

FULL PAPER

Sustainable Memory

How Journalism Keeps the Attention for Past Disasters Alive

Nachhaltige Erinnerung

Wie Journalismus die Aufmerksamkeit für
vergangene Katastrophen wach hält

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Abstract: This article explores how much attention journalism dedicates to past disasters in the present media coverage and asks to which extent journalism refers to present and future developments and concerns while reporting the past. Following concepts of time sociology and sociology of knowledge, we suggest overcoming the common assumption that memory belongs to the past and thus is not in line with the highly news- and event-driven journalistic production process. By introducing the concept of *sustainable memory*, which covers a temporal and a thematic dimension, we therefore regard memory as a process in the present and regard future (and not past) as the epistemological perspective on memory. These considerations shall contribute to challenge the inherent contradiction of the news-value topicality as a code in journalism, on the one hand, and memory as its supposed adversary on the other hand. We present selected findings from a comparative quantitative content analysis dealing with the current media attention for two past storm surge disasters, which happened in the Netherlands in 1953 and in Germany in 1962 ($n=2.799$). The results show that the journalistic memory of these past events is temporally and thematically sustainable. Altogether, the theoretical considerations and empirical findings should contribute to a better integration of memory as a self-evident category in journalism research.

Keywords: Sustainable memory, Journalism research, Mediated memory, Time sociology, Topicality, Prospective memory, Disasters, Content analysis, Issue attention

Zusammenfassung: Der vorliegende Artikel befasst sich mit der Frage, wie viel Aufmerksamkeit Journalismus vergangenen Katastrophen im Kontext der gegenwärtigen Medienberichterstattung schenkt und bis zu welchem Grade bei der Darstellung von Vergangenheit auch gegenwärtige und zukünftige Entwicklungen und Bedenken thematisiert werden. Ausgehend von bestehenden Konzepten innerhalb der Zeit- und Wissenssoziologie geht es auf theoretischer Ebene darum, die gängige Annahme zu hinterfragen, dass Erinnerung funktional ausschließlich etwas mit Vergangenheit zu tun hat und daher im Grunde nicht in Einklang gebracht werden kann mit einem Journalismus, der in Bezug auf die Berichterstattung neuigkeits- und ereignisorientiert ist. Mit dem Konzept *nachhaltige Erinnerung*, das eine zeitliche und eine thematische Dimension umfasst, wird Erinnerung daher als ein

Prozess in der Gegenwart betrachtet und darüber hinaus Zukunft (und nicht Vergangenheit) als erkenntnistheoretischer Bezugspunkt für Erinnerung angenommen. Diese konzeptionellen Überlegungen sollen dazu beitragen den inhärenten Gegensatz zwischen Aktualität als dem zentralen Selektionskriterium im Journalismus und Erinnerung als bisweilen unterstelltes Gegenteil von Aktualität kritisch zu hinterfragen. Von diesen theoretischen Überlegungen ausgehend, werden ausgewählte Ergebnisse einer vergleichenden, quantitativen Inhaltsanalyse präsentiert. Im Zentrum der Analyse steht die aktuelle Medienaufmerksamkeit für zwei vergangene Sturmflutkatastrophen, die sich 1953 in den Niederlanden und 1962 in Deutschland ereignet haben ($n=2\ 799$). Die Ergebnisse zeigen, dass die journalistische Erinnerung an diese zwei Katastrophen zeitlich und thematisch nachhaltig ist. Insgesamt sollen die theoretischen Überlegungen und empirischen Ergebnisse einen Beitrag leisten, Erinnerung als Kategorie innerhalb der Journalismusforschung stärker zu verankern.

Schlagwörter: Nachhaltige Erinnerung, Journalismusforschung, Mediale Erinnerung, Zeitsoziologie, Aktualität, Prospektive Erinnerung, Katastrophen, Inhaltsanalyse, Issue Attention

1. Introduction

Journalism stands for the news of today. This is the basic assumption, which most of the journalists and their audience would agree with. Also journalism theories underline that journalism as a social system or field in society focuses on current issues, on the news of today and not on that from yesterday (Arnold, Hömberg, & Kinnebrock, 2010, p. 7; Harcup, 2009, pp. 39-42; Deuze, 2009, p. 22; Edy, 1999, p. 74). The basic argument – at least from a functionalist perspective – is that topicality (*German term: Aktualität*) as a central selection criterion or rather code in journalism is clearly in line with the function of journalism, which is to establish society's self-monitoring and synchronisation (Meier, 2007, pp. 29-31).

However, in the wider field of media and communication research as well as journalism research, the focus has shifted to the fact that media and journalism also play an important role in terms of memory production. Several scholars have stressed that mass media are generators and transformers of memory (Reinhardt & Jäckel, 2005, pp. 96-101) and that journalists are agents of memory (Edy, 1999; Zelizer, 2008). Moreover, a wide range of analyses on various topics could prove that three major memory occasions or stable memory patterns exist how journalists report the past: anniversaries, historical analogies, and historical contextualisation (Zelizer, 1992; Edy, 1999; Kitch, 2002; Zelizer, 2004; Edy & Daradanova, 2006; Robinson, 2009; Donk & Herbers, 2010; Harro-Loit & Kõresaar, 2010). Despite this basic consensus, one can state that the relation of media, journalism and (collective) memory and how to grasp it conceptually and empirically has not yet been fully clarified (Donk, 2009, p. 13; Zelizer, 2008, p. 85; Donk & Herbers, 2010, p. 195). In fact, apart from a small niche in Anglo-Saxon and European academia, memory, as an object of research, has not yet found its place and legitimacy in media and communication research and journalism theory. According to Carolyn Kitch (2008), we should gain a better understanding "that journalism works within (not apart from) other cultural memory

forms, and that it constructs memory not just with regard to discrete events, but across time and place and types of journalism" (p. 312).

The aim of this article is to contribute to the research field of media, journalism and memory. Following the concepts of memory used in time sociology and sociology of knowledge, we will first outline and discuss the *temporal implications and functions of memory* in terms of past, present and future, with a focus on the temporal relation to future. Against this background, the main contribution is to introduce the term *sustainable memory* and its two dimensions. The overall *temporal dimension* implies that memory from an epistemological point of view is an ongoing process, whereas the *thematic dimension* points to memory as a process, in which social knowledge and learning processes deriving from past experience are being reflected in light of present and future circumstances.

These considerations will be transferred to journalism and challenge the question of topicality and its dimensions more accurately. Using the concept of *secondary topicality*, we will reflect the state of research on how journalism covers the past and discuss how time and temporality can serve as adequate variables to connect journalism and memory.

Following these considerations, we will outline our empirical case study on the question of journalistic attention for past disasters. In a first step, we will introduce the research objects, which are two past storm surge disasters in the Netherlands (1953) and in Germany (1962). Next, we will explain why disasters can be regarded as suitable research objects for mediated and journalistic memory. Then we will present selected findings from the comparative quantitative content analysis, which focuses on the two central dimensions of sustainable memory. This analysis shows that there is a constant and long-lasting memory of past disasters in the media coverage. Furthermore it will show how and to what extent journalism reflects and embeds past disasters in light of past, present and future circumstances.

The findings of this article suggest a template for placing more emphasis on memory as a central category in journalism research. Beyond the specific case of the two past disasters, this study offers an opportunity to reconsider how and to what extent memory in journalism can be regarded as an ongoing component in the news production process.

2. The Temporality of Memory: Connecting Past, Present and Future in ‘Sustainable Memory’

In many cases research on memory has a specific bias to the past and is mainly focused on memory understood as a *retrospective* form and practice. Nonetheless, we refer to approaches, which imply and focus on the concept of *prospective memory* (Lang & Lang, 1989; Adam, 2004, p. 297; Welzer, 2010a, 2010b; Schmidt, 2010, p. 22; Tenenboim-Weinblatt, 2011). Memory is not only a continuous process that takes place in the present, (re)constructing the past, but also a process that includes the illustration of the future. This is what we call the ‘prospective turn’ in memory studies. It arises in recent publications but can be traced back to older concepts in time sociology and sociology of knowledge as well.

2.1 ‘Prospective turn’ in memory studies

The German social psychologist Harald Welzer claims to broaden the perspective and to take the future rather than the past as the epistemological perspective on memory (Welzer, 2010a, p. 8; Welzer, 2010b, pp. 22-23). Prospective memory, from his point of view, serves as an orientation in the present to make decisions and establish future actions. With a specific focus on media and journalism, Keren Tenenboim-Weinblatt (2011) has also stated that scholars on collective memory and the media have tended to focus on retrospective memory. She advocates a better incorporation of prospective memory into media studies and the role of journalism as an agent of prospective memory (pp. 213-214).

These claims for a present- and future-oriented view on memory and its functions are clearly in line with perspectives on memory deriving from the *sociology of time* and *sociology of knowledge*.¹ Notably, the sociologist Norbert Elias has emphasised the social meaning of memory as well as the constructive character of the past for the present and the future. According to him, humans have the ability to remember past incidents and combine or rather synthesise them with incidents that (a) have happened over the course of time and (b) which are happening right now (Elias, 1984, p. 46). Basically Elias defines time as a social symbol and a medium of orientation within the process of civilisation. Individuals have the ability to mentally associate objects that happened at various points in time. Thus, they can transfer past experience from one generation to the next. This ability enlarges people’s orientation in the present and enables them to take decisions that refer to the future (Elias, 1984, pp. 1-2).

Other sociologists have also stressed the temporal links between past, present and future regarding questions of subjective consciousness, behaviour, actions and the construction of meaning. With reference to the phenomenology of temporality by the philosopher Edmund Husserl, which covers the distinction amongst retention, protention and imagined futures (Bernet & Lohmar, 2001, pp. 3-11), Alfred Schutz (1976) has outlined the concept of *anticipated retrospectives* (pp. 277-293).² This concept assumes that whenever current situations require actions, individuals can revert to a continuous and collective stock of knowledge deriving from past experience or events. Hence, they are able to anticipate future situations (Schutz, 1962, pp. 68-72). These anticipated retrospectives – also called continuous memory and learning – are not bound to events *per se* since it is always uncertain whether they will happen or not. Rather, the (daily) pragmatic *exposure* to possible future events and the question of how to handle them, constitute patterns of expectation and stocks of knowledge. This enables the anticipation of knowledge on a persistent basis (Schutz, 1976, pp. 281-291). Similar to

1 Beyond the sociology of time and of knowledge, *social psychology* discusses the idea of reflecting the temporal interplay of past, present and future in general and with regard to memory and its functions. One central scholar, who outlined this issue quite early, is George Herbert Mead. For a comprehensive overview of Mead’s perspective on time and temporality, see Flathery & Fine (2001).

2 The spelling for the Austrian-born American sociologist is Schütz. Here, we use the English spelling Schutz without the Umlaut (ü).

Schutz, Barbara Adam and Helga Nowotny have proposed arguments to what extent the past can provide knowledge to address and solve today's crises or dilemmas (e.g. the potential outcomes of nuclear power, genetic modification of food). Both scholars suggest considering memory as aids to better encompass long-term future developments in our contemporary concerns (Adam, 2004, pp. 312-314; Nowotny, 2008, pp. 103-117). Finally, Elżbieta Hałas (2010) provides a concept of memory, understood as a triangle of past, present and future. She discusses the relationship between time, history and memory regarding the reflexivity of knowledge about the past and orientation towards the future from a cultural perspective. She uses the topic of cultural memory and collective trauma as an example and emphasises the temporality of memory, which is not limited to the past but also encompasses the future. In contrast to the distinction of cultural and communicative memory proposed by Jan Assmann (1995), Hałas connects these two memory forms and grasps memory as communicative acts, which transmit "reflexive knowledge about the past from the perspective of a future present" (Hałas, 2010, p. 313).

2.2 The concept of sustainable memory

To bring together these various reflections on the temporal extension of memory to the present and the future, this paper proposes the concept of *sustainable memory*. This term is rarely used in everyday speech and is not yet elaborated and spread in scientific contexts. Recently, it has appeared in the context of education and knowledge institutions like museums and within discussions on ecological developments and environmental changes (Jordan & Hettner, 2011; Paardekoper & Pres, 2011).³

In shaping the principle of *sustainable memory* and implementing it into journalism, some clarifications on the meaning of the term 'sustainable' are necessary. This paper does not use this term in a normative sense like most scholars from sustainability science, who regard sustainability as a primary positive general principle for the long-term maintenance of responsibility. Thus, sustainability science is mainly solution-oriented and makes claims and recommendations for changing societal ways of life and attitudes. Furthermore, it cultivates close interactions with stakeholders (Ekardt, 2011; Stappen, 2008; Kates et al., 2001). Our aim is *not* to clarify the role or responsibility of journalism as a social system within the sustainability discourse on a normative basis. Rather, we assume, similar to what Katrin Bosnjak (2009) has already outlined, that journalism is not a

³ The idea of sustainable memory also appears in the context of media coverage on recent disasters like the tsunami, which lead to a nuclear disaster in Japan in March 2011. We found one article in *The New York Times*, which deals with the question of why people still live in endangered areas and forget the warnings from their ancestors, who wrote in stone not to build below specific points at the coastal area because of the tsunami hazard and thus exposing themselves to risk (Fackler, 2011). Furthermore, we came across one interdisciplinary research project, which is called "Sustainable Flood Memories" at the University of Gloucestershire, dealing with the overarching question, whether remembering previous floods makes communities more resilient to future floods (McEwen, Krause, & Garde-Hansen, 2012).

social system to cover topics and issues holistically or to offer solution strategies; both are criteria for communicating sustainability or topics that deal with the complex matter of sustainability. In particular because of the underlying principle of topicality, speed as well as the shortage of time in daily business, journalism is not made for communicating sustainability (see also Dernbach, 2007).

In our research on journalism and memory, we use the term sustainable in its *literal sense*. The concept of *sustainable memory* implies the question to which extent past events or issues gain continuous attention and to which extent they are embedded in a wider present- and future-focused context.

To follow up on this idea and transfer it to journalism, this paper suggests that sustainable memory through journalism can be defined as an *ongoing process* of present media coverage with references to a past event over a *defined period*. The processing of sustainable memory is regarded as a functional component of journalistic practices and routines.

The aspect of an ongoing process implies that we regard memory in the media coverage as a continuous process and therefore reporting past events is not limited to certain occasions or time units. Concerning the aspect of a defined period, we have to regard several dependencies. First, we have to reflect on the coherence of temporal distances between the point in time when the event took place and what we consider the ‘present’ media coverage ($\text{point}_{x \text{ past event}} \Rightarrow \text{point}_{x+n \text{ present media coverage}}$). Furthermore the course of the event (e.g. duration, impact, scope) has to be considered while defining these temporal distances.

Second, we have to keep the dialectic relationship between memory and oblivion in mind while defining the period. Referring to this, memory can be regarded as a selection process in which a respective subject or system (here: journalism) decides which past events or issues receive attention and which events or issues are not being remembered. The question is now how long the memory of a certain event or issue exists. There are some remarks on the duration of individual and collective memory by Maurice Halbwachs (1985) and Jan Assmann (1992). Both scholars state that the duration of memory depends on generations and generational changes, which – according to Assmann – take place after 80 to 100 years. In this time horizon people from up to four generations can directly exchange experience as well as narrations about the past through communication. Memories, which exist longer, e.g. over centuries or millenniums, are part of the so-called cultural memory (Lutz-Auras, 2013, pp. 55-59).⁴

Up to now there is no empirical evidence whether these logics of the duration of memory as well as the relationship between memory and oblivion are also valid for the memory in and through journalism. Likewise, there is no empirical evidence, allowing the establishment of a rule for temporal distances between a past event or issue and its presence in current media coverage.

4 Based on the idea by Halbwachs (1985) on collective memory, Assmann has divided the term collective memory into two memory-frames, the communicative memory (depended on personal experience and narrations) and the cultural memory (objective and specialized interpretations of a distant past) (Assmann, 1995, pp. 126-133; Assmann, 1992, p. 56). However, it has to be noted that this division and especially the lack of explicitness in defining the central terms (e.g. culture and memory) meanwhile is arguable.

Apart from that and based on our theoretical explanations so far, we can analytically distinguish two dimensions of sustainable memory through journalism.

Firstly, sustainable memory has a formal *temporal dimension*, which means that memory is a process, in which a past event gains continuous attention in the present media coverage over the course of time. Secondly, sustainable memory has a *thematic dimension*, based on the fact that memory references are always embedded into specific issues or thematic fields. This means that journalism frames the past either with a more past-centred, a more present-centred or a more future-centred perspective. Both, the degree of issue-attention for past events and the temporal and thematic level of framing the past, allows us to evaluate the degree of sustainable memory through journalism. To put it in a nutshell: The temporal dimension shows, *whether* journalism covers a past event over the course of time while the thematic dimension shows *how* the past event is embedded in the thematic fields.

Having clarified the basic concept of sustainable memory, this paper now takes a step back to journalism and memory, at first, more theoretically and then, by outlining the state of empirical research in this field.

3. The Construction of Memory in and through Journalism

3.1 Journalism and its preferences for the ‘news of today’

We challenge the tacit assumption that topicality – understood as the coverage of news and novelty – is one of the core news values in journalism. Several scholars, especially with reference to system theory, define journalism as a social system, which is specialised in topics that are *new*, *factual*, and *socially relevant* (Harcup, 2009, pp. 3-7; Meier, 2007, p. 13; Scholl & Weischenberg, 1998, p. 78). In this sense, topicality is regarded as one central code for journalism or rather as a selection criterion within the journalistic news production process (Meier, 2007, p. 29).⁵

Topicality has at least three dimensions: factual, temporal and social (Merten, 1973). The *factual dimension* means that issues are labelled as new and unexpected. The *temporal dimension* implies that journalism produces presence and synchronises society. Thus, people are able to share the same knowledge almost simultaneously. The *social dimension* comprehends that people expect a specific cognitive usage of journalism. Hence, one can regard it as an early warning system that helps people or other social systems to orientate themselves and solve problems.

If one takes a closer look at the topicality beyond these chronometric aspects, it is evident that topicality does not only refer to new or current issues or synchronism (Neverla & Lohner, 2012). Topicality has a *manifest dimension* on the one hand and a *latent dimension* on the other. Whilst the first means topics of the

⁵ Journalism operates according to a wide range of so-called codes (e.g. information vs. no information; public vs. not public). However, newsworthy versus not newsworthy is one of the most popular codes used to describe according to which logic the journalistic system operates.

immediate present (e.g. elections, scandals and disasters), the latter implies bigger recurring thematic fields (e.g. Europeanization, environmental changes or destruction, unemployment or national finances) (Rager, 1994, pp. 196-197; Haas, 1999, pp. 321-322). Similarly one can distinguish between *primary* and *secondary topicality* (Hagemann, 1966, pp. 42-47; Koschwitz, 1990). Primary topicality is similar to the manifest dimension and means that very small temporal gaps exist between events and the journalistic coverage. Thus, simultaneity is created. Secondary topicality is similar to the latent dimension; it means that journalists relate past and future to the present, which shows that both the past *and* the future can become newsworthy. The idea of primary topicality implies that events are single entities with seemingly clear-cut contours. However, the idea of secondary topicality reveals that this singularity is not genuine, but rather constructed.

Taking these considerations into account, this paper argues that media and journalism are social time disposers and that journalism follows constructive principles whilst creating topicality (Neverla, 2010a, 2010b; Harro-Loit & Kõresaar, 2010; Beck, 1994). Beyond these theoretical assumptions, one can perceive and even measure a wide range of time references in the journalistic coverage and how journalism refers to past, present and future (Bentele, 1992; Bell, 1998). This allows us to theorise and analyse the different time horizons in journalistic coverage and support the assumption that memory in journalism not only refers to past issues, but rather comprises *the embedding of past as well as future into the present in media coverage*.

Following Otto Groth (1960), one can summarise that what is called *present* is not chronometric and fixed, but rather extended and ambivalent (p. 183). In particular, the existence of latent or *secondary topicality* shows that journalism is not only a producer of presence, but also a connector of past, present and future. Thus, we suggest that the elements of time and temporality are adequate variables to connect journalism and memory on a level that transcends memory, understood as pure narrations of the past.

3.2 Media and journalism as sources and producers of memory

Media and journalism, as stressed, are significant for covering current events and issues. However, they also play an important role within the long-term process of sharing and shaping the memory of key events, raising awareness of permanent and latent themes, or rather threats and problems (e.g. emerging disasters, potential impact of climate change, terrorism). The significance of media and journalism in the process of social memory constructions becomes evident when one considers that societies gain access to most contemporary historical events and processes mainly through mass media and public communication (Wilke, 1999, p. 24; Kitch, 2008, pp. 311-312). Regarding social memory production and construction, media and mass communication can be regarded as "generators" and "transformers" of memory (Reinhardt & Jäckel, 2005, pp. 96-97) and they have at least three functions and meanings: (1) Media enable social memory (memory through media), (2) Media products are memory products (media as memory), (3) Memory is a topic of mass media (memory in the media).

To understand the significance of memory in and through media and journalism, especially in conjunction with memory conceptions detached from a past-centred perspective, one has to keep in mind that every act of remembrance is a process in the present (Welzer, 2010a, p. 8; Zierold, 2006, pp. 43-48 & pp. 149-153). Martin Zierold (2006) has developed a model of so-called *memory careers*, which helps to explain how relevance is ascribed to past events. This model encompasses four types of memory careers that a past event can make, depending on how much impact and social relevance the event had in the past (pp. 152-153): (1) a past event gains continuous relevance, (2) a past event is forgotten because of missing relevance, (3) a past event is re-discovered and gains relevance, (4) a past event is not remembered at all.

These memory careers can be adapted to the logics of journalism, because of the implicit connection to news values. Especially the news value continuity is in line with the abovementioned memory careers one and three. Furthermore the assumption, that the impact and social relevance of a past event determines the current attention, follows the logic of the news values meaningfulness, negativity and proximity (Staab, 1990, p. 59; Harcup, 2009, pp. 39-40).

3.3 State of research on journalism covering ‘the past’

Studies on journalism and memory reveal a wide range of – in many cases – intertwining fields and topics, how the interplay of memory, media and journalism can be investigated.

We can find for example studies on the interrelations of mediated memory and national identity building (Kitch, 2002, 2005; Harro-Loit & Kõresaar, 2010), on the interrelations of memory and journalistic professional identity building (Meyers, 2002, 2007; Kitch, 2002), on the specifics of anniversary news (Harro-Loit & Kõresaar, 2010; Edy, 1999) as well as on the anniversaries or commemorations of (mainly negative) past events (disasters, civil disorders, attacks, political event, etc.) (Robinson, 2009; Donk & Herbers, 2010; Schudson, 1992; Zelizer, 1992).

However, due to the focus of our study we limit our literature review to those studies that specially cover (1) the occasions when past events are remembered in the media, (2) the question of temporality of journalistic memory and (3) the journalistic memory of past disasters.

Concerning the question of memory occasions Jill Edy (1999) has studied the mediated collective memory of the Watts Riots in 1965 in Los Angeles by analyzing references to this controversial event in the *New York Times* (1980-1992) and the *Los Angeles Times* (1985-1992). Based on that, Edy developed a typology of how journalists use the past. This typology contains three memory patterns: first commemorations as either event-oriented and ritualized forms of narrating the past (e.g. anniversaries) or by chance commemorations (e.g. obituary), second historical analogies as a tool to make the past relevant to the present and third historical contextualisation as a way to explain present circumstances and the reasons behind certain developments. Other scholars have referred to and tested this typology theoretically as well as empirically (see also e.g. Kitch, 2002; Donk, 2003; Zelizer, 2008; Donk & Herbers, 2010; Ammann, 2010).

With regard to the temporality of memory Halliki Harro-Loit and Ene Kõre-saar (2010) analysed the different temporal logics within different forms of anniversary news in Estonia. They investigated three television news stories and compared the social construction of time in commemorative stories, which refer to the Estonian nation or nation-building processes. They found a cyclic construction of national temporality in annual anniversary news (e.g. Tartu Peace Treaty). Journalism selects facts and episodes and makes little interpretation. Conversely, infrequent so-called single anniversaries (e.g. inauguration of a monument) involve a non-cyclic construction of national temporality. Journalists evaluate and contextualise an event historically and form more and complex interrelations than in annual anniversary news.

Concerning the memory of disasters through journalism – the major object of our own research – Sue Robinson (2009) analysed the national and local American news coverage (24th August-10th September 2006) about the first anniversary of Hurricane Katrina. Robinson identified, amongst other aspects, that national media placed this disaster in the collective memory by referring to the attacks of 9/11. Regional media referred to other hurricanes, which occurred before Katrina and emphasised the ability and ritual of rebuilding spaces after the destruction (p. 248).

André Donk and Martin R. Herbers (2010) performed a content analysis about the memory of 9/11. They analysed the anniversary reporting of this disaster in the years 2002 to 2008 in German and American quality newspapers (10th-12th September for each year). Amongst others, the major results show that the attention for this past disaster has declined during the anniversaries over the course of time. In addition, the memory is focused geographically on New York (regionalisation), the actual attacks as well as the elite actors (George W. Bush and Osama Bin Laden).

In general, one can summarise that anniversary journalism has become a comparably popular research subject. One reason is that commemorations follow fixed, often cyclic intervals or milestone anniversaries (e.g. 1st, 5th 10th), which are launched by society and politics. Moreover, they correspond with the media logic because they are projectable according to the calendar and therefore journalism can plan stories in advance regarding the story's agenda (Ammann, 2010, pp. 159-162; Pfaff-Rüdiger, Riesmeyer, & Meyen, 2010, p. 116). Likewise, scholars design their analysis according to these theoretical assumptions (e.g. analysing the memory coverage around specific dates). However, aside from comprehensible interest in the so-called time and event-oriented commemorations, there is a relative understudy of those points in time where one (theoretically) does not expect that journalism remembers past events because of missing occasions. In this sense, the focus of our study is on the *continuity* of journalistic memory in present media coverage over a coherent period of time – one of the aforementioned criteria for sustainable memory. Furthermore, the aim is to prove the degree of media attention for past events in order to clarify whether memory of past events is a minor or constant and established component in media coverage.

4. A Study of Sustainable Disaster Memory in Journalistic Coverage

To investigate and exemplify whether journalism remembers past events sustainably, we conducted an empirical study with two past disasters in different countries as the research subjects: the so-called *watersnood*, which struck the Netherlands, mainly the rural region of Zeeland in 1953, and the so-called *Sturmflut* which hit the German North Sea coastline in 1962, especially the city of Hamburg. We have decided to conduct a comparative case study because systematic comparative analyses are still rare within the field of memory studies (Welzer, 2010a, pp. 7-8).

We analyze and compare the type and degree of sustainability concerning the presence and functions of memory in the present media coverage across two different cases. As a case we regard a past event (here: storm surge disaster), which is spatially bounded to a certain region in a country. Our aim is to test our preliminary theoretical assumptions on sustainable memory as a journalistic product. Since we only compare two cases, our aim is not to generalize but rather to generate further theoretical propositions concerning the concept of sustainable memory.

4.1 Same, same but different?

Concerning the choice of the two cases, we have an adequate combination of similarities and differences on various levels. In general we can say that the reasons for the two storm surge disasters – understood as natural phenomena – are similar in both cases, while the course of these events, the aftermaths as well as the applied solution strategies differ to a certain degree. Also the historical, geographical and cultural preconditions and context factors, which lead to the question of how people live and deal with storm surges or the impact of water, differ in these two countries.

In general, the two countries are different in terms of their geographical profiles. The Netherlands face the exceptional situation that half of the country lies below sea level. Historically the people have always fought against the sea to reclaim new or preserve existing land areas. In Germany protection concerning storm surges and the impact of water from the sea also has a long tradition but only in the northern parts and especially at the coastal zone of the country.

With regard to the two storm surge disasters in both cases people did not expect that such a disaster could happen because the last comparable storm surge disasters before 1953 and 1962 dated back ages.⁶ Given this so-called “disaster gap” (Pfister, 2009), people felt comparably safe. Hence, their awareness of, or rather exposure to the risk of possible storm surge disasters and how to prevent or even handle them, was comparably low. Furthermore, the post-war period had been a strain on the people and thus coastal protection, especially dike building and maintenance, was unattended.

⁶ In the Dutch case, the last storm surge disaster with physical damage and deaths before 1953 occurred in 1570 (All Saints Flood). In the German case, the last severe storm surge, which hit Hamburg and caused physical damage, occurred in 1855 (New Year's flood).

With regard to the aftermath the two events differ. In the case of the 1953 storm surge disaster, which mainly affected the Dutch rural region of Zeeland in the Southwest, more than 1.800 people died and 100.000 had to be evacuated. The German 1962 storm surge disaster mainly hit the city of Hamburg, during which 315 people died and 20.000 had to be evacuated.

After these two storm surge disasters, technological solution strategies were enabled in both cases, for example, the raising and reinforcement of dikes and the building of storm surge weirs, even if the degree of expertise was different. The Netherlands involved the building of the famous Delta Works. This complex construction measurement of dikes and dams made the Dutch quite famous for their engineering expertise of coastal protection. This way of managing the waterfront has even become part of the country's national identity (Bollen, 2009).

Several severe storm surges occurred in both countries after 1953 and 1962. However, none were comparable to the former disasters in terms of damages and losses. Thus, the feeling of being resilient or even safe has become manifest. Nevertheless, with the emergence of the topic or problem of climate change, especially the rising sea level and potential increase of extreme weather events, the question has arisen to what extent countries or specific regions can be considered safe in the future. This question is reflected in the broadest sense in different political and scientific discussions. It also arises in concepts about climate change adaptation, which refer, for instance, to the years 2050 or 2100 in terms of realisation. Interestingly, the disasters of 1953 and 1962 are also mentioned in these discussions and concepts, invoking the question of whether a similar event could happen again in the future (Deltacommissie, 2008, p. 5; Bürgerschaft der Freien und Hansestadt Hamburg, 2012, p. 1; von Storch & Stehr, 2007, p. 38). Moreover, the Dutch case in particular clearly reveals a kind of re-thinking in terms of turning away from the so-called technological-oriented strategies like dike, dam and weir building. Rather, scientists and politicians implement ideas and slogans, claiming that human beings should treat nature better, not fight against water, but rather work together with it (Deltacommissie, 2008).

On a more general level and with reference to what this paper has outlined on the temporality of memory and sustainable memory, these cases show that the memory of past disasters is interwoven with present concerns and future projections on different levels. The past traumatic key events are, to a certain degree, an important point of reference for an imagination of similar possible outcomes, especially regarding the destructive impact of water in the future and what societies have learned from the past (Peters & Heinrichs, 2005, pp. 146-147; Bočkarjova, van der Veen, & Geurts, 2009, pp. 8-9).

4.2 Why past disasters are suitable for discovering sustainable memory

Despite the singularity of these two cases, and if one more closely examines the character of natural disasters, it becomes evident that they are not merely single events with a start and end point. Rather, disasters, as notably discussed in the field of historical and sociological disasters research, have a repetitive character. As the historical disaster researcher Franz Mauelshagen (2007) puts it: “(...) rep-

etition is likely to become a key term of historical research on disasters. It is the link between (...) past experiences and models of the future society” (p. 134; see also Dix & Röhrs, 2007, p. 216). This quote reveals that if one deals with disasters that date back various years, it is necessary to consider the wide range of sustainable impacts. Impacts are, for instance, destructive elements like mortality rates or economic damage. However, it also refers to regulative and constructive elements like the processes of re-building and safety measures, as well as the development of experience and knowledge. Furthermore, (cultural) practices like disaster management display, to a certain degree, how future disaster and possible impacts can be anticipated (Schenk, 2007, p. 19; Murphy, 2010).

Considering the question of how societies deal with natural disasters, one can state that there is a historical induced, continuous and complex relationship between nature and society, or rather culture. Thus, Anthony Oliver-Smith (2002) refers to the multidimensionality of disasters, especially when concerning the question of how vulnerable or resilient cultures and societies can be considered in terms of disaster impacts that occur now or in the future (pp. 25-26). Taking this into account, so-called natural disasters have to be considered profound social issues instead of causal or linear impacts by nature. This claim was already made in the 1980s, especially in the field of social geography, by emphasising to better use the term “social disaster” rather than “natural disaster” (Hewitt, 1983, p. 5).

These remarks on the social dimension of disasters, in terms of learning and knowledge, as well as the underlying temporal dimensions of past experience, present concerns and threats as well as future-oriented anticipation are in line with the aforementioned functions of sustainable memory. Having said this, the overarching question of our study is how sustainable journalism *re*-ports or rather *re*-members past disasters.

4.3 Research questions and hypothesis

The first aspect of this study encompasses the *temporal dimension* of sustainable journalistic memory, which is reflected in the media attention for past events. Concerning this matter, the study poses the following research questions and hypothesis:

RQ1: How much attention does journalism give to past disasters over the course of time and is the memory of past disasters in the media – beyond cyclic commemorations – temporally sustainable?

RQ2: What are the reasons for high degrees of attention over the course of time?

Due to the logic of memory careers of past events (Zierold, 2006, pp. 152-153), one can assume that the present media attention for the past disaster is higher in the Netherlands than in Germany.

Compared to the German storm surge disaster of 1962, the impact of the 1953 Dutch storm surge disaster was more severe in terms of deaths and destruction,

aftermath, and subsequent adaptation measurements (e.g. the building of the famous Delta Works). Based on that, the following hypothesis will be tested:

H1: The attention for the past disaster in the Dutch case is higher than in the German case.

The second aspect of this study encompasses the *thematic dimension* of sustainable journalistic memory, assuming that the memory of the past events is embedded into specific issues or thematic fields. Besides, these issues have temporal implications or foci ranging from past to future. Concerning this matter, the study poses the following research questions and hypothesis:

RQ3: To what extent are the past disasters framed with facts and episodes that refer to the past events?

RQ4: To what extent are the past disasters embedded in a larger context that points to the present and future circumstances concerning the anticipation of threats due to the respective environment, other disasters, and climate change?

Journalists are, in most cases, restricted in terms of time for research and editorial space. Moreover, they consider it their primary task to provide new information as quickly as possible (Deuze, 2011, p. 22; Weischenberg, Malik, & Scholl, 2006, pp. 116-119). In contrast, the thematic dimension of sustainable memory requires these reflexive and interpretative connections between past and future. This ultimately means that journalists have to focus on both the news they have to tell and the past, which they do not necessarily consider to be part of their competence (Zelizer, 2008, p. 80). We assume that these underlying circumstances lead to a stronger fact-based portrait of the past events rather than interpreting and contextualising them. Therefore, we will test the following hypothesis:

H2: The past disasters are more often framed with facts and episodes deriving from those days and are less embedded in a larger context that points to the present and future circumstances like the impact of climate change, other disasters as well as the threats and anticipation of threats due to the impact of water.

The specific situation of the Netherlands is – as mentioned above – that half of the country lies below sea level and is thus comparably vulnerable to flooding (de Graaf, van Giesen, & van de Ven, 2009, pp. 407-410). This leads to the assumption that the key event of 1953 is referred to as an example of the negative impact of water. Indeed, the Netherlands did not experience such a disaster again. Nonetheless, the country still faces the underlying threat of the impact of water and the possible impact of climate change, especially due to rising sea level. This leads to the assumption that the past event is more often embedded in the present and possible future circumstances than in the German case, which we will test with the following hypothesis:

H3: In the Dutch case, the past disaster is embedded more often in a larger context that points to the present and future circumstances regarding the threats

as well as anticipation of threats due to the impact of water than in the German case.

4.4 Research Design

We conducted a comparative quantitative content analysis of four German and four Dutch newspapers. The newspaper sample encompasses national quality newspapers with different political stances, national popular newspapers as well as regional newspapers. The selection criterion for the regional newspapers is geographical proximity to the place or region, in which the past disasters occurred (see Table 1).⁷

Table 1: Newspaper sample

Level	Netherlands	Germany
National / conservative	<i>NRC Handelsblad</i> (n=202)	<i>Frankfurter Allgemeine Zeitung</i> (n=57)
National / liberal	<i>De Volkskrant</i> (n=228)	<i>Süddeutsche Zeitung</i> (n=50)
National (popular)	<i>De Telegraaf</i> (n=187)	<i>Bild</i> (n=122)
Regional	<i>Provinciale Zeeuwsche Courant</i> (n=1.353)	<i>Hamburger Abendblatt</i> (n=600)
Total	1.970 ⁽¹⁾	829

⁽¹⁾ Note: The total number of Dutch articles used for coding and analysis differs from the number used for the average issue attention. For pragmatic reasons, the researchers worked with a random sample (50% out of the total number of articles) in the case of the regional newspaper *PZC*. The sample size for the average issue-attention measurement is n=1.970 and for the analysis n=1.288.

The research period is from January 2000 to March 2012 (complete inventory count). The reason why we have chosen this period was that we wanted to include the 50th anniversary of each disaster. In terms of defining a period – as stated in the definition of sustainable memory above – this milestone anniversary serves as an indicator that the events date back sufficiently to ask how temporal-sustainable journalism remembers them. Furthermore, and as a second aspect of defining a period, we have assumed that the increased media attention for the topic climate change in the second half of the 2000s might trigger the attention for the past disasters.

The sample criterion was that every article had to have a reference to the 1953 disaster in the Dutch case or a 1962 reference in the German case. The degree of detail concerning the memory reference was not decisive. All articles were collected with a full-text search in different electronic databases and the relevance of each article was manually verified (*LexisNexis*, *Factiva*, *Digas*, *SZ Archiv*

⁷ The empirical study is part of the ongoing PhD thesis by Stefanie Trümper within the overarching research project *Sustainable Disaster Memory in Journalism*, which is directed by Irene Neverla (see: <https://www.wiso.uni-hamburg.de/professuren/ijk/forschung/forschungsprojekte/starg-nord/>).

*LibraryNet, F.A.Z. Archiv).*⁸ Except for the Dutch regional newspaper *Provinciale Zeeuwsche Courant* (PZC), which is only available via *LexisNexis* from December 2002 onwards, all newspapers could be sampled for the entire period. The article sample encompasses a total of 2.799 articles.

Beyond the sampling of the articles, we also collected data about the total number of articles that appeared in each newspaper on a monthly basis over the course of time.⁹ In doing so, we are able to present the average issue attention for the past disasters. It is important to keep in mind that each newspaper differs in terms of its extent (e.g. amount of articles, length). Working with the average issue attention – that is calculating the share of relevant articles in the total number of articles that appear in the newspaper per month – enables functional equivalence, generally a relevant aspect in comparative research (Esser, 2010, p. 9; Wirth & Kolb, 2004, pp. 87-114). We therefore refer to the percentage of articles, which include a reference to the 1953 as well as to the 1962 disaster in relation to the entire number of articles that appear in the newspaper on a monthly basis.

5. Results

5.1 Different degrees of issue attention for the past disasters [RQ1 and H1]

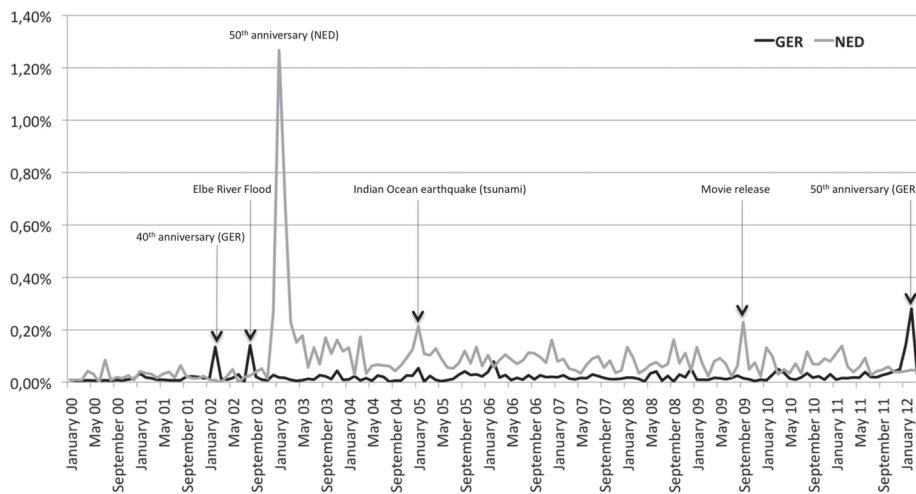
The first research question and hypothesis one refer to the *temporal dimension of sustainable memory*. With the so-called issue attention for the past disasters we measured and verified to what extent this attention can be regarded as temporally sustainable. As stated before, the percentage of issue attention for the 1953 and 1962 disasters was measured in relation to the overall reporting of all newspapers per country and per month over the course of time.

A comparably continuous attention for the two disasters over the course of time was found in both cases. The average issue attention in the Dutch case is 0.1 per cent and in the German case the past disaster received 0.02 per cent attention over the course of time. In hypothesis one we have assumed that the attention for the past disaster is higher in the Dutch case. The direct comparison of the two cases revealed that the average issue attention in the Dutch case is indeed five times higher than in the German case (see Fig. 1).

⁸ Search string: “watersnood! AND 1953!” for the Dutch case and “Sturmflut! AND 1962!” for the German case.

⁹ We gathered these data by doing an empty search in the respective databases. Due to economic reasons (fee-based access to database *Digas*), we calculated the means for the German newspaper *Bild* only per quarter and not per month.

Figure 1: Average issue attention for the past disasters: NED (1953) and GER (1962)
(Basis: n_(NED) = 1.970; n_(GER) = 829)



Beyond this difference the first research question also aimed at evaluating the degree of attention to the past disasters. The values concerning the issue attention seem at first glance comparably low. Generally, it is difficult to evaluate what is much and what is little, especially when one considers the wide range of issues that are represented in the media every day. However, this paper argues that measuring the percentage of issue attention regarding the overall reporting may contribute to a more sophisticated discussion and investigation concerning the question of journalistic attention for past events as well as for other issues, which appear in the media coverage. Thus, we have compared our findings with results from other content analyses, which also measured the issue attention according to the same procedure.

One content analysis on issue attention for climate change in different countries revealed that climate change, for instance, in the Netherlands receives 0.47 per cent attention and in Germany 0.42 per cent between 1996 and 2010 (Schäfer, Ivanova, & Schmidt, 2012, pp. 126-131). Another content analysis discovered the issue attention for human genome research in Germany, France and the United States. This issue received 0.06 per cent attention in Germany, 0.08 per cent in France and 0.1 per cent in the United States between 1997 and 2003 (Gerhards & Schäfer, 2006, pp. 93-153; Schäfer, 2007, p. 88).¹⁰ And finally a content analysis on EU politics on main evening television news in Denmark, France, Germany, the Netherlands and the United Kingdom measured the share of EU stories in the entire coverage of the respective TV magazines from February to December 2000. The results show that the share of EU stories did not exceed four

¹⁰ The data of this analysis have been recalculated and related to the overall reporting of the respective newspapers (Schäfer et al., 2012, p. 126).

per cent in any of the countries, except in Denmark (10%) (Peter, Semetko, & de Vreese, 2003, pp. 313-314).

With regard to the comparison of our analysis with others, we can conclude that the attention for these two disasters, which date back between 50 and 60 years, is indeed not as low as other more current issues or rather processes (here: climate change, human genome research and EU). We take these degrees of attention as an indicator that the journalistic memory for the two past disasters can be regarded as sustainable with regard to the temporal dimension.

5.2 Explaining the above average attention for the past disasters [RQ2]

The second research question refers to the development of issue attention over the course of time and how the above average attention at several points in time can be explained. Similar to other scholars, we also refer to a certain extent to the abovementioned memory-typology (Edy, 1999). The marked peaks in the line chart indicate that we assume that milestone anniversaries and other domestic or foreign disasters triggered the attention for the past disasters in particular months. Furthermore we assume that the cultural converting of a past disaster – in our case a movie – led to an increase of attention for the respective past disaster (see Fig. 1). We substantiate these assumptions by analyzing the frequencies of main topics in the articles and the frequencies of the so-called memory-reference functions.

The main topics were coded based on the headline, the sub-title and the first paragraph of the article and only one main topic per article could be coded. For topic coding we developed a list of topics, which covers in total 34 broader topic fields (see Table 2). Additionally, we subdivided each topic field into finer topic-related aspects. Beyond the conventional topics due to social fields or systems (e.g. politics, economy, science etc.), we also constructed and included a range of topics as well as finer topic-related aspects, which we presumed to be relevant for the overarching purpose of our study. We created for instance the broader topic fields ‘Coastal Protection and Security’, ‘Ceremonies / Celebrations’ as well as ‘Climate Change’. The storm surge disasters 1953/1962 were assigned to the broader topic field ‘Natural Disasters’ and the topic ‘Anniversary / commemoration of 1953/1962’ was assigned to the broader topic field ‘Ceremonies / Celebrations’. The inter-coder reliability was tested according to Krippendorff’s alpha (α) within and across countries. For the reliability test we have recoded all topics to the 34 broader topic fields mentioned above and rated the agreements and disagreements. The inter-coder agreements for identification of main topics within and across countries resulted in substantial reliability scores (values of $\alpha_{(GER)} = .76$; $\alpha_{(NED)} = .95$; $\alpha_{(across\ countries)} = .85$).¹¹

11 The sample for the within countries reliability test contained in each case 40 articles in the respective language. For the across countries reliability test we sampled 20 articles from English newspapers like *The Independent*, *The Guardian*, *The Evening Standard* as well as from the regional newspaper *Harwich and Manningtree Standard*, because the 1953 storm surge disaster also affected Great Britain. The number of coders in the German case was two and in the Dutch case up to four. Concerning the usage of Krippendorff’s α index, which is known to be conservative, we used lower criteria and followed the conventionally accepted value at or above .75 (Lombard, Snyder-Duch, & Bracken, 2010; Wimmer & Dominick, 2011, p. 175).

To generate further thematic explanations and validation concerning our assumptions about the reasons for the comparable high issue attention at certain points in time, we have analyzed the frequencies of corresponding memory-reference functions. Corresponding in the context of this study means that the function of the memory-reference is (1) to refer to the anniversary or commemoration of the respective disaster, (2) to serve as an analogy to another more recent domestic disaster, (3) to serve as an analogy to another more recent foreign disaster and (4) to point to a pop-cultural production of the past disaster (e.g. movie, novels, musical). Concerning the analogy to another more recent disaster the respective disaster have also been coded based on a list of disasters so that we are able to reconstruct what the analogy is about. Overall the analysis covers 22 memory-reference functions, which have been classified thematically into four groups (see Table 3). The memory-reference functions were coded on sentence level (three sentences before and after the actual reference to the past disaster) by asking, which functions the references to the 1953 and the 1962 disaster have. The inter-coder agreements for identification of the memory-reference functions within and across countries resulted in substantial reliability scores (values of $\alpha_{(GER)}$ ranging from .79 to 1.0, values of $\alpha_{(NED)}$ ranging from .85 to 1.0, values of $\alpha_{(across\ countries)}$ ranging from .67 to 1.0).¹²

Table 2 and 3 give an overview on the distribution of main topics as well as on the distribution of memory-reference functions for the German and for the Dutch case in those months with an above average attention for the past disasters. Furthermore we have displayed the total distribution of main topics and memory-reference functions in order to find out whether the above-mentioned topics or rather events are indeed overrepresented. We have considered those main topics and memory-reference functions as overrepresented, which appear approximately twice as much or more in the respective months, compared to their total distribution. We have highlighted all overrepresented main topics and memory-reference functions in the tables (see Table 1 and 2).

In the following we will always refer to those main topics and memory-reference functions, which are overrepresented, when we describe their distribution and dominance. Furthermore, we will discuss in particular those findings, which concern our abovementioned assumptions on the factors or rather events, which have triggered the attention for the past disasters in the particular months.

¹² We gained a coefficient of α lower than .75 for the following variables: *Reasons for the disaster*: $\alpha_{(across\ countries)} = .67$; *Comparison of storm surge safety (today vs. 1953/1962)*: $\alpha_{(across\ countries)} = .67$; *Connection between the disaster and climate change*: $\alpha_{(across\ countries)} = .67$. For the calculation of intercoder reliability (sample size and number of coders) see footnote 11.

Table 2: Distribution of main topics in total and in particular months with high attention for the past disasters per country

Main topics	GER	GER	GER	GER	NED	NED	NED	NED
	total	Feb 02	Aug 02	Feb 12	total	Jan 03	Jan 05	Sept 09
	n=829	n=36	n=23	n=71	n=1,288	n=109	n=22	n=30
National politics	2,2%		8,7%	1,4%	1,5%	0,9%		
Regional politics	3,9%	2,8%		7,0%	0,5%		4,5%	
International politics	0,2%				0,2%			
EU politics								
Economy	0,4%			1,4%	0,8%			
Business / commerce / industry	1,7%				2,5%	1,8%		
Labour and industrial relations					0,1%			
Transportation	0,7%							
Education	0,4%			1,4%	0,7%	1,8%	4,5%	
Population					0,5%		4,5%	
Social relations	0,6%			2,8%	0,1%			
Health					0,4%			
Science and research	0,8%			1,4%	0,6%			
Environmental and ecological topics	1,4%				2,6%	0,9%		
Living environment / urban and rural planning	7,5%				5,9%	3,7%	4,5%	3,3%
Religion	0,5%				0,2%			
Culture and entertainment	26,8%	13,9%	4,3%	19,7%	31,1%	22,0%	13,6%	16,7%
Human interest	10,9%	8,3%	4,3%	1,40%	11,0%	10,1%	4,5%	16,7%
Fashion								
Media and communication	1,4%				1,8%		4,5%	6,7%
Sports	0,7%				2,4%			
Natural disasters	1,8%		4,3%		1,3%	0,9%		3,3%
Hybrid of natural and technical disaster	0,2%							
Technical / energy disaster	0,2%				0,4%			
Illnesses (chronics and acute)	0,1%		4,3%					
Accidents	0,4%			1,4%	0,1%			
Social services and welfare	0,1%				0,1%			
Disorder and conflict	0,5%	2,8%			0,6%			3,3%
Weather / weather warnings	0,7%				0,3%	0,9%		
Civil protection / disaster protection	6,4%		21,7%	1,4%	1,9%	1,8%	4,5%	
Coastal protection and security	6,0%	11,1%			7,9%	5,5%		6,7%
Climate Change	0,7%				0,9%			
Solidarity / benefit performance / donations	1,4%		13,0%	1,4%	2,6%	3,7%	31,8%	3,3%
Ceremonies and celebrations	3,5%	2,8%			0,8%	1,8%		
Storm surge disaster 1953/1962 ⁽¹⁾	10,1%	36,1%	4,3%	45,1%	8,5%	27,5%		3,3%
Historical disasters before the 1953/1962-disaster ⁽²⁾	0,2%				0,2%	0,9%	4,5%	
Floods and storm surges / risk of floods ⁽³⁾	2,2%	2,8%	4,3%	1,4%	1,8%	2,8%	9,1%	
Elbe River Flood 2002 ⁽⁴⁾	1,1%		30,4%					

Main topics	GER	GER	GER	GER	NED	NED	NED	NED
	total	Feb 02	Aug 02	Feb 12	total	Jan 03	Jan 05	Sept 09
	n=829	n=36	n=23	n=71	n=1.288	n=109	n=22	n=30
Indian Ocean earthquake and tsunami 2004 ⁽⁵⁾	0,1%				0,1% 4,5%			
Anniversary / commemoration of 1953/1962-disaster ⁽⁶⁾	4,0% 19,4% 12,7%				5,2% 11,9%			
Movie "De Storm" ⁽⁷⁾					3,0% 0,9% 4,5% 36,7%			
Total	100%	100%	100%	100%	100%	100%	100%	100%

Note: The following topics are finer topic-related aspects and have been recoded for the purpose of this analysis:

(5) Recoded from Natural Disasters, (6) Recoded from Ceremonies/Celebrations, (7) Recoded from Culture/Entertainment

Table 3: Distribution of memory-reference functions in total and in particular months with high attention for the past disasters per country

Memory-reference functions	GER	GER	GER	GER	NED	NED	NED	NED
	total	Feb 02	Aug 02	Feb 12	total	Jan 03	Jan 05	Sept 09
	n=829	n=36	n=23	n=71	n=1288	n=109	n=22	n=30
Familiar memory functions								
Anniversary / commemoration	14,0%	36,1%		39,4%	13,7%	33,9%	13,6%	6,7%
Historical contextualization	24,2%	5,6%	8,7%	14,1	36,1%	25,7%	40,9%	30,0%
Discovery / relicts of the past disaster	5,8%	2,8%		4,2%	3,0%	1,8%	4,5%	
Analogies to more recent domestic disaster	12,4%	2,8%	78,3%	11,3%	2,6%	3,7%		3,3%
Analogies to more recent foreign disaster	4,3%	2,8%	8,7%	7,0%	4,7%	3,7%	31,8%	3,3%
Cultural adaptation								
Pop-Cultural production of the past disaster	18,3%	30,6%		15,5%	23,1%	33,9%	27,3%	60,0%
Museums / exhibitions	12,7%	27,8%		26,9%	18,7%	19,3%	4,5%	16,7%
Monuments / flood marks	5,7%	11,1%		7,0%	7,8%	5,5%		
Memory associated with actors								
Victims (contemporary witnesses)	15,1%	38,9%	21,7%	23,9%	10,6%	33,0%	9,1%	16,7%
Helpers (contemporary witnesses)	7,5%	25,0%	8,7%	18,3%	4,8%	16,5%		6,7%
Memories linked to narrations (hearsay witnesses)	2,3%	2,8%		1,4%	1,9%	1,8%	4,5%	
Celebrities associated with the past disaster	18,3%	22,2%	34,8%	16,9%	3,3%	3,7%		
Knowledge / learning / experience from the past disaster								
Reasons for the disaster	6,4%	16,7%	4,3%	26,8%	4,2%	5,5%	4,5%	3,3%
Scope of devastation after the disaster	29,7%	52,8%	39,1%	50,7%	10,9%	21,1%	4,5%	20,0%
Reflections on handling the disaster	17,6%	36,1%	21,7%	43,7%	11,7%	29,4%	4,5%	
Reflections on solidarity experienced in those days	7,4%	5,6%	34,8%	22,5%	11,5%	14,7%	45,5%	3,3%
Influence of the disaster on the crisis management	9,2%	13,9%	8,7%	5,6%	1,4%	2,8%		
Influence of the disaster on coastal protection	12,1%	13,9%		12,7%	8,2%	10,1%		10,0%
Influence of the disaster on the legal role of coastal protection	0,8%				2,4%	2,8%		3,3%
Comparison of storm surge safety (today vs. 1953/1962)	6,5%	16,7%		22,5%	1,2%	2,8%		3,3%
Mention / comparison of water levels (today vs. 1953/1962)	5,7%	5,6%		12,7%	1,2%	1,8%		
Expertise developed as a consequence of the disaster	3,1%	8,3%		11,3%	1,3%	1,8%		
Monition / reminder of the permanent storm surge risk	6,6%	8,3%		23,9%	1,9%	4,6%		
Connection between the disaster and climate change	2,9%	2,8%		4,2%	0,7%	0,9%		

Note: There is no cumulative relation in the columns, because multiple answers were permitted.

In the Dutch case an above-average issue attention for the past disaster was revealed around the 50th anniversary of the 1953 disaster in January 2003 (1,27 %) (see Fig. 1). In total 188 relevant articles appeared in this month but due to the reduced Dutch sample, only 109 articles are included in the analysis (see note in Table 1). The past disaster is the main topic in 30 articles (28%) and – compared to the other overrepresented main topics in this month – the most dominant one. The anniversary and commemoration of the past disaster is the main topic in 13 articles (12%) and the second most dominant main topic (see Table 2). These findings are also supported by the memory-reference function ‘anniversary or commemoration’ (34%), which is most dominant in this month. Furthermore we can see that a comparable wide range of memory-reference functions is covered, which implies that a lot of information about the past disaster is provided e.g. ‘victims as contemporary witnesses’ appear in the articles (33%) and factual aspects like the ‘scope of devastation’ (21%) as well as the ‘handling of the disaster’ (29%) are mentioned (see Table 3).

Likewise to the Dutch case we could reveal an above-average attention for the past disaster around the 50th anniversary of the 1962 disaster in the German case in February 2012 (0,28%) (see Fig. 1). In total 71 articles with a reference to the 1962 disaster appeared in this month. In 32 articles the past disaster is the main topic (45%) and thus most dominant, followed by ‘anniversary and commemoration’ of the past disaster (13%) (see Table 2). Concerning the memory-reference functions the most dominant functions are ‘reflections on handling the disaster’ (44%), ‘anniversary or commemoration’ (39%) and ‘museums / exhibition’ (27%) (see Table 3). Similar findings – even if the order of dominance among the memory-reference functions slightly differs – could be identified for the 40th anniversary of the 1962 disaster in January 2002 (see Table 2 and 3).

Thus we can say that the above-average attention for the 1953 disaster in January 2003 as well as for the 1962 disaster in February 2002 and February 2012 indeed can be traced back to the respective milestone anniversaries.

Beyond these milestone anniversaries we have other noteworthy peaks in the German case in 2002 and in the Dutch case in 2005 and 2009 (see Fig. 1). An explanatory factor for the peak in the German case in August 2002 is the so-called Elbe River Flood (‘flood of the century’), which is assumed being the occasion for giving the 1962 disaster attention. In this month the average attention for the 1962 disaster is 0,14 per cent (n=23). The Elbe River Flood is considerably overrepresented and beyond that the most dominant main topic (30%), followed by ‘Civil protection / disaster protection’ (22%) and ‘Solidarity / benefit performance / donations’ – both topics, which are obviously related to the catastrophic flood (see Table 2). These findings are also supported by the memory-reference functions. The most dominant function is to draw analogies to the Elbe River Flood as a domestic disaster (78%), followed by the reflection on solidarity experienced in times of the 1962 disaster (35%) (see Table 3).

Likewise to the German case, we have assumed that in the Dutch case the peak in January 2005 can be explained by the Indian Ocean earthquake and tsunami in Thailand of 26 December 2004 and especially by the fact that the Dutch people showed solidarity because of their own disaster experience in 1953. The aver-

age attention for the 1953 disaster is 0,21 per cent in this month (see Fig. 1). In seven out of the 22 content-analyzed articles ‘Solidarity / benefit performance / donations’ is the main topic (32%), followed by the topic ‘Floods and storm surges / risk of floods’ (9%) (see Table 2). The memory-reference functions provide further indicators that the Tsunami and related to that the aspect of showing solidarity have triggered the attention for the 1953 disaster: In 46 per cent the function of the memory-reference is to reflect on solidarity experienced in times of the 1953 disaster and in 32 per cent the function is to draw analogies between the Tsunami and the 1953 disaster (see Table 3).

Finally the peak in September 2009 in the Dutch case coincides with the release of the movie *De Storm* about the 1953 disaster. The average attention for the 1953 disaster is 0,23 per cent in this month (see Fig. 1). In 11 out of the 30 analyzed articles the movie – as part of the topic-field culture and entertainment – is the most overrepresented and most dominant main topic (37%), followed by ‘Media and communication’ (7%) (see Table 2). Concerning the memory-references we found out that in 60 per cent the function is to refer to the ‘pop-cultural production of the past disaster’, which is another indicator for the presence of the above-mentioned movie release (see Table 3).

We can conclude here that milestone anniversaries, other domestic or foreign disasters as well as the cultural converting of a disaster are apparent trigger factors for the journalistic attention for the past disasters.

5.3 Journalistic preference for using facts and figures from the past [RQ3, RQ4, H₂ and H₃]

The last two research questions and hypotheses deal with the *thematic dimension of sustainable memory*. As stated, this dimension implies that past events as well as the experiences deriving from past events are contextualised in light of past, present and future developments and concerns. Amongst others we have operationalised these theoretical assumptions with the following four variables:

- (1) *Memory-specific issue* implies high past-orientation. Indicators for an explicit memory-focus in the article are (a) that the past disaster 1953/1962 is described in detail and is not only mentioned in a short reference, (b) that it is described, for example, by witnesses who give field reports on the situation and their experience in those days), (c) that it is commemorated on the occasion of anniversaries or commemoration events, or (d) that the knowledge of the disaster 1953/1962 is processed in films, documentation, theatre, musicals, or books.
- (2) *Threat-specific issue* implies high present-future orientation. Indicators for an explicit threat-focus in the article are (a) how society deals with topics like the threat of storm surges, floods or water (e.g. minimise the risk of storm surges/floods), (b) the country’s/region’s vulnerability due to water, (c) measurements of adaptation (coastal defence, storm surge protection, warning systems, building of dikes, dams, weirs), (d) mitigation by long-term planning, investment in coastal defence and disaster protection or (c) the country’s/region’s resilience regarding possible future storm surge disasters.

- (3) *Disaster-specific issue* implies high present-past orientation. Indicators for an explicit disaster-focus are references to other domestic or foreign disasters that occurred after the key events of 1953 and 1962. Disasters refer not only to so-called natural disasters (flooding, storms, hurricanes, tsunamis, etc.) but also so-called industrial or manmade disasters as well as accidents that cause pollution, kill people, and/or damage property (e.g. Chernobyl, 9/11, Deep-water Horizon oil spill, Fukushima, Norway attacks).
- (4) *Climate change-specific issue* implies high future-orientation. Indicators for an explicit climate-change focus are references to climate change as a holistic phenomenon as well as other paraphrases for climate change like global warming or global temperature rise. Further indicators for this issue are the possible consequences of climate change like melting glaciers, sea level rise, potential increase of extreme weather events, involuntary migration due to climate change as well as more scientific or politicised dimensions of climate change (e.g. IPCC reports, climate summits, publication of research results).

These four issues enable us to evaluate how much specific attention journalism gives to particular thematic aspects. Thus, it becomes evident whether journalism either tends to be more focused on the facts and episodes from the past disasters or embeds them in a wider present or future oriented thematic context.

The issues were coded on article level and the rule for identifying them as present was that they appear either in more than one sentence or two times in different parts of the article.

The inter-coder agreements for identification of the specific issues within and across countries resulted in substantial reliability scores (values of $\alpha_{(GER)}$ ranging from .74 to 1.0, values of $\alpha_{(NED)}$ ranging from .75 to 1.0, values of $\alpha_{(across\ countries)}$ ranging from .63 to 1.0).¹³

Concerning these four issues we compared their percentage regarding the population of articles per country. The analysis revealed significant differences regarding the presence of the threat-specific issue and the disaster-specific issue between the country cases. In contrast, the occurrences of the memory-specific issue and the climate change-specific issue do not significantly differ, which could be interpreted as a similarity between our cases.

In both cases, the highly past-oriented *memory-specific issue* occurs most often compared to the other issues (see Table 4). Thus, journalism favours framing the past events with facts and episodes from the situation and circumstances in those days, rather than putting them into a greater present- or future-oriented context. To a certain extent, this is in line with what Harro-Loit and Kõresaar (2010) found in their analysis on temporal logics within different forms of anniversary news. They revealed the passive roles of journalists in terms of a reinterpretation

¹³ We gained a coefficient of α lower than .75 for the following variables: (1) *Memory-specific issue*: $\alpha_{(GER)} = .74$; (2) *Disaster-specific issue*: $\alpha_{(across\ countries)} = .63$; (4) *Climate change-specific issue*: $\alpha_{(across\ countries)} = .72$. For the calculation of intercoder reliability (sample size and number of coders) see footnote 11.

of the past, which goes beyond the presentation of facts deriving from the past itself (p. 338; see also Dernbach, 2007, p. 185).

The highly future-oriented *climate change-specific issue* is compared to the other issues least present in both countries (see Table 4). This generally indicates that climate change is not – as assumed – a trigger factor for mentioning and embedding the past disasters. One reason might be that climate change is temporally too far away from the past events. Another reason might be that journalism does not use the past disaster as a point of reference to illustrate the possible consequences of climate change, especially sea level rise, which could lead to flooding disasters in the future.

Table 4: Occurrence of specific issues within countries

(Basis: n_(total) = 2.117; n_(NED) = 1.288; n_(GER) = 829)

Issue specifics	Country		Difference-Test	
	Netherlands n (%)	Germany n (%)	Chi ² (df=1)	phi _{korr}
Memory-specific issue	596 (46%)	412 (50%)	2.37	
Threat-specific issue	141 (11%)	188 (23%)	52.88***	0.46
Disaster-specific issue	136 (11%)	115 (14%)	5.3*	0.17
Climate change-specific issue	34 (3%)	30 (4%)	1.65	

Note: ***p<0.001; *p<0.05; country codes re-coded: Netherlands=1 and Germany=2
There is no cumulative relation in the columns, because multiple answers were permitted.

Beyond these two similarities the analysis revealed two significant differences.

First, we have identified a significant difference concerning the present-past oriented *disaster-specific issue*, which occurs more often in the German case (see Table 4). Thus, the past disaster is in the broadest sense more often embedded into a kind of follow-up disaster history in the German case. We tested whether there is an association between the appearance of the disaster-specific issue and the German as well as the Dutch article sample. We used the Phi-coefficient, which is interpreted as a measure of the relative strength of an association ranging from 0 to 1. Following the agreement that a coefficient greater than 0.3 points to strong or rather meaningful associations, the result shows that there is very weak association ($\text{phi}_{\text{korr}} = 0.17$) (Backhaus, Erichson, Plinke, & Weiber, 2006, pp. 234-244).

5.3.1 Embedding of the past disasters into present and future threats [H3]

The second difference concerns the hypothesis three on the appearance of the present-future oriented *threat-specific issue*. This issue appears twice as often in the German articles than in the Dutch articles. This difference between the cases is highly significant (see Table 4). The Phi-coefficient of 0.46 indicates that there is a meaningful coherence and thus we can conclude that the threat-specific issue plays a more important role in the German articles than in the Dutch articles.

This result is surprising, since it was assumed that this issue is more present in the Netherlands because of the country's specific situation and the whole nation being highly threatened by water and flooding from both the North Sea and its eastern boarders, where the rivers Rhine and Meuse are located. The threat of sea level rise due to climate change as well as changes in weather patterns could lead to a breach of the country's flood protection system. This could be devastating to the country's economy and way of life. Altogether, it was assumed that the experience of the 1953 storm surge disaster, which was the worst for the Dutch people after World War II, would be more often embedded into the thematic context of coping with water as an element of threat.

We are aware that the following interpretations are to a certain extent speculative. However, we will try to interpret this difference between the Dutch and the German case by referring to further, more *qualitative* context information as explanatory factors.

One explanatory factor for the comparable low degree of embedding the past disaster into the larger context of threat due to water and managing the waterfront in the Dutch case may be that the past disaster mainly hit the rural region of Zeeland, a not densely populated or economic wealthy area. In those days, this region consisted of three separated islands, which were not even connected to the continental part of the Netherlands. This former separation may be one reason for this low degree of contextualisation.

Another explanatory factor could be the Dutch people's long experience and expertise of coping with water. Over the centuries, they have lived and dealt with the situation that they are highly vulnerable to the impact of water. Consequently, they have developed a high degree of engineering expertise in terms of land reclamation, dike, dam and weir building. Unlike developing countries with similar geographical situations, this knowledge has been supported by financial power, which today allows researchers and developers to think and experiment with completely new technologies (e.g. alternative building concepts like floating houses). These circumstances have culturally led to a comparable high degree of self-esteem in terms of either fight against or live with water. Mentioning the 1953 disaster in the context of the threat or anticipation of threat due to water would mean discussing errors made in the past rather than modern comforts.

People along the German North Sea coast also have some capability to cope with storm surges and the impact of water. However, this has not become such a basic part of the German national identity as it is in the Netherlands. This circumstance is one possible explanatory factor for the higher degree of attention for the threat issue in the German case. Furthermore, this result could also be traced back to the fact that the storm surge disaster of 1962 hit the densely populated city of Hamburg. Hamburg has a long tradition of being a rich, powerful and proud trading town. Despite a high technological standard and economic wealth, the knowledge of having been culturally and economically injured by the impact of water in the past could be one explanatory factor for embedding this traumatic key event into the larger context of a latent threat and vulnerability due to water, or more general to nature.

The qualitative impression of the German sample reveals that the underlying threat due to storm surges and the impact of water is present and more often associated with uncertainty and fear than with self-assurance. This is the case even if (or perhaps especially because) the city-state of Hamburg is *not* located along the North Sea coast, but rather at the river Elbe, which flows into the North Sea 110 kilometres away from the city. The following headlines taken from the sample clearly display the threat issue: "When the flood comes, we will be threatened" (Tz, 2010), "How dangerous will storm surges be for Hamburg?" (Schleselmann, 2010), "Deluge in front of us – Urban planners and architects prepare for climate change and rising sea level" (Müller, 2009).

Concerning the thematic dimension of sustainable memory – here displayed with the four issues – we can summarize that in both countries journalism embeds the past disasters mainly by narrating the past itself, but also by using further temporal and thematic references, even if the level of how the past events are embedded differs. Thus, journalism indeed reverts to so-called stocks of knowledge and embeds the past disasters – according to secondary and latent topicality – into other recurring and underlying thematic fields (here: threat-, disaster- and climate-change-specific issues).

6. Conclusions

In this article we have argued that references to the past are no exception to the rules in journalism, but rather a steady underlying pattern of any journalistic coverage. Furthermore, we have argued that journalism not only produces memory in the sense of retrospective, but also produces prospective memory. In fact, any memory is prospective, as people construct memory as a process in the present, which is often geared towards future and future decisions. In modern societies in particular, future seems to become the core epistemological perspective. To wrap up this tight and complex connection of past, present and future, we have proposed the term and concept of sustainable memory. The production of sustainable memory is an ongoing and continuous process based on intertwining references to the past, present and future over a coherent period of time. This processing of sustainable memory is an overall societal process, supported by any member of society. However, certain institutions in society can massively nourish this process. In the light of these assumptions, journalism can be regarded as one core institution concerning the production and processing of sustainable memory.

This approach aimed to deepen the links between the field of journalism theory and the field of memory studies. In mainstream of journalism theory as well as in the hands-on perspectives of journalists the task of journalism deals with the news of today, with topicality. Memory studies have shown that journalism refers to past events, especially in the context of anniversaries, historical analogies and historical contextualisation. Against the background of time sociology as well as sociology of knowledge, one understands that any knowledge is a construction and that this can be traced back to the (mental) connection of past, present and future. These characteristics provide the theoretical basis for our concept of sustainable memory, wherein two dimensions can be analytically distinguished: the

formal temporal dimension, and the functional thematic dimension. This approach was the underlying concept in our empirical study.

A comparative quantitative content analysis was conducted, including a total of 2.799 articles in the period from 2000-2012 published in German and Dutch newspapers, dealing with the *watersnood* of 1953 in the Netherlands and the *Sturmflut* in Germany in 1962. With the temporal dimension of sustainable memory, it was possible to show that journalism provides continuous references to these past disasters, not only triggered by anniversaries or similar events, but also on a number of several other incidents. Furthermore, regarding the thematic dimension of sustainable memory, this study proved that these past events, as well as the experiences deriving from these events, are mentioned or evaluated in the context of past, present and future developments and concerns. The past disasters are mostly framed with facts and episodes from the situation and circumstances in those days. However, the issue of threat, which is deeply connected to social learning, knowledge and anticipation, also seems to be another dominant point of reference, especially in the German case. Thus, these results may be considered as a proof of the processing of sustainable memory through journalism. Differences between the national coverage can be explained by cultural factors like the respective national or regional identities, the history and degree of water management expertise, and the geographical urban and metropolitan context in contrast to rural surroundings. But prior to these differences we can also state the similarities between the coverage in the two cases, which can be traced back to the fact that the countries are very similar in terms of economic status, social welfare, and media system. However, the question of differences and similarities in media coverage on past events between countries, which differ in terms of the aforementioned aspects, still need to be scrutinised.

On the level of media or journalistic representation, the results of this comparative case study on two specific past disasters confirm that these events are core objects of sustainable memory. This analysis on storm surge disasters may – to a certain extent – only be generalized to other types of natural disasters, whereas further empirical studies could show whether similar findings can be proven for other types of (media/memory) events. This may include similar events of sudden, unexpected occurrence, like technological disasters, terrorist attacks or political events as well as expectable or rather long-term events like economic crises (e.g. Great Depression during the 1930s).

Finally, more effort needs to be invested in complementary research that focuses on the level of media production, for example, the underlying editorial practices, rules and regulations within journalistic memory production. By conducting qualitative interviews with journalists, one could detect the intentions, sources and presentation patterns, *why, when and how* journalists are dealing with sustainable memory and to what extent they regard themselves as agents of sustainable memory. Last but not least another wide field of future research would be the user's perspective on sustainable memory through journalism, both, in traditional and social media.

Acknowledgements

We would particularly like to thank our co-operation partner Andreas Schuck from the University of Amsterdam, affiliated with the Amsterdam School of Communication Research (ASCor), who supported us during this project. Furthermore, we thank our research assistants Coen Diepenhorst, Raymond Harder, Ayla Oostrom, Hege van Dijke (Dutch case study) and Jonas Kaiser (German case study) for their support in data gathering and coding. We would also like to thank the interdisciplinary cluster of excellence *Integrated Climate System Analysis and Prediction* (CliSAP) (EXC177) at the University of Hamburg, funded through the German Research Foundation (DFG) for supporting the research project *Sustainable Disaster Memory in Journalism* (see <https://www.klimacampus.de/1120.html?&L=1%2F>).

References

- Adam, B. (2004). Memory of Futures. *KronoScope*, 4(2), 297-315. doi: 10.1163/1568524042801392
- Ammann, I. (2010). Gedenktagjournalismus. Bedeutung und Funktion der Erinnerungskultur. In K. Arnold, W. Hömberg, & S. Kinnebrock (Eds.), *Geschichtsjournalismus. Zwischen Information und Inszenierung* (pp. 153-167). Berlin: LIT.
- Arnold, K., Hömberg, W., & Kinnebrock, S. (2010). Zur Einführung: Journalismus und Geschichte. In K. Arnold, W. Hömberg, & S. Kinnebrock (Eds.), *Geschichtsjournalismus. Zwischen Information und Inszenierung* (pp. 7-12). Berlin: LIT.
- Assmann, J. (1995). Collective memory and cultural identity. *New German Critique*, 65 (Spring-Summer), 125-133.
- Assmann, J. (1992). *Das kulturelle Gedächtnis: Schrift, Erinnerung und politische Identität in frühen Hochkulturen*. München: Beck.
- Backhaus, K., Erichson, B., Plinke, W., & Weiber, R. (2006). *Multivariate Analysemethoden. Eine anwendungsorientierte Einführung*. 11th revised edition. Berlin/Heidelberg/New York: Springer.
- Beck, K. (1994). *Medien und die soziale Konstruktion von Zeit. Über die Vermittlung von gesellschaftlicher Zeitordnung und sozialen Zeitbewusstsein*. Opladen: Westdeutscher Verlag.
- Bell, A. (1995). News Time. *Time & Society*, 4(3), 305-328.
- Bentele, G. (1992). Zeitstrukturen in den aktuellen Informationsmedien. In W. Hömberg, & M. Schmolke (Eds.), *Zeit, Raum, Kommunikation* (pp. 159-176). München: Ölschläger.
- Bernet, R., & Lohmar, D. (2001). *Edmund Husserl. Die Bernauer Manuskripte über das Zeitbewusstsein (1917/1918)*. Dordrecht [u.a.]: Kluwer.
- Bollen, N. (2009). *Dutch Media Coverage on Climate Change: Portrayal of the DeltaPlan 2008 in three newspapers*. (Unpublished Master Thesis). University of Hamburg, Germany.
- Bočkarjova, M., van der Veen, A., & Geurts, P.A.T.M. (2009). Reporting on flood risk perception in the Netherlands: An issue of time, place and measurement. *ITC Working Papers Series*. Enschede. Retrieved on May 3, 2013 from: http://www.levenmetwater.nl/static/media/files/ITC_Working_paper_1.pdf

- Bosnjak, K. (2009). *Keine Zeit für Nachhaltigkeit?: Die ausgedehnte Gegenwart des Journalismus als Widersacher einer zukunftsorientierten Berichterstattung*. Saarbrücken: VDM Verlag Dr. Müller.
- Bürgerschaft der Freien und Hansestadt Hamburg (2012). *Drucksache 20/3113. Schriftliche Kleine Anfrage*. Retrieved on May 3, 2013 from: <http://www.gruene-fraktion-hamburg.de/sites/www.gal-fraktion.de/files/dokument/09-03-2012/203113-50-jahre-nachder-sturmflut---welche-gefahren-bergen-elbvertiefung.pdf>
- de Graaf, R., van Giesen, N., & van de Ven, F. (2009). Alternative water management options to reduce vulnerability for climate change in the Netherlands. *Natural Hazards*, 51(3), 407-422. doi: 10.1007/s11069-007-9184-4
- Deltacommissie (2008). *Working together with water. A living land builds for its future. Findings of the Deltacommissie 2008*. Retrieved on May 3, 2013 from: http://www.deltacommissie.com/doc/deltareport_full.pdf
- Dernbach, B. (2007). Journalismus und Nachhaltigkeit. Oder: ist Sustainability Development ein attraktives Thema? In G. Michelsen, & J. Godemann (Eds.), *Handbuch Nachhaltigkeitskommunikation. Grundlagen und Praxis. 2nd revised edition* (pp. 184-193). München: oekonom.
- Deuze, M. (2011). What is Journalism? Professional Identity and Ideology of Journalists Reconsidered. In D. A. Berkowitz (Ed.), *Cultural meanings of News. A Text-Reader* (pp. 17-32). Los Angeles, Calif.: SAGE
- Dix, A., & Röhrs, M. (2007). Vergangenheit versus Gegenwart? Anmerkungen zu Potentialen, Risiken und Nebenwirkungen einer Kombination historischer und aktueller Ansätze der Naturgefahrenforschung. *Historical Social Research*, 32(3), 215-234.
- Donk, A. (2009). Kommunikation über Vergangenheit – Soziales Gedächtnis in Kommunikationswissenschaftlicher Perspektive. In K. Merten (Ed.), *Konstruktion von Kommunikation in der Mediengesellschaft. Festschrift für Joachim Westerbarkey* (pp. 13-29). Wiesbaden: VS.
- Donk, A., & Herbers, M.R. (2010). Journalismus zwischen öffentlichem Erinnern und Vergessen. 9/11 in deutschen und amerikanischen Tageszeitungen. In K. Arnold, W. Hömberg, & S. Kinnebrock (Eds.), *Geschichtsjournalismus. Zwischen Information und Inszenierung* (pp. 195-216). Berlin: LIT.
- Ekardt, F. (2011). *Theorie der Nachhaltigkeit. Rechtliche, ethische und politische Zugänge – am Beispiel von Klimawandel, Ressourcenknappheit und Welthandel*. Baden-Baden: Nomos.
- Edy, J.A., & Daranova, M. (2006). Reporting the Present Through the Lens of the Past: From Challenger to Columbia. *Journalism: Theory, Practice and Criticism*, 7(2), 131-151. doi: 10.1177/1464884906062602
- Edy, J. A. (1999). Journalistic Uses of Collective Memory. *Journal of Communication*, 4(2), 71-85. doi: 10.1111/j.1460-2466.1999.tb02794.x
- Elias, N. (1984). *Über die Zeit. Arbeiten zur Wissenssoziologie II*. Frankfurt am Main: Suhrkamp.
- Esser, F. (2010). *Komparative Kommunikationswissenschaft*. Working Paper No. 41. Zürich: National Centre of Competence in Research (NCCR). Retrieved on May 3, 2013 from: http://www.nccr-democracy.uzh.ch/publications/workingpaper/pdf/WP_41.pdf

- Fackler, M. (2011, April 4). Tsunami Warnings for the Ages, Carved in Stone. *The New York Times*, p. A6. Retrieved on May 3, 2013 from: <http://www.nytimes.com/2011/04/21/world/asia/21stones.html?pagewanted=all>
- Flattery, M., & Fine, G. A. (2001). Present, Past and Future: Conjugating George Herbert Mead's perspective on time. *Time & Society*, 10(2-3), 147-161.
- Gerhards, J., & Schäfer, M. S. (2006). *Die Herstellung einer öffentlichen Hegemonie. Humangenomforschung in der deutschen und der US-amerikanischen Presse*. Wiesbaden: VS.
- Groth, O. (1960). *Die unerkannte Kulturmacht. Vol. 1: Das Wesen des Werkes*. Berlin: de Gruyter.
- Haas, H. (1999). *Empirischer Journalismus*. Wien: Böhlau Verlag.
- Hagemann, W. (1966). *Grundzüge der Publizistik: Als eine Einführung in die Lehre von der sozialen Kommunikation*. 2nd revised and supplemented edition by Henk Prakke. Münster: Regensberg.
- Hagen, W. (2011). Medienvergessenheit. Über Gedächtnis und Erinnerung in massenmedial orientierten Netzwerken. In O. Dimbath, & P. Wehling (Eds.), *Soziologie des Vergessens: theoretische Zugänge und empirische Forschungsfelder* (pp. 243-273). Konstanz: UVK.
- Hałas, E. (2010). Time and Memory: A Cultural Perspective. *Trames*, 14(4), 307-322. doi: 10.3176/tr.2010.4.02
- Halbwachs, M. (1985). *Das kollektive Gedächtnis*. Frankfurt am Main: Fischer.
- Harcup, T. (2009). *Journalism. Principles & Practices*. 2nd edition. Los Angeles, Calif.: SAGE.
- Harro-Loit, H., & Kõresaar, E. (2010). National temporality and journalistic practice. Temporalising Anniversary Events in Estonian Television News. *Trames*, 14(4), 323-341. doi: 10.3176/tr.2010.4.03
- Hewitt, K. (1983). The Idea of Calamity in a Technocratic Age. In K. Hewitt (Ed.), *Interpretation of Calamity: From the Viewpoint of Human Ecology* (pp. 3-32). Boston: Allen & Unwin.
- Hömberg, W. (2010). Die Aktualität der Vergangenheit. Konturen des Geschichtsjournalismus. In K. Arnold, W. Hömberg & S. Kinnebrock (Eds.), *Geschichtsjournalismus. Zwischen Information und Inszenierung* (pp. 15-30). Berlin: LIT.
- Jordan, L., & Hettner, H. (2011). The sustainability of memory. The role of museums in preserving collective memory through sustainable practices. *ICOM NEWS*, 9(2), 9. Retrieved on May 3, 2013 from: http://icom.museum/fileadmin/user_upload/pdf/ICOM_News/2011-2/ENG/p8-9_2011-2.pdf
- Kates, R. W., Clark, W., William, C., Corell, Hall, J. M., Jaeger, C. C., ... Svedin, U. (2001). *Sustainability Science*. KSG working Paper No. 00-018. Retrieved on May 3, 2013 from: <http://dx.doi.org/10.2139/ssrn.257359>
- Kitch, C. (2008). Placing journalism inside memory - and memory studies. *Memory Studies*, 1 (3), 311-320. doi: 10.1177/1750698008093796
- Kitch, C. (2005). *Pages from the past: History and Memory in American Magazines*. Chapel Hill: University of North Carolina Press.
- Kitch, C. (2002). Anniversary journalism, collective memory, and the cultural authority to tell the story of the American past. *The Journal of Popular Culture*, 36(1), 44-67. doi: 10.1111/1540-5931.00030

- Koschwitz, H. J. (1990). Zur Interpretation des theoretischen Grundbegriffes „Aktualität“ in der west- und ostdeutschen Publizistikwissenschaft. *Rundfunk und Fernsehen* 1948-1989. *Ausgewählte Beiträge der Medien- und Kommunikationswissenschaft aus 40 Jahrgängen der Zeitschrift Rundfunk und Fernsehen*, 343-352.
- Lang, K. & Lang, G. E. (1989). Collective Memory and the News. *Communication*, 11, 123-139.
- Lombard, M., Snyder-Duch, J. & Bracken, C. C. (2010). *Practical Resources for Assessing and Reporting Intercoder Reliability in Content Analysis Research Projects*. Retrieved on May 3, 2013 from: http://matthewlombard.com/reliability/index_print.html
- Lutz-Auras, L. (2013). „Auf Stalin Sieg und Vaterland!“ Politisierung der kollektiven Erinnerung an den Zweiten Weltkrieg in Russland. Wiesbaden: VS.
- Mauelshagen, F. (2007). Flood Disasters and Political Culture at the German North Sea Coast: A Long-term Historical Perspective. *Historical Social Research*, 32(3), 133-144.
- McEwen, L. J., Krause, F., Jones, O., & Garde-Hansen, J. (2012). Sustainable flood memories, informal knowledges and the development of community resilience to future flood risk. In D. Proverbs, S. Mambretti, C. A. Brebbia, & D. de Wrachien (Eds.), *Flood Recovery, Innovation and Response III* (pp. 253-264). Ashurst, Southampton, UK: WIT Press.
- Meier, K. (2007). *Journalistik*. Konstanz: UVK.
- Merten, K. (1973): Aktualität und Publizität. *Publizistik*, 18, 216-235.
- Meyers, O. (2007): Memory in Journalism and the Memory of Journalism: Israeli Journalists and the Constructed Legacy of Haolam Hazeh. *Journal of Communication*, 57, 719-738. doi: 10.1177/1464884910392854
- Meyers, O. (2002). Still Photographs, Dynamic Memories: An Analysis of the Visual Presentation of Israel's History in Commemorative Newspaper Supplements. *Communication Review*, 5 (3), 179–205. doi: 10.1080/10714420214171
- Murphy, R. (2001): Nature's Temporalities and the Manufacture of Vulnerability: A study of a sudden disaster with implications for creeping ones. *Time & Society*, 10(2/3), 329-348.
- Müller, R. (2009, November 11). Vor uns die Sintflut. *Frankfurter Allgemeine Zeitung*, p. 43. Retrieved from F.A.Z. Archiv.
- Neverla, I. (2010a). Journalismus in der Zeit – Zeit im Journalismus. Über Aktualität als Leitkategorie. *Communicatio Socialis. Internationale Zeitschrift für Kommunikation in Religion, Kirche und Gesellschaft*, Beiheft 11, 83-94.
- Neverla, I. (2010b). Zeit als Schlüsselkategorie der Medienkultur und ihrer Wandlungsprozesse. In A. Hepp, M. Höhn, & J. Wimmer (Eds.), *Medienkultur im Wandel* (pp. 135-147). Konstanz: UVK.
- Neverla, I., & Lohner, J. (2012). Gegenwärtige Vergangenheit im Journalismus: Erinnerung als Element in der Konstruktion von Aktualität In N. Springer, J. Raabe, H. Haas, & W. Eichhorn (Eds.), *Medien und Journalismus im 21. Jahrhundert - Herausforderungen für Kommunikationswissenschaft, Journalistenausbildung und Medienpraxis* (pp. 281-303). Konstanz: UVK.
- Nowotny, H. (2008). *Insatiable curiosity: innovation in a fragile future*. Cambridge, Mass.: MIT Press.
- Oliver-Smith, A. (2002). Theorizing disasters. Nature, power, and culture. In S.M. Hoffman, & A. Oliver-Smith (Eds.), *Catastrophe & culture. The anthropology of disaster* (pp.-23-47). Santa Fe: School of American Research Press.

- Paardekooper, R., & Pres, K. (2011). Evoking the past, shaping the future. How archeological open air museums create new memories. *ICOM NEWS*, 9 (2), 8. Retrieved on May 3, 2013 from: http://icom.museum/fileadmin/user_upload/pdf/ICOM_News/2011-2/ENG/p8-9_2011-2.pdf
- Peter, J., Semetko, H. A., & de Vreese, C. H. (2003). EU Politics on Television News. A Cross-National Comparative Study. *European Union Politics*, 4(3), 305-327.
- Peters, H. P., & Heinrichs, H. (2005). *Öffentliche Kommunikation über Klimawandel und Sturmflutrisiken. Bedeutungskonstruktion durch Experten, Journalisten und Bürger*. Schriften des Forschungszentrums Jülich. Reihe Umwelt. Edition 58. Jülich: Forschungszentrum. Retrieved on May 3, 2013 from: http://juwel.fz-juelich.de:8080/dspace/bitstream/2128/460/1/Umwelt_58_Buch_Anhang.pdf
- Pfaff-Rüdiger, S., Riesmeyer, C., & Meyen, M. (2010). Deutungsmacht des Fernsehens? Das Selbstverständnis von Geschichtsjournalisten zwischen normativen Ansprüchen und Publikumswünschen. In K. Arnold, W. Hömberg, & S. Kinnebrock (Eds.), *Geschichtsjournalismus. Zwischen Information und Inszenierung* (pp. 109-125). Berlin: LIT.
- Rager, G. (1994). Dimensionen der Qualität. Weg aus den allseitig offenen Richterskalen? In G. Bentele, & G. Hesse (Eds.), *Publizistik in der Gesellschaft* (pp. 189-210). Konstanz: Universitätsverlag.
- Reinhardt, J. D., & Jäckel, M. (2005). Massenmedien als Gedächtnis- und Erinnerungsgeneratoren. Mythos und Realität einer Mediengesellschaft. In P. Rösler, & F. Krotz (Eds.), *Mythen der Mediengesellschaft* (pp. 93-112). Konstanz: UVK.
- Robinson, S. (2009). ‘We were all there’: Remembering America in the anniversary coverage of Hurricane Katrina. *Memory Studies*, 2(2), 235-253. doi: 10.1177/1750698008102054
- Schäfer, M. S., Ivanova, A., & Schmidt, A. (2012). Issue-Attention: Mediale Aufmerksamkeit für den Klimawandel in 26 Ländern. In I. Neverla, & M. S. Schäfer (Eds.), *Das Medien-Klima. Fragen und Befunde der kommunikationswissenschaftlichen Klimaforschung* (pp. 121-142). Wiesbaden: Springer VS.
- Schäfer, M. S. (2007). *Wissenschaft in den Medien. Die Mediatisierung naturwissenschaftlicher Themen*. Wiesbaden: VS.
- Schenk, G. J. (2007). Historical Disaster Research. State of Research, Concepts, Methods and Case Studies. *Historical Social Research*, 32(3), 9-31.
- Schlesselmann, M. (2010, September 14). Wie gefährlich werden Sturmfluten noch für Hamburg? *Bild*, p. 5. Retrieved from Degas.
- Schmidt, S. J. (2010). „immer ist jetzt“. In J. Westerbarkey (Ed.), *EndZeitkommunikation. Diskurse der Temporalität* (pp. 17-26). Berlin: LIT.
- Scholl, A., & Weischenberg, S. (1998). *Journalismus in der Gesellschaft. Theorie, Methodologie und Empirie*. Opladen: Westdeutscher Verlag.
- Schudson, M. (1992). *Watergate in American Memory: How We Remember, Forget and Reconstruct the Past*. New York: Basic Books.
- Schutz, A. (1962). *Collected Papers 1. The Problem of Social Reality. Edited and introduced by Maurice Natanson*. The Hague: Martinus Nijhoff.
- Schutz, A. (1976). Tiresias, or our knowledge of future events. In A. Brodersen (Ed.), *Collected Papers II. Studies in Social Theory* (pp. 277-293). The Hague: Martinus Nijhoff.
- Staab, J. F. (1990). *Nachrichtenwert-Theorie. Formale Struktur und empirischer Gehalt*. Freiburg: Alber.

- Stappen, R. K. (2008). *A Sustainable World is Possible. Problemlösungen für das 21. Jahrhundert*. Wise-Consensus Verfahren. Working Paper 1.4, 4th revised edition. Retrieved on May 3, 2013 from: <http://faape.org/wise-consensus-4-2008.pdf>
- Tenenboim-Weinblatt, K. (2011). Journalism as an Agent of Prospective Memory. In M. Neiger, O. Meyers, & E. Zandberg (Eds.), *On Media Memory. Collective Memory in a New Media Age* (pp. 213-225). Hampshire: Palgrave Macmillan.
- Tz (2010, September 2). Wenn die Flut kommt, droht Gefahr. *Hamburger Abendblatt*, p. 1. Retrieved from LexisNexis.
- Von Storch, H., & Stehr, N. (2007). Anpassung an den Klimawandel. *Aus Politik und Zeitgeschichte*, 47 (pp. 33-38). Retrieved on May 3, 2013 from: <http://coast.gkss.de/staff/storch/pdf/parlament.pdf>
- Weischenberg, S., Malik, M., & Scholl, A. (2006). *Die Souffleure der Mediengesellschaft: Report über die Journalisten in Deutschland*. Konstanz: UVK.
- Welzer, H. (2010a). Erinnerung und Gedächtnis. Desiderate und Perspektiven. In C. Gudehus, A. Eichenberg, & H. Welzer (Eds.), *Gedächtnis und Erinnerung. Ein interdisziplinäres Handbuch* (pp.1-10). Stuttgart: J.B. Melzer.
- Welzer, H. (2010b). Erinnerungskultur und Zukunftsgedächtnis. *Aus Politik und Zeitgeschichte. Zukunft der Erinnerung*, 25/26 (pp. 16-23). Retrieved on May 3, 2013 from: <http://www.bpb.de/system/files/pdf/WQUNYO.pdf>
- Wilke, J. (1999). Massenmedien und Zeitgeschichte aus Sicht der Publizistikwissenschaft. In J. Wilke (Ed.), *Massenmedien und Zeitgeschichte* (pp. 19-31). Konstanz: UVK.
- Wimmer, R. D., & Dominick, J. R. (2011). *Mass media research: An introduction* (9th ed.). Boston, MA: Wadsworth.
- Wirth, W., & Kolb, S. (2004). Designs and methods of comparative political communication research. In F. Esser & B. Pfetsch (Eds.), *Comparing political communication: theories, cases and challenges* (pp. 87-114). Cambridge: Cambridge University Press.
- Zelizer, B. (2008). Why memory's work on journalism does not reflect journalism's work on memory. *Memory Studies*, 1 (1), 79-87. doi: 10.1177/1750698007083891
- Zelizer, B. (2004). When War is Reduced to a Photograph. In S. Allan & B. Zelizer (Eds.), *Reporting War: Journalism in Wartime* (pp. 115-135). London: Routledge.
- Zelizer, B. (1992). 'Covering the Body': *The Kennedy Assassination, the Media and the Shaping of Collective Memory*. Chicago, IL: University of Chicago Press.
- Zierold, M. (2006). *Gesellschaftliche Erinnerung. Eine medienkulturwissenschaftliche Perspektive*. Berlin: de Gruyter.