to become an interdisciplinary concept,⁵⁷ and in the context of the climate change communication does not simply stand for a translation of scientific facts into a popular vernacular. As Krauß and Bremer emphasise, 'the narrative approach challenges the exclusivity of the scientific definition of the climate problem and opens up new ways of dealing with a changing climate'.⁵⁸ Without those new ways and without contextualising changes to connect with local experiences, practices, and knowledges to make sense of a global phenomenon, we may not have any useful narrative to tell.

20.2.2 Narrative's Shortcomings

In a focused and practical context, the report *How to Word It: The Nature and Climate Change Narrative's Shortcomings* (2021), created by *The Twenties* team led by Mateusz Galica and Marta Marczuk, and supported by the European Climate Foundation, suggests that the inability to 'see things' results from the 'lack of convincing narrative'.⁵⁹ The report makes an interesting attempt at capturing dominant narratives about climate change by text-mining several hundred publications focused on this topic.

The study's goals were 'to locate the primary threads of the story about climate change, to find factors and phenomena that have an exceptionally strong impact on the social

⁵³ Ibid. at p. 313. ⁵⁴ G. Gigerenzer, *Reckoning with Risk* (Penguin, 2002).

⁵⁵ W. Krauß, S. Bremer, The role of place-based narratives of change in climate risk governance. *Climate Risk Management* 2020, 28: 100221, at p. 4.

⁵⁶ Ibid. ⁵⁷ Ibid. ⁵⁸ Ibid. at p. 6. ⁵⁹ Galica and Marczuk, *How to word it*, p. 4.

imagination, and to verify the hypothesis regarding competing narratives built around the discussed problem'.⁶⁰ The report also attempted at providing better understanding of how media discourse perpetuates culture–nature dualism and deals with scientific diagnoses calling for social and cultural changes. The study analysed 17,458 articles on climate change published on five most widely read English-language news pages responsible for 70% of news content on the Internet: BBC, CNN, the *New York Times*, the *Daily Mail*, and *The Guardian*. The analysed articles were published over a period of five years, between 1 April 2016 and 31 March 2021, marking the signing of the Paris Agreement and the United Nations Framework Convention on Climate Change, respectively. The data were collected by purpose-built software – a web-scraping program – and analysed by the software.⁶¹

A general message of the report is that the discussion on climate change emerging from the examined media sources is not only about climate change itself, but is more complex and multifaceted. The most important finding is that there are two clear dimensions of the climate change discourse: one dealing with social aspects and the other with environmental aspects. The split is presented in the form of network graph which shows a distribution of 2000 most frequently used words, e.g.: 'people', 'work', 'live' (for social aspects) and 'world change', 'climate', 'national', 'government', 'global' (for environmental aspects). The most important thematic groups (presented as words combined into clusters) reinforced the split: 'climate change and the environment'; 'transnational institutions and projects'; 'national politics' (for environment aspects), 'media and information'; and 'social life' (for social aspects). Social and environmental topics are not directly connected and are rather treated as separate issues.⁶² They are indirectly connected by concepts (presented as two phrase clouds) dealing with political issues and scientific issues. Political references mediating between these two dimensions include 'national politics', 'government' and 'industry' and topics intertwined with global dimensions, transnational institutions and projects.⁶³ Science is another mediator between the two dimensions, but it is shown as focusing mostly on physical dimensions of climate change (species, wildlife, habitat) and environmental disasters. Science is also linked with general and abstract information, such as 'devastation, pollution, catastrophe or destruction'.⁶⁴

From the report we learn that the divide between thinking about social and cultural aspects of human life and environmental and climate issues is deep and has a major impact on thinking patterns and further communication. We learn that articles locating their topics closer to social issues are drawing a more optimistic image of the reality, focused on the future, economy, action, and agency. Another finding is that government-focused topics are likely to involve discussions on progress and development, and that scientific topics tend to present a more apocalyptic vision of the reality and are detached from everyday life.⁶⁵ There is a clear distinction between talking about 'humans' and about 'people', with the former being a biological term used in articles which emphasise the impact of climate change, and the latter term being a social category occurring in texts of less environmental focus.⁶⁶

⁶⁰ Ibid. at p. 22.

⁶¹ Ibid.

⁶² Ibid. at pp. 23–24.

⁶³ Ibid. at p. 26.

⁶⁴ Ibid. at p. 27.

⁶⁵ Ibid. at p. 30.

⁶⁶ Ibid. at p. 27.

The split explains – as the report also notices – that approaching climate change from cultural and identity perspectives, thus showing its complexity and multidimensionality, is not common and does not constitute a coherent approach.⁶⁷

The report isolates 30 of the most significant collocations for the words 'climate' and 'change', demonstrating how we understand the issue of climate change. Among them are: 'combat', 'fight', and 'tackle' as well as 'global', 'real', 'systemic', and 'radical'. It shows that media present climate change as a serious and global threat.⁶⁸ This message, however, is not consistently supported. While the analysed articles imply that there is an element of specificity – for example, the implied relationship between climate change and disadvantaged groups such as indigenous communities, disabled people, and those below the poverty line – they also suggest that climate change affects primarily young people. Among articles focusing on solutions, topics dealing with national politics dominate, which gives a sense that everything is under control and being taken care of at the higher governmental level. It also implies that nature can be controlled and managed, and in this sense is subordinate.⁶⁹

What the report shows is that, in spite of the acknowledged value of climate change communication becoming more personalised, contextualised, and appealing to emotions, information conveyed in mainstream media often follows deeply ingrained thought patterns according to which environmental and social concerns, science and social life, nature and culture belong to separate domains. It hence shows that changes at the higher level of social discourse are also needed, involving a "climate correction" of our concepts and discourses' that can be achieved through an engaged exchange between scientists, sociologists, philosophers, and cultural scholars.⁷⁰

20.2.3 Environmental Rhetoric

Understanding climate change depends on the environmental rhetoric and discourses within which it is articulated. Ewa Bińczyk stresses that 'the twenty-first century began with a surprising reconfiguration of concepts', such as the concept of an 'Anthropocene' used to expose the current impact of man on the planet.⁷¹ The term introduced by natural scientists quickly achieved media success much greater than the earlier concept of sustainable development. Its first uses in American media were recorded in 2010,⁷² and the concept entered the *Oxford English Dictionary* four years later. However, it has not ordered and systematised our thinking about the values, purposes, and responsibilities towards the world and ourselves. Researchers argue whether it can be used as 'a broad metaphor to motivate [a] holistic understanding of human impacts' and some see a narrative approach and some storytelling as a potential to enable that.⁷³ Specifically, Kunnas highlights storytelling's capacity to present 'a multifaceted picture of human agency in the Anthropocene' and evade fatalistic

⁶⁷ Ibid. at p. 28. ⁶⁸ Ibid. at p. 32. ⁶⁹ Ibid. at p. 33.

⁷⁰ Bińczyk, *Epoka człowieka. Retoryka i marazm antropocenu*. Translation by the author. ⁷¹ Ibid.

⁷² Castree, *The Anthropocene and the environmental humanities*, p. 233.

⁷³ D. M. J. S. Bowman, What is the relevance of pyrogeography to the Anthropocene? *The Anthropocene Review* 2015, 2(1): 73–76; J. Kunnas, Storytelling: from the early Anthropocene to the good or the bad Anthropocene. *The Anthropocene Review* 2017, 4(2): 136–150.

visions frequent in media.⁷⁴ The storytelling approach also encourages and facilitates a more nuanced reflection on tropes of the Anthropocene discourse and other concepts dominating the imagination.⁷⁵

Although most of the environment discourses involve interdisciplinary perspectives and to some extent employ humanistic questions concerning culture, society and values, there seems to be a persistent resistance to considering disciplines such as literature, philosophy, gender, or postcolonial perspectives a crucial part of a meaningful discussion on environment and climate. In the early 2000s, an article published in the *Australian Humanities Review* by Deborah Bird Rose and Libby Robin brought about a new perspective on integrating humanities and natural sciences in environmental thinking. Their article, 'The ecological humanities: an invitation', introduced the concept of ecological humanities as a multidisciplinary domain aimed at traversing 'the great divides between the sciences and the humanities, and between western and other ways of knowing nature'.⁷⁶ In 2012, Deborah Rose and Thom van Dooren established the interdisciplinary periodical *Environmental Humanities*. Acknowledging that the field of environmental humanities is growing rapidly, the editors called for a qualitative research engaging with 'fundamental questions of meaning, value, responsibility and purpose', via a more sensitive and conceptually extensive approach to environmental issues and, at the same time, 'rethinking the ontological exceptionality of the human' and unsettling of dominant narratives.⁷⁷

Thus, the voice of humanists has become essential in the context of environmental rhetoric.⁷⁸ It is through this humanist lens that we learn that 'nature' is no longer objectified by technoscience as 'natural resources', but has become a deeply normative and problematic concept.⁷⁹ We learn, following Dipesh Chakrabarty, that the idea of freedom can easily become 'a blanket category for diverse imaginations of human autonomy and sovereignty'.⁸⁰ We realise that our understanding of the living world is instantly unsettled if we attempt to overcome the nature/culture binary that locates humans in a separate imaginary realm, outside of nature.⁸¹ We also learn that the environmental rhetoric of the Anthropocene often points to the conditions of 'disappointment' and 'helplessness' in the context of climate policy. We learn about the rhetorical practices and strategies of the so-called denialism and greenwashing that are important industry propaganda tools in the twenty-first century.⁸² We also get insights into indigenous knowledge of climate systems but also, most importantly, into different ways of comprehending human presence on the Earth.

⁷⁴ Kunas, *Storytelling*, p. 146. ⁷⁵ Bińczyk, *Epoka człowieka. Retoryka i marazm antropocenu*.

⁷⁶ Manifesto for the Ecological Humanities, ANU Fenner School of Environment & Society. <https://fennerschool-associaled.anu.edu.au/ecologicalhumanities/manifesto.php>.

⁷⁷ D.B. Rose, T. van Dooren, M. Chrulew, S. Cooke, M. Kearnes, E. O'Gorman, Thinking through the environment, unsettling the humanities. *Environmental Humanities* 2012, 1(1): 1–5.

⁷⁸ Bińczyk, *Epoka człowieka. Retoryka i marazm antropocenu*.

⁷⁹ Z. Wróblewski, *Natura i cele: dyskusja argumentu teleologicznego na rzecz ochrony przyrody* (Lublin, 2010); Bińczyk, *Epoka człowieka. Retoryka i marazm antropocenu*.

⁸⁰ D. Chakrabarty, The climate of history: four theses. *Critical Inquiry* 2009, 35(2): 197–222.

⁸¹ V. Plumwood, Animals and ecology: towards a better integration (working/technical paper, Australian National University, 2003). <http://hdl.handle.net/1885/41767>, p. 2.

⁸² Bińczyk, *Epoka człowieka. Retoryka i marazm antropocenu*.

The evolving rhetoric of the Anthropocene is essential to understanding the situation in which we have found ourselves, but also to enabling changes – profound social and economic changes that need to happen. Bińczyk claims that 'there are connections between the conceptual structures of the Anthropocene and a kind of stagnation characterising contemporary climate policy'.⁸³ These connections may not be immediately obvious, but what is clear is that there is something in our thinking about the world that legitimises this stagnation. There are, as Bińczyk continues, thought mechanisms most likely growing from the European tradition of thinking about nature that legitimise approaches such as 'discounting the future, denialism, paternalistic ignorance of alternative values against the value of economic growth, setting "safe" risk limits and contingency plans, believing that future innovations will save us (the so-called technical imperative), nihilism'.⁸⁴ And so what Bińczyk and other eco-humanists insist we need is a post-anthropocentric, environmentally focused correction of our concepts and theories, transformation of many key philosophical ideas (not only of nature and man, but also of time, history, agency, responsibility, and even politics and society). An attempt at renegotiating concepts that can be used to both unsettle dominant narratives and offer new constructive approaches to thinking about the human and non-human world has been taken at a higher level by, for example, *The Environmental Humanities* journal. The Living Lexicon series, published in a special section of the journal, offers 1,000-word essays that focus on particular terms such as 'endangered', 'fossil', 'mitigation', or 'memory'. The authors discuss the terms from scholarly perspectives, but also challenge their dominant meanings by using more creative and personal approaches.

Among the concepts important for climate change communication to reflect the reality experienced by individuals and communities are loss and trauma. The irreversible loss of nature and the world as we used to know it has become one of the key issues of discussion on the Anthropocene. This results in more common than ever experience of pain, anxiety, chronic distress, as well as grief by individuals and communities. Examining the experiences of citizens in the Upper Hunter region in Australia, resulting from the impact of open-cut coal mining on their everyday lives, Glenn Albrecht created in 2003 the concept of 'solastalgia'. He explains that, combining the concepts of 'solace' and 'desolation', 'solastalgia' captures a 'feeling of chronic distress caused by negatively perceived changes to a home and its landscape'.⁸⁵ Although developed to conceptualise the experiences of a specific community, the term quickly became very popular both in research and popular culture. It became one of those terms that, by identifying and naming emotions, feelings, and reactions to climate change, allow us to understand and respond to them more effectively. It allows us to better understand, for example, the experiences of climate change observed on Australia's Erub Island in the Torres Strait, its gendered nature, and a deteriorating connection to self and country.⁸⁶ However, perceptions of loss resulting from climate change may vary and they remain an understudied area.⁸⁷

⁸³ Ibid. ⁸⁴ Ibid.

⁸⁵ G. Albrecht, *The Age of Solastalgia*. The Conversation (7 August 2012). <https://theconversation.com/the-age-of-solastalgia-8337>.

⁸⁶ K. E. McNamara, R. Westoby, *Solastalgia and the gendered nature of climate change: an example from Erub Island, Torres Strait*. *EcoHealth* 2021, 8(2): 233–236, at p. 236.

⁸⁷ P. Tschakert, J. Barnett, N. Ellis, et al., *Climate change and loss, as if people mattered: values, places, and experiences*. *WIREs Climate Change* 2017, 8(5): e476.

Dobrowolska and Ormond-Skeaping propose looking at climate change through the prism of trauma research and claim this may ‘help create a coherent, global narrative about climate change and its effects’.⁸⁸ As visual artists, they use art to explore representations and expressions of loss and destruction. Psychologists argue that a narrative engagement with loss, pain, and suffering is essential if the communication on climate change is to reflect and shape ethical attitude towards reality. Such an attitude can be shaped, but we need ‘a real sense of tragedy’ to develop a deep narrative that refers to the core values of who we are as people.⁸⁹ Only by having an in-depth understanding of the tragedy can we develop a meaningful sense of hope,⁹⁰ which, as studies show, is lacking among the public, together with ideas about what may promote hope.⁹¹ As Marlon et al. conclude, ‘this hope gap is especially relevant in the face of increasing climate impacts and insufficient national and international actions thus far to address the root causes of the problem’.⁹²

A narrative approach can also help with a philosophical reflection on the very inability to *see things*. One of the ideas aimed at improving our understanding of where we are at in a climate debate and correcting our thinking patterns is the philosophical concept of a ‘hyperobject’ created by Timothy Morton.⁹³ A hyperobject is something that cannot be seen because it is too big to notice or immobilised due to its being omnipresent, both in time and space. However, its symptoms can be documented, such as the effects of hurricanes, the melting of glaciers, or the displacement of people due to floods. While for Morton we cannot see the ‘object’, clearly because of its enormous size, for Rob Nixon it is the speed of the process that hampers our perception.⁹⁴ His idea of slow violence refers to almost invisible, gradual and slow changes related to environmental degradation, which stand at the opposite pole to spectacular events and natural disasters. Because they are slow, we cannot see them or perceive them as threatening.

This inability to ‘see things’ and act accordingly, the lack of understanding and vision and insufficient ways of knowing, have been increasingly identified as the ‘crisis of the imagination’. In his 1995 book *The Environmental Imagination*, Lawrence Buell examines cultural reflections on nature and environment and arrives at the diagnosis that the environmental crisis involves ‘a crisis of the imagination’ and thus requires ‘better ways of imagining nature and humanity’s relation to it’.⁹⁵ Two decades later, Amitav Ghosh repeats this observation: ‘the climate crisis is a crisis of culture, thus of the imagination’.⁹⁶ While still potentially connected to the size and speed of climate change, the crisis of imagination

⁸⁸ L. Dobrowolska, T. Ormond-Skeaping, *Luki w narracjach o klimacie* (interview by Aleksandra Lipczak, *Przekrój*, 22 July 2020). <https://przekroj.pl/kultura/luki-w-narracjach-o-klimacie-aleksandra-lipczak>.

⁸⁹ M. Budziszewska, *Jak opowiedzieć powagę zmiany klimatu, Zmieniamy opowieść. Kryzys klimatyczny jako kryzys wyobraźni* Jak opowiedzieć powagę zmiany klimatu (radio program episode, Audycje TOK FM, 8 December 2021). <https://audycje.tokfm.pl/podcast/115516,Jak-opowiedziec-powage-zmiany-klimatu>.

⁹⁰ On the one hand, apocalyptic visions can weaken the ability to negotiate solutions and act effectively; on the other hand, they may seem unrealistic and irrelevant. Optimistic narratives that are simplistic and shallow are similarly non-productive. Cf. M. Jakubowski, *Ostatni Ludzie: Wymyślanie Końca Świata* (Czarne, 2021).

⁹¹ J. R. Marlon, B. Bloodhart, M. T., Ballew, et al., How hope and doubt affect climate change mobilization. *Frontiers in Communication* 2019, 4(20).

⁹² Ibid. at p. 12. ⁹³ T. Morton, *Philosophy and Ecology After the End of the World* (University of Minnesota Press, 2013).

⁹⁴ R. Nixon, *Slow Violence and the Environmentalism of the Poor* (Harvard University Press, 2013).

⁹⁵ L. Buell, *The Environmental Imagination: Thoreau, Nature Writing, and the Formation of American Culture* (The Belknap Press of Harvard University Press, 1995), p. 2.

⁹⁶ A. Ghosh, *The Great Derangement: Climate Change and the Unthinkable* (Chicago University Press, 2016).

seems to have deeper roots and results not from the loss but from an ontological deficit of adequate imaginative frameworks, models and approaches. These are being developed with the humanities and social sciences being, on the one hand, redefined as integrating the human and non-human, and undermining the dominant discourse of the duality of culture and nature, and, on the other hand, integrated with life sciences. These transformations are both supported by and themselves support new ways of narrating the world, ourselves, and the change itself.⁹⁷ This is a good start. However, in the face of the climate crisis, but also stagnation of the debate on climate change and the initiated transformations, a more focused and informed narrative engagement is crucial.

If the destructive actions of people are indeed caused by harmful ideas about the natural environment or by a complete lack of imagination, journalism offers a limited set of tools. To address the crisis of imagination we need to understand that these new ways of communicating climate challenges are more likely to appear at the intersection of science, literature, and art. There is a lot to learn from historic narratives and artistic expressions of the understanding of places and place-based experiences.⁹⁸ But there are also new initiatives, involving new methods and approaches. These include artistic, literary and performative interventions, community projects and participatory actions.⁹⁹ Importantly, as Baztan et al. highlight in their research on community trust-building for climate services through arts, the integration of art and science is not to use the arts to communicate scientific findings, but rather to gain 'access to elements that are generally excluded from scientific inquiry to convey a more complete picture of the challenges at hand'.¹⁰⁰ It is at this intersection where re-configuring concepts,¹⁰¹ re-negotiating established paradigms,¹⁰² and re-articulating the scientific description of the world¹⁰³ may most effectively take place.

20.3 Conclusions

Climate change is the most serious challenge of the Anthropocene, and so climate change communication needs to be taken suitably seriously, enriched with new ways of conceptualising, understanding, and *imaging* the world and its transformations. Over the centuries, telling stories was used to confront the unknown, encourage thinking about solutions, illuminate opportunities, and give hope. Now stories and storytelling can be more useful than ever.

The focus on stories and storytelling in the climate change communication means, among other things, actively listening to communities and their stories to understand specific contexts and connections; drawing on and developing narrative techniques and knowledge to connect and motivate individuals, communities, and a broader audience; and

⁹⁷ Cf. Galica and Marczuk, How to word it, p. 17.

⁹⁸ For example, B. Marschütz, S. Bremer, H. Runhaar, et al., Local narratives of change as an entry point for building urban climate resilience. *Climate Risk Management* 2020, 28: 100223.

⁹⁹ J. Baztan, J. -P. Vanderlinden, L. Jaffrès, B. Jorgensen, Z. Zhu, Facing climate injustices: community trust-building for climate services through arts and sciences narrative co-production. *Climate Risk Management* 2020, 28: 100253; C. da Cunha, A. P. F. Rochas, M. Cardon, et al., Adaptation planning in France: inputs from narratives of change in support of a community-led foresight process. *Climate Risk Management* 2020, 30: 100243.

¹⁰⁰ Baztan et al., Facing climate injustices, at p. 4. ¹⁰¹ Bińczyk, *Epoka człowieka. Retoryka i marazm antropocenu*.

¹⁰² Dürbeck and Hüpkes, *The Anthropocenic Turn*.

¹⁰³ Baztan et al., Facing climate injustices; B. Latour, An attempt at a 'Compositionist Manifesto'. *New Literary History* 2010, 41: 471–490.

strengthening the connections between science and humanities to open new perspectives in conceptualising and communicating climate change. Such a focus can provide a different set of data and tools to include emotional, psychological, symbolic, cultural content and perspectives.¹⁰⁴ It can challenge our thinking about, or rather *through*, grand concepts such as the ‘truth’, ‘nature’, or ‘human’, effectively reshaping the framework within which our understanding of the world and ourselves evolves. This includes challenging, for example, the idea of duality of nature and culture (human versus natural history), thus connecting social issues with environmental issues in the public discourse. Stories reduce the abstract dimension of science, bringing ‘the abstract risk closer to the individual’, while still using some degree of abstraction to inspire creative thinking.¹⁰⁵ This helps to encourage trust in science and what may be a more effective use of facts in public space. Stories and storytelling allow space for interpretation and agency to think critically and, most importantly, act imaginatively. Finally, they encourage inter- and trans-disciplinarity, and thus novel perspectives, stressing the fact that, ultimately, discussions on climate change are discussions about who we are. In this sense, storytelling has a great potential to motivate individuals, communities and, as a result, legislators, to act.

¹⁰⁴ Cf. Moezzi et al., Using stories, narratives, and storytelling, pp. 1–10.

¹⁰⁵ A. Zwickle, R. Wilson, Construing risk; implications for risk communication, in J. Arvai, R. I. Louie (eds.) *Effective Risk Communication* (Routledge, 2013), pp. 1–21.