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Communicating climate change in Portugal: A critical analysis of journalism and beyond

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Abstract

This chapter analyses discourses circulating in the Portuguese public sphere(s) about climate change, and discusses the problems associated with representations of the issue in the press and television news. Understandings of risk and responsibility are given particular emphasis given their importance for problem definition and proposed courses of action. The study covers four print media: *Correio da Manhã* (a popular daily newspaper), *Expresso* (a quality weekly newspaper), *Público* (a quality daily newspaper) and *Visão* (a mid-market weekly news magazine). Various aspects of press coverage since 1990 are examined but we focus in more detail on four 'critical moments' between 2003 and 2007. A sample of recent television news from RTP1, 2: (both part of the public broadcasting company), SIC and TVI (private channels) is also analysed. Besides journalistic discourse, we look at some aspects of the communication of climate change by politicians, non-governmental organizations and other social actors, and how it relates to media discourses.

Keywords: climate change, Portugal, media, social actors, discourse

1. Introduction

In the context of Europe, Portugal is in a rather specific situation as it was allowed to increase its greenhouse gas (GHG) emissions by 27% from 1990 levels in the period 2008-2012 within the European Union's burden-sharing policy with regard to the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC). In 2008 (UNFCCC, 2008) and in fact already several years earlier, the country had exceeded this target by a significant margin, mainly due to increases in road transportation. This is a path that has been followed in many countries that are in a process of rapid economic transformation. Hence, analysing communication on climate change in Portugal not only sheds light on a social and cultural context where there has been much less research than in northern Europe and the USA as it may also provide hints to analogous realities.

Survey studies (Dunlap, 1998; Nave & Schmidt, 2002) indicate that, amongst the Portuguese population, there is a high level of concern and a relatively poor understanding of climate change, as well as little behavioural change towards mitigation of GHG emissions. The media play an important role in providing information and raising awareness about the issue (e.g. Wilson, 1995). The imagery produced and circulated in the media is likely to impact on social representations although processes of interpretation are rooted in particular lived experiences and social contexts (cf. Carvalho and Burgess, 2005). In turn, the media constantly draw on the discursive and social practices of individuals and institutions. The social construction of such a complex and multifaceted issue as climate change is closely tied to the pronouncements of a variety of social actors, such as politicians, scientists, corporations and environmental organizations.

This chapter is part of a wider project that aims to understand the links between the discourse of social actors, the discourse of the media and social representations on climate change in Portugal. The goals of the chapter are as follows. Firstly, we aim to identify the main meanings of climate change in the discourse of a variety of social actors (policy institutions, scientists, non-governmental organizations, corporations, etc). Secondly, we aim to analyse the media's discursive (re)construction of climate change and understand what the dominant discourses are; the relation between the discourses that are produced and circulated by social actors and the media discourse is one of the aspects to be considered.

Climate change has many other dimensions but this chapter is mainly concerned with two aspects that are central to discursive and social practices: problem definition and proposed course(s) of action. Therefore, representations of the risk associated with climate change, which are grounded on knowledge as well as on social values, and discursive constructions of responsibility for preferred action plans are the main focuses.

2. Research context

Media attention to climate change has fluctuated significantly since the 1980s but in many countries there has been a markedly high volume of coverage in the last decade (cf. Boykoff and Roberts, 2007). In the same period, research interest in the roles of the media has grown considerably with scholars examining such aspects as the role of journalistic norms in media coverage of climate change (e.g. Boykoff and Boykoff, 2007), ideological filters in the representation of knowledge (Carvalho, 2007b), the activities of climate change 'sceptics' and their impact in the media (McRight and Dunlap, 2000), the influence of different forms of science reporting in perceptions (Corbett and Durfee, 2004) and narrative cycles in climate change news (McCommas and Shanahan, 1999).

With its various space and time scales, non-linear cause-effect links, unclear manifestations, and multiple sources of responsibility, climate change is, in some respects, at odds with the

prevailing media quest for 'facticity' or the search for answers to the questions 'who, what, when, where, how and why'. Amongst the factors that may contribute to placing the issue on the media agenda, the most important one is likely to be the agency of a number of social actors in talking about it. Multiple voices have 'spoken for' climate change in the last two decades. The scientific community first created the social problematicity of climate change insofar as it gathered, interpreted and presented data that suggested a connection between concentrations of GHGs in the atmosphere, global mean temperatures and human sources of GHGs emissions. The political process that ensued included a number of high-level international summits, institutions and legal frameworks, and engaged a variety of policy-makers, interest groups and environmental organizations. Despite the increasing consensus amongst scientists regarding the anthropogenic nature of the problem and its gravity, climate change has been contested in its scientific, political, economic and other dimensions. The media are a crucial arena in the negotiation of different understandings of the issue and in the production, reproduction and transformation of meanings of climate change. Studies about the US and the UK have shown the power of politicians in setting the media agenda and structuring the discourse (Trumbo, 1996; Carvalho, 2005).

Whereas climate change may present difficulties as a potential news topic, some features make it attractive for media professionals. That is especially the case for the superlative nature of potential impacts: the range and reach of such impacts, which go beyond anything previously experienced, the number of affected people, the extent of damage that it may cause and the sheer potential for disruption of life-as-we-know-it. This high level of risk has motivated some hyped depictions of the problem and messages dominated by catastrophism. Weingart, Engels and Pansegrau (2000) suggested that this Pandora box view of climate change was prevalent in the German media since the mid-1980s. In the case of the UK, recent studies have pointed out the presence of alarmism in the press. Ereaut and Segnit (2006) concluded that representations of climate change fall into two main types of 'linguistic repertoires'¹: *alarmist* and *optimistic*. The first conveys an image of climate change 'as as awesome, terrible, immense and beyond human control. (...) It is typified by an inflated or extreme lexicon, incorporating an urgent tone and cinematic codes. It employs a quasi-religious register of death and doom, and it uses language of acceleration and irreversibility.' (2006: 7). The optimistic repertoires suggest that things 'will be alright' (p. 12) and include the following forms: 'settlerdom', 'British comic nihilism', 'rhetorical scepticism', 'expert climate change denial', 'warming is good' and 'free market protection'. The *pragmatic optimistic* repertoires are a variation that suggests that 'it'll be alright if we do something' (ibid.). 'Establishment techno-optimism', 'non-establishment techno-

¹ Linguistic repertoires are 'systems of language that are routinely used for describing and evaluating actions, events and people. A repertoire might include a distinctive lexicon, a set of grammatical or stylistic features, or particular images, metaphors, idioms, stories and categories.' (Ereaut and Segnit, 2006: 12).

optimism', 'David and Goliath', 'corporate small actions' and 'personal small actions' are its sub-types.

Ereaut and Segnit argue that the *alarmist* repertoire raises difficulties for acting upon climate change as it constructs it as being too big for individuals to tackle. Citizen agency is nullified in face of the scale of the problem. Therefore, the authors argue, this 'contains an implicit counsel of despair' (p. 14). Several researchers have recently argued that climate change communication that focuses on catastrophe and fear is often counterproductive as it leads to disbelief and apathy or to paralysis. A report produced by UNEP/Futerra (2005: 13) has suggested that a "fear message" is unlikely to engage people. Moser and Dilling (2007) have also argued that fear-inducing communication on climate change can generate reactions of denial and rejection of the problem.

In a more general diagnosis of mediations of climate change, Ereaut and Segnit (2006: 7) conclude that 'in the British mainstream media today, the climate change discourse looks confusing, contradictory and chaotic.' This fits in with Defra's (2006: 7) evaluation of survey results: most people in the UK think that climate change 'is confusing – they can't see how it relates to them; won't affect them personally; is a problem for the future, not now; and can't be affected by their individual actions, because the problem is so big'.

Research conducted in Portugal (Cabecinhas, Lázaro and Carvalho, this volume) also indicates that despite widespread concern and perceptions of risk people are ambivalent about solutions for climate change. The roles and responsibilities that people assign to different social actors, including themselves, and their views about the possible paths to pursue in dealing with climate change are both an individual and a social construct. Communication practices are key to these intersubjective negotiations of meaning: How are we to address the environmental crisis? What kind of measures should be put in place? What is to be expected from different agents?

Dryzek's (1997) analysis is a useful contribution to map understandings of the 'politics of the Earth'. Viewing discourse as 'a shared way of apprehending the world' (1997: 8), Dryzek argues that four elements are central to all environmental discourses: (1) basic entities whose existence is recognized or constructed; (2) assumptions about natural relationships; (3) agents and their motives; and (4) key metaphors and other rhetorical devices (p. 15-18). By looking at the specificities of different narratives about humans' relation with the environment, he identifies nine discourses. Emerging in the 1970s, the idea of finite resources and limits to growth led to *survivalism*, a discourse that was denied by *prometheanism*, the belief that humans can, like Prometheus, achieve progress and growth without boundaries. Beyond these two fundamentally different views, Dryzek organizes environmental discourses into three groups: reformist problem-solving discourses, sustainability discourses and radical discourses. The first group includes *administrative rationalism*, which constitutes the state and technical expertise into the

principal environmental problem-solvers, *democratic pragmatism*, which believes in the mobilization of citizens and social groups to shape policy-making, and *economic rationalism*, that privileges market forces in addressing environmental problems. Sustainability discourses encompass two types: *sustainable development* and *ecological modernization*. Both discourses attempt to integrate environmental protection, economic growth and social justice, as well as safeguard the rights of future generations. *Ecological modernization* complements that with the idea that green policies and green technology can generate wealth. Finally, Dryzek points out two discourses that require radical shifts in the ways of dealing with the environment: *green romanticism* and *green rationalism*. While the former calls for a change in human consciousness, the latter suggests that environmental problems will only be solved by structural transformation and fundamentally different politics.

In this chapter, the works of Ereaut and Segnit (2006) and Dryzek (1997) will be guiding references in the analysis of discursive constructions of risk and responsibility respectively, even though our analytical framework is broader and includes other features of discourse.

3. Discursive constructions of climate change in Portugal

In this part, we will analyse public discourses on climate change in Portugal starting with the communication of various social actors and later moving on to the media's reconstruction of the meanings of the issue.

3.1. Social actors' communication on climate change

As argued above, the interpretations of climate change advanced by various social actors define the debates that take place in societies. Some of those interpretations are likely to have a significant impact on media discourses. Our research was guided by the following questions: Which discourses on climate change are 'out there' in the Portuguese 'public sphere'? Who speaks for this problem? What visions do different actors advance regarding climate change?

In order to look for answers to these questions, we mainly focused on materials available in the Internet. Although not 'universal' in many ways, the Internet can be considered a showcase for the diversity of discourses that are put forth in modern societies, and, in many cases, it works as a relatively encompassing archive of documents. In the first six months of 2006, we conducted several searches of the Internet with the following keywords: 'alterações climáticas' [climate change] or 'aquecimento global' [global warming] or 'efeito de estufa' [greenhouse effect] or 'Protocolo de Quioto' [Kyoto Protocol]. We thereby collected all available online documents of a wide range of policy and science-related institutions, non-

governmental organizations (NGOs), corporations and other social actors². Governmental programs, parliamentary speeches, NGO reports and campaign materials are some of the resulting materials. The following table presents the volume of collected data for each category of social actor.

Table 1. Number of documents on climate change found in the Internet for each type of social actor.

Type of social actor	Number of documents
Environmental NGOs	100
Government	78
Interest groups/Professional associations	30
Corporations	23
Universities/Research units	21
Local government	7
Others	19
Total	278

Table 1 shows that environmental NGOs have produced the highest number of documents on climate change available in the Internet. Although not entirely surprising, this is worthy of note. It should be emphasised that Quercus, the environmental NGO that intervenes publicly the most in Portugal, was responsible for around 90% of these documents, most of which are ‘comunicados’ (communiqués/press releases³) dating from 1999 to 2006. Taking into account the foundational role of science for understanding climate change one could expect a higher number of articles from universities and research units. This may reflect both the relatively small number of Portuguese research projects on climate change and the non-proactive communication strategies of scientists. By distinguishing the central government from the local government, we aimed to shed light on local policies focusing on climate change. The low number of documents suggests that the issue is not viewed as a (communicative) priority.

As a multifaceted and complex issue, climate change can be discursively constructed from different perspectives or angles. Knowing which are the macro-themes privileged by different social actors in their communication about climate change can not only reveal preferences and agendas but also help make inferences about the impacts of discourse in perceptions of climate change. To this purpose, we carried out a content analysis of all the documents. Based on initial assumptions and further confirmation by the analysis, we can state that the

² Obviously, all the results of the keyword search that concerned other Portuguese-speaking countries were excluded.

³ The term ‘comunicado’ means both communiqué and press release in Portuguese.

most important macro-themes in climate change discourses are ‘science’, ‘economics’ and ‘politics & regulation’. These correspond to key aspects of the social emergence and management of this issue.

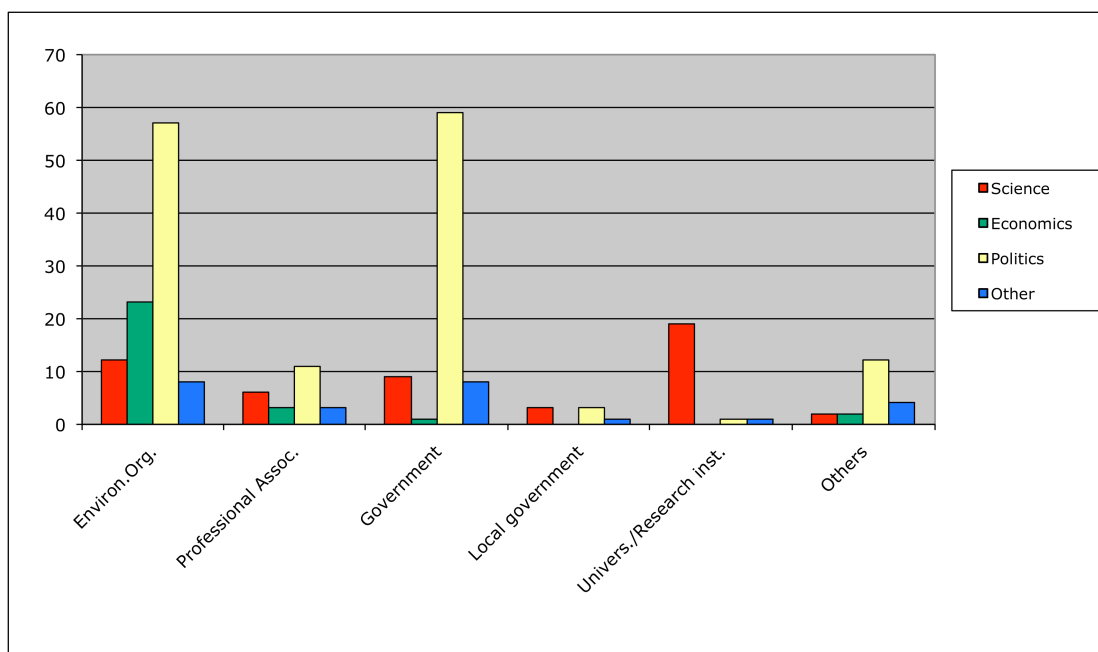


Figure 1: Themes in social actors' discourses.

The method we employed consisted in determining what the dominant theme in each document was. Although losing sight of other themes present in a text, we produced a simple but effective summary of the most important angles through which climate change is socially constructed. Figure 1 shows a clear prominence of the theme ‘politics & regulation’ in the discourse of most actors. As climate change has increasingly become a matter of policy management, a variety of social actors make regular pronouncements about regulatory options and measures. It is also telling that the economic dimension of the issue has almost the same number of occurrences as the scientific one, and that it corresponds to nearly half as many documents of environmental NGOs as politics & regulation.

A finer analysis of social actors' communication on climate change was pursued through Critical Discourse Analysis (cf. Carvalho, 2008). The following aspects were taken in consideration: themes or objects of discourse (which aspect or angle of climate change was privileged); actors (which social actors were present in the texts and what were their roles); structure – or layout – of the text (e.g. what was chosen for the title and first paragraph) and lexical choices and rhetoric (e.g. metaphors). We also examined the discursive strategies of the various social actors (i.e., how they constructed reality in discourse towards a certain effect or goal) and attempted to detect values, preferences and worldviews or, more generally,

ideologies. Critical Discourse Analysis was helpful towards identifying types of discourse, according to Dryzek's (1997) classification, as well as Ereaut and Segnit's (2006) 'linguistic repertoires'.

The Portuguese government pronouncements on climate change tend to fit into one or more of three of Dryzek's categories: *administrative rationalism*, *economic rationalism* and a neo-liberal version of *economic modernization*. The following excerpt of the 'Communication of the Council of Ministers from 10 May 2001' at the occasion of approval of the National Strategy on Climate Change offers insights into the government's position:

'the Portuguese state is determined to honour its international commitments and ... takes up the role of regulating agent for the actions that different sectors of [economic] activity and citizens ought to undertake, keeping in mind that it is important to minimize possible negative impacts on society as a whole' (Conselho de Ministros, 2001).

Here, action on climate change is constructed as a commitment external to the country ('international commitments'). The government uses a strategy of self-positioning as (passive) regulator of the actions of others. Whereas it makes no attempts to discursively engage society in mitigating climate change, it emphasises that society's well-being should not to be affected by actions to that purpose, thereby associating potentially negative impacts to such actions. There are aspects of *administrative rationalism* and mainly of *economic rationalism* in this discourse.

In the spring of 2003, two pronouncements related to energy policy are worth mentioning. On 13 March 2003, the government presented the 'Guidelines of the Portuguese Energy Policy' and on 3 April 2003 it publicly communicated decisions towards the liberalization of the energy market (merge of electricity and gas utilities; selling part of the state ownership). 'Market liberalisation' was presented as the first goal (Conselho de Ministros, 2003) and 'benefits for the consumer' (namely, lower energy prices) were highlighted (Ministério das Finanças/Ministério da Economia, 2003). The government argued that its decisions would reinforce the position of the Portuguese energy sector and improve the competitiveness of national companies (Conselho de Ministros, 2003). The Government Energy Policy was said to be structured into 'three strategic axes': 'to guarantee the security of supply; to promote sustainable development; to stimulate national competitiveness.' (ibid.) In a typically *economic rationalism* fashion, the withdrawal of the state from energy economics is here presented as desirable and the government construed as a facilitator of the free market.

The public presentation of the legal 'package' entitled 'Winning in the carbon economy' on 20 January 2005 provided the context for the government to put forth ideas that are clearly associated with an *ecological modernization* discourse. Climate change was presented as an opportunity to turn Portugal into a 'winner in the carbon economy' (Ministério do Ambiente e

do Ordenamento do Território, 2005). In other words, one could say that nature's degradation appears as a chance to make money.

Most of the documents available in the sites of official bodies are of a relatively technical nature and are written in a language that would be somewhat opaque for most lay people. Climate change tends to be constituted into a techno-managerial issue by the state, something that presumably does not contribute to engage citizens with the problem (cf. Carvalho, 2007a).

As mentioned above, amongst environmental NGOs, Quercus produced the vast majority of documents on climate change available in the Internet. Most other NGOs do not make regular pronouncements on the issue. Quercus does not propose radical social changes to address climate change. It tends to adopt a discourse that crosses *administrative rationalism* with *environmental modernization*. An analysis of its 'comunicados' reveals that its main addressee is the government, from whom it normally calls for stricter limits on emissions or better implementation of policy. It often denounces faults in the government's performance and recommends certain courses of action. Its promotion of political regulations, for instance through the introduction of a carbon tax applied to all uses of energy, suggests a discourse of *administrative rationalism*. Moreover, Quercus endorses the power of intergovernmental organizations and international law to reduce GHG emissions. The European Commission, for instance, is often mentioned in Quercus' discourse. It is normally constructed as a reference in terms of environmental policy-making for putting pressure on the national government. For example, a joint communication of Quercus and four other environmental NGOs on 1 April 2004 pointed out that, since the Portuguese Plan for Allocation of Emission Allowances 2005/2007 did not mean any reduction in projected emissions and gave signs to the market that were contrary to the need for energy efficiency, the NGOs were left with no alternative but to submit a complaint to the European Commission against the Portuguese government (GAIA/GEOTA/LPN/Quercus/CPADA, 2004). The title of the document, 'Climate change: Portuguese plan gives Licence to Emit', made an analogy with a 007 movie's title, a telling rhetorical device. Elsewhere, Quercus maintained that emissions reductions should not be seen 'not as a mere obligation but mainly as an opportunity to turn our economy more efficient and therefore more competitive' (Quercus, 2003), a view that is typical of *ecological modernization*. Nevertheless, Quercus' analysis of Portugal's performance is not optimistic; e.g., it stated on 31 January 2006 that the revised Portuguese Plan on Climate Change showed the 'incapacity' of Portugal to implement measures towards meeting its Kyoto obligations and had 'lost credibility' (Quercus, 2006).

Our analysis suggests that, at the time of our search at least, Portuguese research on climate change had a relatively low salience/visibility in the websites of research institutions. The one important exception to this is the Scenarios, Impacts and Adaptation Measures project (SIAM, 2006), led by Filipe Duarte Santos, from the University of Lisbon. It had a

website with a number of documents available for downloading and was referred in other websites on scientific research and events. It should be pointed out that we found an interdiscursivity gap regarding Portuguese research on climate change: it is almost completely absent from documents of other social actors. For reasons of space we will not be able to go into detail in the analysis of the communication of other social actors here. We will simply note that in Portugal, unlike other countries, business and other private interest organizations do not normally deny the problematization of climate change nor its anthropogenic origin.

In terms of Ereaut and Segnit's (2006) analysis, the discourse of social actors is dominated by a mildly optimistic outlook, except for environmental NGOs. While the government expects climate change to be addressed through regulation and economic measures, most other actors clearly avoid a dramatic discourse. There are very few references to the risks associated with climate change in the documents of Portuguese social actors available in the Internet. Scientists, for instance, occasionally appear to be over-cautious in communicating the potential impacts of climate change. NGOs do not convey a fatalistic reading of climate change but make a negative evaluation of the government's performance.

3.2. Journalistic discourses on risk and responsibility

The media are both an arena where the discourse of other social actors gets amplified and a key social actor in the production and reproduction of the meanings of climate change. Our analysis focuses on three newspapers, a news magazine and four television channels. The print media that we analysed have some of the highest circulations in Portugal and are representative of a wide range of market segments and ideological tendencies: *Correio da Manhã* (a popular daily newspaper), *Expresso* (a quality weekly newspaper), *Público* (a quality daily newspaper) and *Visão* (a mid-market weekly news magazine). We searched for relevant texts in *Correio da Manhã*, *Expresso* and *Visão* by using their web-based archives. The search keywords were the same as in the searches for documents by other social actors: 'alterações climáticas' [climate change] or 'aquecimento global' [global warming] or 'efeito de estufa' [greenhouse effect] or 'Protocolo de Quioto' [Kyoto Protocol]. Difficulties of access to *Público*'s archive in some of the periods led to a careful manual search of the printed issues of this newspaper. We are confident that this has not significantly altered results. Given the importance of graphic aspects in *Visão*, the only news magazine in our sample, we decided to complement the website search with copies of the printed issues.

The analysis in this chapter focuses on four 'critical moments' between 2003 and 2007, which are (or can be perceived to be) linked to climate change in diverse ways. These are periods when events with the potential to stir up debate and reshape the meanings of the issue took place: a heatwave that occurred between 29 July and 15 August 2003; the public presentation of the Portuguese Plan for Allocation of Emission Allowances 2005/2007 ('Plano

Nacional de Atribuição de Licenças de Emissão' – PNALE) on 17 March 2004; the Kyoto Protocol's entry into force on 16 February 2005; and the publication of the Summary for Policymakers (SPM) of the 4th Assessment Report (AR) by the Intergovernmental Panel on Climate Change (IPCC) (on the 'Physical Science Basis') on 2 February 2007, at the 10th Session of the Working Group I in Paris⁴. With these choices, we attempted to have a mixture of different moments/events of national and international relevance.

Before we move on to the analysis of those critical moments, we will provide an overview of the volume of coverage in the four print media since 1990, when the issue first gained some public visibility in Portugal, in connection with the publication of the 1st IPCC AR. Our option has been to look at a number of critical moments: the Earth summit in Rio de Janeiro in 1992; the 1st Conference of the Parties (COP1) to the UNFCCC in 1995; the 2nd IPCC AR published in 1996; the Kyoto summit of 1997 (COP3); the 3rd IPCC AR in 2001; the publication of the Portuguese National Plan on Climate Change (PNAC) in 2001; and, more recently, the four moments described above plus the occurrence of the Katrina hurricane in the US in 2005.

Figures 2 and 3 indicate that there have been significant fluctuations throughout the years, particularly in the quality press. While previous science reports did not generate much media interest (with the exception of the 3rd IPCC report in *Expresso*), the 4th IPCC AR marked a clear 'boom' in media attention. The conjunction of the AR with the publication of Al Gore's book and movie, as well as the Stern report, may have led to a more receptive (if not avid) media attitude towards reporting on climate change knowledge. The international political summits that are generally perceived as most iconic, such as Rio's and Kyoto's, clearly led to an enhanced media interest while key national events, such as the publication of PNAC and PNALE, motivated very few articles. Contrary to possible expectations, extreme weather events were not very frequently associated with climate change, especially in the popular press. Finally, the differences in the volume of media coverage in the quality and the popular press are noteworthy: the former consistently dedicated a lot more space to climate change than the latter.

⁴ In order to be sure of including articles that may have been published in anticipation of a given event and those that may have been written in reaction to it, our search covered 14 days before and 14 days after the event. The periods under examination are therefore the following: 29 July-29 August 2003 (in the case of the heatwave, an unpredictable event, the search started at its outset and not two weeks before); 3-31 March 2004; 2 February-2 March 2005; and 16 January-16 February 2007.

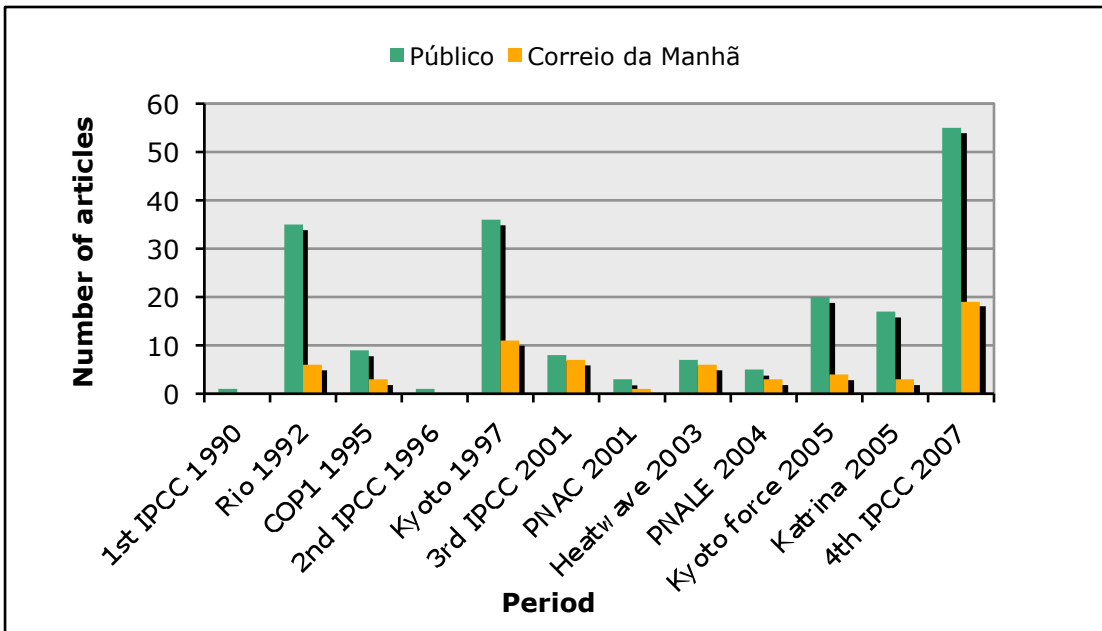


Figure 2. Number of articles on climate change in *Correio da Manhã* and *Público*, 1990-2007.

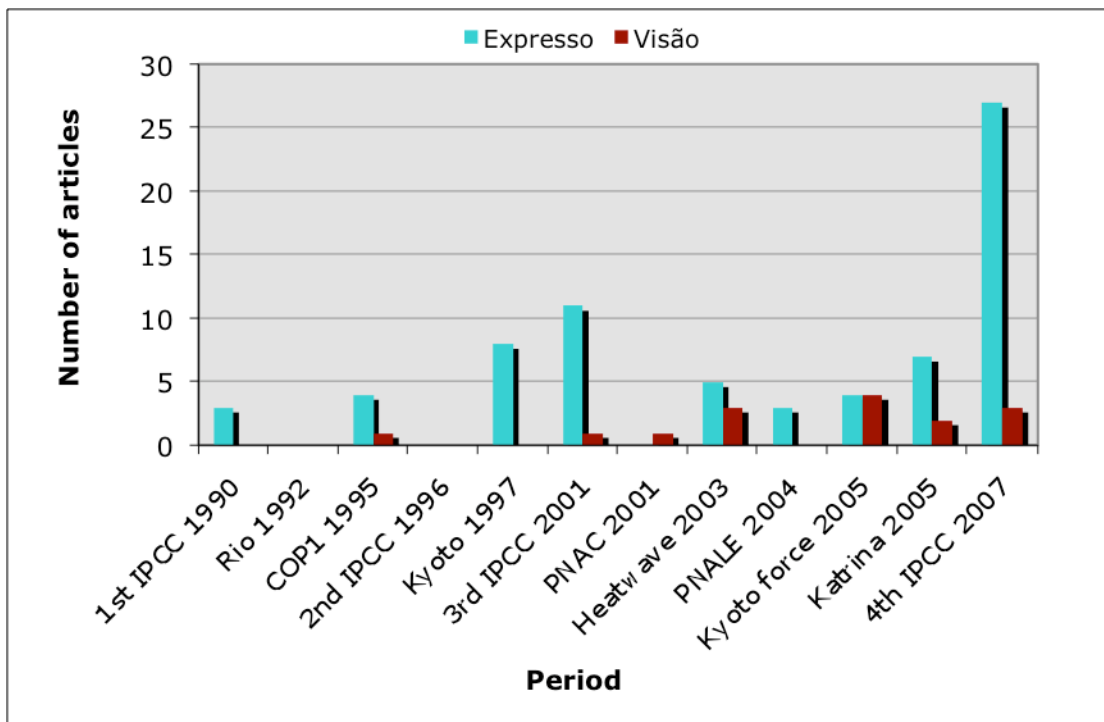


Figure 3. Number of articles on climate change in *Expresso* and *Visão*, 1990-2007.

In the four critical moments that are the focus of this chapter, we examined press articles of every genre: news pieces, editorial notes, opinion articles, etc. We analysed all the articles on climate change published in those periods but will focus here on the articles that refer – or are related – to the event or issue that was considered critical. The Critical Discourse Analysis method described in the previous section was also employed for the press articles. Besides examining the individual articles we undertook a comparative analysis of the discourse of the various print media, which provided insights into the alternative ways of representing reality.

a) Reporting on the 2003 heatwave

One of the most severe heatwaves ever registered in Europe took place in August 2003. It affected a number of countries with a death toll in excess of 30000 people (over 2000 in Portugal) (UNEP, s/d). The heat contributed to widespread forest fires totalling an area of 425000 hectares in Portugal.

In a piece from 10 August 2003, *Correio da Manhã* suggested that there could be a link between the heatwave and global climate change. It interviewed several scientists but did not appear to ‘force the evidence’, sticking instead to words such as ‘[the heatwave] may be a signal that climate change is taking place’ (Ramos, 2003c), as uttered by scientists. However, the search for confirmation of the above-mentioned link led to the question also being posed to the Secretary of State for the Environment: ‘Do you think that there are signs of climate change already?’. He gave a much more assertive answer than researchers: ‘Yes. In fact, (...) the heatwave (...) is completely abnormal. It may be a clear sign that human-induced global warming may be happening faster and more strongly than [what the IPCC forecasts]’ (Ramos, 2003b).

Visão quoted Filipe Duarte Santos and Carlos da Câmara, the vice-president of the Meteorology Institute, to suggest a causal relation with the greenhouse effect (Sá, 2003). Even though the scientists’ words that were cited did not actually attribute the heatwave to climate change, the selected quotes and their juxtaposition implied that the two factors were connected. This news magazine printed a long piece on the impacts of the heat on people’s lives that included their names, personal stories and coping strategies, such as jumping into the river with the clothes on (Oliveira, Ruela and Sá, 2003). Such portraits of social reality are part of an empathy-inducing strategy commonly used by the popular press. Whereas this has commercial purposes, it also has significant social effects some being arguably of a disciplinary nature (e.g. accommodation to suffering as others suffer too). A text box associated with this article carried an alarmist message. Under the headline ‘Bleak future’, it read: ‘the last 15 days (...) may have been a warning: the end of this century will be an amplified version of this choke. In the

scenarios of the SIAM project (...), heatwaves may last up to 20 consecutive days by the coast and two months in the interior regions of the south. (...) Save yourself whoever can.'

The popular press is often accused of excessive simplifications, exaggerations and distortions of scientific knowledge. A more complex picture emerged in our analysis. Both *Correio da Manhã* and *Visão* appealed to scientific authority as they quoted several scientists; in fact, more than *Expresso* did in this period. In one article, *Correio da Manhã* spoke of 'different models of simulation of the evolution of climate' (Ramos, 2003a), thereby acknowledging the non-unicity of knowledge. However, science was indeed distorted at times and errors were detectable, possibly contributing to public confusion about climate change. For instance, in several articles of *Visão* there was a mix-up between weather and climate: the headline of one article about the heatwave was 'Climate: Crazy heat' (Oliveira, Ruela and Sá, 2003)⁵. Discourse analysis suggested a different conclusion than the quantitative analysis regarding the link between the heatwave and climate change in these media.

In one of its articles on the heatwave, *Público* offered an overview of knowledge on climate change in a restrained language close to science's pointing out that scientists 'avoid jumping to the conclusion that what is happening is irrefutable proof of climate change'. While the headline clearly stated that 'Heatwave does not prove global warming' (*Público*, unattributed, 2003), the likelihood of similar events becoming more frequent was emphasized in the caption of a picture of youngsters cooling off in a fountain: 'What we are witnessing is a sample of what is in the store for the planet in a scenario of climate change'. The association between the heatwave and the scenarios of the SIAM project was also made elsewhere (Garcia, 2003).

Expresso established a link between the heatwave and global climate change with a large degree of certainty: 'The abnormal heat is already a consequence of climate change felt throughout the planet' (*Expresso*, unattributed, 2003a). Yet, in other articles it referred to climate change as an (uncertain) 'theory' (*Expresso*, unattributed, 2003b) and spoke uncritically of its impacts as potentially positive for access to resources: 'research also reveals a positive aspect in the disappearance of the ice [in the Arctic]. Norway and Russia believe that it may be a promising region for exploration of oil and gas, which will become easier' (ibid.).

This critical moment had all the ingredients to potentially induce an alarmist reading of climate change: extreme heat, widespread forest fires and a very high number of heat-related deaths. However, there was no (direct) association between the rise in mortality and climate change. More generally, even though there was one example of alarmism, we cannot state that the predominant depiction of those events was a fatalistic one.

In this period, there is little reflection on how to address climate change. Therefore, Dryzek's discourses do not quite apply, except for an article in *Correio da Manhã* on the possibility of a

⁵ A similar confusion was also present in another article (Sá, 2003).

carbon tax where trust in regulatory measures is promoted through the voice of the Secretary of State for the Environment – a clear example of *administrative rationalism*.

b) Representing national responsibilities and the role of business

PNALE is critical because it determined the emission levels that the state allowed corporations to have for free (i.e. without purchasing emissions rights). Nevertheless, it generated a quite low level of media attention.

Correio da Manhã only carried one article on the subject, which brought up some aspects of *administrative rationalism* but gave priority to business competitiveness:

“Portugal will not go forwards alone with the introduction of ecotaxes”, the Secretary of State for the Environment stated yesterday during the presentation of [PNALE]. José Eduardo Martins said that Portugal aims to meet Kyoto’s objectives, but will not adopt measures that hurt the competitiveness of its companies.’ (Ganhão, 2004)

The headline suggested sympathy for this political decision: ‘Government stops ecotaxes’.

In *Público* there were two articles on PNALE. With the headline ‘Government allows the increase of polluting emissions until 2008’ (Garcia, 2004), one of them represented a quite different discourse relative to *Correio da Manhã*. It was a critical view of the government’s permissiveness referring to the fact that emission allowances superseded industry’s expectations, and a reminder that Portugal had already gone beyond its Kyoto target and needed to reduce its GHG emissions. It also included a reference to the critical reception of PNALE by environmental NGOs. The other article was headlined ‘EDP claims that the plan has costs’ (*Público*, unattributed, 2004). It conveyed the view of the public electricity company on the financial costs of implementing PNALE.

While one newspaper chose to highlight a view of national interest associated to business competitiveness and the free market, displaying a preference for values associated with Dryzek’s *economic rationalism*, the other communicated a preference for stricter government regulations.

Expresso awarded the issue only a small note in the Economics section, which highlighted the ‘bonus for emissions’ (headline) at a time when Portugal was already ‘slipping away’ from Kyoto (*Expresso*, unattributed, 2004).

Visão did not publish any articles on PNALE.

c) Interpreting the Kyoto Protocol’s entry into force

The entry into force of the Kyoto Protocol on 16 February 2005 was a potentially meaningful time for the media to raise questions such as: What is the significance of the Protocol? What are the challenges? What implications does it have for Portugal?

On 17 February 2005, *Correio da Manhã* reported on the criticisms made by the leaders of Bloco de Esquerda, a leftist party, of the environmental performance of some of the biggest Portuguese corporations (Gonçalves, 2005). This is a rare example of the media denouncing corporate responsibility. However, the article's headline 'Kyoto Protocol attacked in Setúbal' is misleading and inaccurate. It was the violation of the Protocol – and not the Protocol itself - that was attacked. In a piece highlighting the USA's withdrawal from the Kyoto Protocol, *Correio da Manhã* referred several times to GHGs as 'polluting gases' and to the countries that emit the highest levels of GHGs as the 'biggest polluters' (e.g. B.C.M., 2005). These lexical choices, which are also found in pieces from other sources (e.g. Ribeiro, 2005a) indicate that climate change is socially constructed in the context of the familiar (and quite vague) framework of 'pollution', something that may, in itself, have significant implications for public understanding of the issue (cf. Bickerstaff and Walker, 2001)

Visão's main piece on Kyoto, 'There it is!' (Ribeiro, 2005a), was written in a popular language style and punctuated by irony and sarcasm regarding the Protocol, its implementation and its impacts. Another piece, 'The weakest link' (Ribeiro, 2005b), criticized Portugal's environmental performance arguing that while the country was lagging behind in its obligations climate change was already having impacts there. These are examples of some scepticism regarding political responses to the problem. They represent the opposite of what Ereaut and Segnit (2006) called 'establishment optimism'.

Expresso also threw a critical look at the Portuguese situation à propos the Kyoto Protocol's entry into force. Using various voices, including several NGOs, an article headlined 'Kyoto not met' (Tomás, 2005) called into attention the fact that Portugal was seriously skidding away from emissions targets and that policy plans to reduce emissions needed to be urgently implemented. A similarly pessimistic tone could be found in *Expresso's Única* supplement on 18 February 2005: 'It is very difficult to find signs of hope in environmental policies in Portugal' (*Expresso*, unattributed, 2005). In these approaches the state was to blame for the problems but it was also the one social actor that a variety of voices claimed that had to act. Contrastingly, a piece in the Economics section of the paper conveyed a techno-managerial perspective on carbon and the 'carbon economy'. It was all about earnings, costs, profits and companies (P.L., 2005).

On 16 February 2005, *Público* carried four articles on climate change and the Kyoto Protocol. The main article referred to the international politics of climate change and the difficulties on getting agreement on the Protocol (Fernandes and Garcia, 2005). A note recalling the tense days of COP-3 in 1997 when the Protocol was forged (Fernandes, 2005a) reinforced this idea while a piece with questions and answers offered a didactic summary of what was at stake (Fernandes, 2005c).

Ricardo Garcia (2005b) produced an overview of the implementation of the Portuguese plan on climate change. Looking at a number of sectors, from transport policies to sources of energy, from forestry to energy efficiency, he traced a dark picture of the situation. This was also the message on the front page of the paper where a headline read 'Kyoto Protocol in place, but Portugal far off target'. A few days earlier, the decision by the European Union not to define new quantitative targets for its emissions and to opt for a wait-and-see approach was also represented in a critical light with inclusion of comments by NGOs like Greenpeace (Garcia, 2005a).

On 17 February 2005, two pieces focused on interstate issues. While one spoke of the limitations of Kyoto in face of the reductions needed to address climate change and mapped resistances and offences, with analysis of the positions of China, the USA and other countries (Fernandes, 2005b), the second one, headlined 'Two difficult steps' (Garcia, 2005c), identified the two main challenges posed to the 'international community': fulfilling the Kyoto commitments and reaching a post-Kyoto agreement. Again, climate change was here framed as a matter of international politics.

There were similarities in the representations of climate change in the four media in this period. It is perhaps not surprising that all chose to refer to the international politics surrounding the Kyoto Protocol, and that the US's withdrawal from the process and the challenges involved in reaching consensus were highlighted. There was acknowledgement of the Protocol as a positive move but there were also reservations and doubts. Hence, one cannot speak of generalized optimism. All the media we analysed referred to the Portuguese performance with regard to GHG emissions and conveyed a negative outlook. *Público* produced the most thorough analysis thereof.

d) Reading the state of knowledge and projecting the future

The IPCC's 4th AR was prepared by over 600 authors from 40 countries and reviewed by a similar number of scientists, as well as by governments. Working Group I (WG I) assessed the scientific knowledge on the drivers of climate change and projections for the future. The Summary for Policy-makers of the WG I's part of the report was discussed meticulously and agreed on a line-by-line basis by representatives of 113 governments at a meeting in Paris and publicly presented on 2 February 2007.

In this critical period, several articles in *Correio da Manhã* were close to an *alarmism* discourse in the sense that they put a great emphasis on risk (or the threats) posed by climate change. The lexicon and the metaphors present in some of the texts were emotionally charged and suggestive of impending negative events: 'On the way to climate disaster' (I. Ramos, 2007); 'Climate turned inside out' (D. Ramos, 2007); 'Earth threatened by warming' (A.P./F.J.G., 2007); 'Water threatens Portugal' (Saramago, 2007a). One article carried a particularly demoralizing

message: 'Experts claim that the Earth has reached the point of no return. This means that even with all the good will of the most developed countries in the world, which are most responsible for greenhouse gas emissions, climate change and environmental catastrophes are a reality about to happen' (A.P./F.J.G., 2007).

Still, articles that suggested that it was already 'too late' and that there was no point in acting were relatively rare. For instance, in an article entitled 'On the way to climate disaster', the journalist wrote that 'There is little time left to stop the process' (I. Ramos, 2007). This is an acknowledgement of the urgency of action rather than of the uselessness of action. Nevertheless, the headline may be considered alarmist – the adverbial phrase 'on the way to' locates an undetermined subject (presumably the planet and all its inhabitants) en route to 'disaster'. There is a great extent of fatalism in this discursive construction.

To put this type of discourse into perspective, it should be noted that these were only four out of the 18 articles on climate change published in this period⁶. While in most articles, there was no clear option for a fearful or hopeful discourse, there were several where optimism regarding the establishment's capacity to deal with the problem was clearly present (Cotrim/Lusa, 2007; Queiroz, 2007).

Visão did not publish any articles on the IPCC's AR. On 15 February it carried several pieces on hybrid cars. As expectable, there were references to CO₂ emissions but the main focus was on the 'fashionable' nature of these cars, which many 'famous' people were driving (Montez, 2007). Purchasing these cars was presented as the solution to climate change: a clear example of techno-optimism associated with personal actions.

Expresso dedicated the whole month of February 2007 to the environment. In its 3 February issue, it carried 15 articles that mentioned climate change. Several focused on intergovernmental politics (e.g., Cardoso, 2007; Gautrat, 2007) while others referred to specific issues such as processing of waste, an art exhibit with environmental concerns and the attempts by some institutions to be carbon neutral, from the Rock in Rio concert to *Expresso* itself. These articles were of a variety of genres, from editorial to humour. They are important because they denote a widening of the analysis of the sources and the meanings of climate change, as well as some reflexivity.

The headline of *Expresso*'s main article on the 4th IPCC AR, 'Climate change has human causes' (*Expresso*, unattributed, 2007a), is a journalistic oddity in the sense that it conveyed a

⁶ There was one more article that had elements of alarmism – 'Politicians do not foresee the dimension of the catastrophe' (Azenha, 2007) – but also of some hope in the resolution of the problem. Under the headline 'Scandal hits global warming' (Saramago, 2007b), typical of a popular paper, *Correio da Manhã* carried a piece on 3 February 2007 which spoke of evidence having been 'distorted' by the IPCC to avoid alarmism; a 'climate of suspicion' among the UN delegates to the Paris meeting; and of accusations of members of the IPC 'giving in to pressures' to convey a less dramatic account of the knowledge on climate change.

message that was not news. The anthropogenic origin of climate change had been asserted with an increasing degree of confidence since the 2nd IPCC AR in 1996. Therefore, the choice of headline can arguably be associated with a culture of relative climate change scepticism in this newspaper.

An editorial note in this issue justified the emphasis on environment and climate change by saying that these were important matters that deserved attention, even though ‘we don’t know to what extent human activity contributes to [climate change]’ (*Expresso*, unattributed, 2007b). The newspaper opted for a discourse of ‘pragmatism’ and ‘moderation’: ‘*Expresso* does not intend to (...) conduct the opinion of its readers (...) We do not aim to go back to the stone age, not to use energy or forbid cars and polluting industries, but we know that if each of us and each company is a little more careful we will live a better future.’ (ibid.) The IPCC’s scenarios indicate that this ‘little steps’ approach is insufficient to address climate change. This discourse is typical of a historical period when environmental protection has become mainstream and opposition to it is socially unacceptable. It exemplifies continuing and powerful forms of resistance to the social transformations that are required to address the environmental crisis.

Another way of denying the need for change was present in an opinion article with the title ‘A heated discussion’. It involved a strategy of dis-accreditation of those who claim for action. The following excerpt illustrates some of the lexical choices and metaphors employed in this kind of rhetoric: ‘In the climate *conversation*, which has gained (...) a *holy* status, what impresses are not just the *anticapitalistic impulses* of the majority of the *tribe*. What impresses is the old illuminist idea that the *world is redesignable by human action only*.’ (Coutinho, 2007; our emphasis).

The discursive terrain of *Expresso* is complex with a variety of discourses and framings. The leader of the SIAM project, Filipe Duarte Santos (2007), authored an invited editorial on 3 February entitled ‘The risk and the challenge’ where he explained what was at stake and presented the mitigation of GHGs and adaptation to climate change as the two available responses, seemingly value-neutral and equivalent. Research and development of renewable energies and of technologies for sequestering CO₂ were presented as the solution to achieve a sustainable world. A discourse of technological optimism such as this one is particularly powerful when originating in the field of science, which has a considerable social and political legitimacy. In other pieces the issue was represented in light of *economic rationalism*; for instance, Tomás and Franco (2007) focused on the carbon market, transactions, price fluctuations and alike, and constructed Kyoto as a financial burden.

Público published seven articles on climate change on 3 February 2007. Citing several scientists linked with the IPCC, the main article on the 4th AR emphasised the growth of confidence in scientific claims regarding the anthropogenic nature of climate change and in forecasts of the impacts of climate change (Garcia, 2007). The framing here was closer to

science than in the reports of the other media: for instance, the article explained the differences between the meaning of 'very likely' and 'likely' [that a certain temperature increase will occur]. Another piece on the AR's main conclusions (including remaining areas of uncertainty) followed the same line (*Público*, unattributed, 2007).

Garcia (2007) described several aspects of the process involved in writing up and negotiating international agreement on the AR: the pressure of some governments, the concessions, the adjustments, etc. This discursive (re)construction of science in its social contexts may contribute to a better public understanding; at the same time, such an account carries the risk of generating public suspicion in relation to science and scientific claims. In this article, however, the journalist reassured readers that they should trust the AR: 'Several of the report's main authors that *Público* listened to stated that the final version did not change the scientific conclusions'.

Other articles on 3 February 2007 included an overview of the standings on climate change of key states such as the US, the EU and Canada; the Portuguese absence in the IPCC meeting; the views of a representative of Quercus and of Ricardo Trigo, a Portuguese scientist. Even though the key event in this period was related to science, 19 articles focused on politics or claims made by politicians and only nine on science.

In the last period examined in this chapter, corresponding to the publication of the IPCC's 4th AR, we also examined television news coverage of climate change. We focused on the main news programme of the nationally broadcast television channels in Portugal: RTP1, RTP2 (then named 2:), SIC and TVI. In order to make our analysis more manageable we limited the data as follows. On the day of the public presentation of the IPCC's 4th AR, 2 February 2007, we compared the coverage in two randomly selected channels: 2:, part of the public broadcasting network RTP, and SIC, one of the commercial channels. In the rest of the period (16 January-16 February 2007), we opted for a random sampling of days and channels, adding to a total of 22 news pieces mentioning 'climate change' or any of the other search keywords.

In terms of methodology of analysis, we combined elements of Critical Discourse Analysis with semiotic analysis (Fiske and Hartley, 1978) in order to examine the multimodal messages of the news programmes. Keeping in mind the main theoretical references and the goals of this chapter we tried to answer the following questions: How were the risks associated with climate change represented? Which courses of action with regard to climate change were privileged and which agents were attributed responsibility in dealing with the problem?

On 2 February 2007, SIC's representation of the conclusions of the IPCC was relatively alarmist as a result of the word and image choice. The 'headline' (i.e., the words appearing on the screen at the beginning of the piece) that framed this news story was the following: 'Global

warming: ONU makes a dramatic appeal'. Against an orange background of what appeared to be rock (a meteorite?) and a ball of fire (a planet?), the anchor stated that the conclusions of the IPCC were 'frightening' (Figure 4). Although 'the experts say that some effects are already unavoidable, it is still possible to avoid the worst with an urgent intervention', he claimed. In the following piece, a journalist said that the IPCC had warned that the 'the world is in danger'. In a good example of the specificities of televised communication about this complex issue, SIC showed images of a variety of places where, it suggested, climate change was being felt: air pollution in China, flooded streets in Asian towns (Figure 5), land affected by drought, and melting glaciers. This was taken further with a separate piece that the anchor introduced by saying: 'Today only there are several concrete examples that the weather seems in fact to be going mad'. The images that followed were of a sand storm which caused a yellow snowfall in Siberia; a storm in Florida with strong winds and rain; heavy snow and ice that caused car accidents in other regions of the US and in Canada; torrential rain and flooding in Jakarta; a tornado alert and flooding in Australia.

Television may have an unparalleled potential in the creation of a sense of immediacy and urgency. But how do we move forwards from there? The ways in which television links the problem of climate change with solutions are crucial for understandings of how we can address this issue. In SIC's reporting on 2 February 2007, the audience was told that 'specialists insist that alternative energies are the only way out' while images of dozens of modern windmills were shown. After this deterministic statement about technical solutions, a separate piece focused on the need to reduce the use of fossil fuels and referred examples of solutions that were mostly associated to governmental measures: 'the EU has demanded less-polluting cars'; 'the British have a new tax for people who fly' and the 'US state of California sued the car industry demanding to be financially compensated for pollution'. There was no reference to individuals, to corporations or to local authorities.



Figure 4. Jornal da Noite, SIC, 2 February 2007



Figure 5. Jornal da Noite, SIC, 2 February 2007

In 2: the headline of the opening piece on 2 February 2007, 'Global warming: a human cause', focused attention on scientific certainty about human responsibility in the causation of climate change. The starting imagery, consisting mainly of world temperature maps (Figure 6), was more sober and closer to science's than the one used by SIC. Through the voice of the news anchor we hear about forecasts of 'multiple extreme phenomena' and the possibility of 'millions of climate refugees' in the future. Later, interviews with participants in the IPCC meeting were interspersed with images of the disappearance of glaciers and of floods.



Figure 6. Jornal 2, 2:, 2 February 2007



Figure 7. Jornal 2, 2:, 2 February 2007

Interviewees proposed diverse ways forward. First, there was an unidentified man who could be a scientist or a politician, saying: ‘What we now have is the power of science that enables citizens to go to their leaders, to businesses, to supermarkets, to car dealers, to energy companies and to ask ‘what are you doing about these findings? How are you being a part of the solution? How are you helping to address the greatest threat to our life on this planet?’ This was followed by an interview with Durão Barroso, President of the European Commissions (Figure 7), who maintained that ‘there’s a whole technical set of mechanisms [sic] that go from

investment in technology to (...) emissions trading that allow, according to all available scientific evidence, reaching a 20% reduction in GHG by 2020'. Finally, Jacques Chirac, the President of France, was shown proposing the creation of an international organization in the field of the environment in order to address the problems we are faced with. These proposals represent various discourses: democratic pragmatism with hints of sustainable development; *economic rationalism* mixed with *techno-optimism*; and faith in international politics, which could represent a form of *administrative rationalism*.

Due to space constraints, we will only refer briefly to the remaining news pieces that were analysed. Five stories focused on the impacts of climate change; three of those were linked to the publication of a scientific report of the SIAM project and were shown on the same day (22 January). They included an interview with Filipe Duarte Santos. Another six stories referred to the intergovernmental politics of climate change and especially the European Union's (EU) plans in this area. The EU and governments were the main actors here. There were ten pieces on renewable energies in the news programmes that we analysed. All but one were excluded from our sample as they did not refer to climate change even though nearly all referred to the 'environment' or to 'green' energy; five of these involved governmental actors. Finally, five stories focused on other policies to reduce GHGs, four of which on a legal change in car taxation in Portugal. The argument presented for the change was the need to reduce 'pollution' and no link was made with climate change, which led to the exclusion of those stories. The rest of the news stories in the sample referred to isolated topics such as Al Gore's visit to Portugal and an action by Greenpeace.

4. Conclusions

The analysis of the Portuguese press suggests that *alarmism* is not a very common 'linguistic repertoire' (Ereaut and Segnit, 2006). In *Público* and *Expresso*, even the articles that present some of the starkest forecasts about the impacts of climate change cannot be considered alarmist in the sense that scientific claims do not appear to have been exaggerated by journalists nor can it be reasonably argued that newspapers exploited feelings of fear or promoted a fatalistic reading of climate change. Although it had some expression in the mid-market and popular press, alarmism was not dominant there either.

The case of television is somewhat different. Images are an important element in its search for 'facticity' and their use may promote more emotionally-charged – and possibly scientifically inaccurate – readings of reality. While science avoids establishing cause-effect links between the greenhouse effect and specific weather events, the language of television promotes, as we saw, a 'now and here'-type approach. Therefore, the very nature of the medium of communication leads to a tendency to represent climate change as a more tangible phenomenon than in the press. It also promotes a more dramatic picture of the issue because

video can only register what has already happened and therefore cannot be avoided. Still, televised news stories tended to emphasise the need to act urgently rather than the idea that 'It's too late! (So we might as well slit our wrists, or carry on polluting).'

 (Ereaut and Segnit, 2006: 12).

Optimism cannot be considered dominant either. The idea that is up to the political system to solve the problem of climate change underpinned many articles but, despite this attribution of responsibility to the 'establishment', most media did not promote a belief in the ability of Portuguese political institutions to do it. As we have seen with the case of television stories, there appears to be signs of *techno-optimism* with associations of renewable energies with innovation, economic competitiveness and environmental protection. However, this is not normally linked explicitly with the struggle against climate change.

The study reported here leads us to conclude that Ereaut and Segnit's (2006) categorization of discourses into *alarmism* and *optimism* (with the variation of *pragmatic optimism*) is an excessive simplification of the variety and complexity of discursive constructions of climate change found in the media.

In the terms of Dryzek's (1997) discourse categories, we found that *administrative rationalism* is dominant in the discourse of social actors and also has an important presence in the media. *Ecological modernization* and *economic rationalism* also have a significant expression. The solution for climate change is generally expected to come from the state and/or from the market with technology playing a role as well. There were no clear instances of either *survivalism* or *prometheanism* in the Portuguese media that we analysed (although some pieces in *Expresso* went somewhat in the direction of *prometheanism*). *Green romanticism* and *green rationalism* were also absent from the discourses of social actors and the media as no substantial transformations were called for in either human consciousness or political structures.

Governmental actors were frequently present in the media representation of climate change and so were their views, positions and proposals. Although there were several critical views of governmental performance in the press, analyses of political alternatives were relatively sparse (*Público* stood out in this respect, offering more frequent and more in-depth policy analysis). International political events, and especially intergovernmental summits, have tended to lead to most media coverage. In contrast, key national decisions have not sufficiently scrutinized, as we saw with PNAC and PNALE. Corporate responsibility, a key aspect in terms of causes and solutions for climate change, has rarely been discussed in the media. It should also be noted that the voices of civic groups have a relatively low visibility in the media (*Quercus* is the most commonly mentioned NGO, which fits in with their proactivity in communicating about climate change). The analysis of wider corpora of texts than what is covered in this paper has led us to conclude that there is a gap in terms of cross-sectoral analysis as well, given that neither the

media nor other social actors normally examine the GHG impact of new road systems or land use planning, for example.

Climate change is thus viewed mainly as a matter of international politics with the primary locus for governance of the issue being the 'global'. There is therefore a disconnect between the 'global' problem and its preferred 'global governance' and many of the actual national and – particularly – local forms of causation. The naturalization of this particular way of relating to climate change is likely to discourage citizen individual and collective agency.

Scientific knowledge on climate change is generally represented as consensual in the Portuguese media regarding the nature of the problem and the anthropogenic factors that produce it. *Expresso* occasionally gives some space to 'sceptical' views but most of the cases it does so in less 'serious' genres than news, such as opinion articles and humour, i.e., scepticism comes in a dissimulated way; still, this 'muted' scepticism represents less than 5% of the total number of texts.

In order to understand media discourse on climate change research needs to go beyond journalism and examine the discourses of different social actors. This paper has examined these two aspects but has done so in a relatively separate fashion. Future studies should aim to bridge these domains and incorporate analysis of both media texts and the communicative strategies of social actors, as well as the media's production practices, including professional routines, values and organizational constraints.

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