

SOCIAL MEDIA DYNAMICS IN AGRO-FOOD GOVERNANCE

HYPES, EMOTIONS AND MASTER TERMS



Tim M. Stevens

Social Media Dynamics in Agro-Food Governance

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Social Media Dynamics in Agro-Food Governance

Hypes, Emotions and Master Terms

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Prologue



It seems social media are taking over the world. Without social media we would not have witnessed the Arab spring, Brexit and Trump as president. At least, that is the impression you would get from reading the news over the past years.

When I started the PhD project in 2013 there was optimism about the potential of social media to empower citizens, diminish hierarchical structures and democratize societies. Over the past few years however this optimism seem to have been replaced by pessimism and concerns about power, polarization and misinformation.

The conversations I have had about social media in these past years were often about echo chambers, filter bubbles and fake news. Some tend to think of such characteristics as inherent to social media. As if social media dynamics steer the flows of information similar to the laws of physics that steer the flow of water. In contrast, others argue that social media simply reflects human tendencies; our tendency to connect with people similar to ourselves; our preference for stories that fit our worldview; and our craving for entertaining and emotionally engaging news. From their perspective, social media is just a different stage for the same performance. However, the social media dynamics that I have observed are not intrinsic to social media, nor a reflection of human tendencies. Social media dynamics emerge out of multiple interactions of social actors, online and offline. To understand these dynamics one has to study the use of social media, by social actors, in their social context.

1. Introduction

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1.1 Problem Statement

A story about social media dynamics in agro-food governance

On November 21st 2013, the animal rights organisation Wakker Dier sends an open letter to the Secretary of State in which she is asked to enforce the law against the calf puller. The calf puller is a tool that helps vets and farmers with the labor of calves, but the use of the tool by farmers is officially prohibited by law. The message of *Wakker Dier*, in which the calf puller is portrayed as a symbol of industrial farming that harms animals, is shared online and receives massive support on social media. In response, farmers start to post self-made videos in which they effectively use the tool under the slogan '*the calf puller saves lives*', which generates a second wave of attention. Despite the controversy and intense upheaval, social media activity gradually declines and completely wears off at the end of November.

However, on December 2nd the discussion takes a new turn. A 21-years old farmer starts a Facebook page called Anti Wakker Dier. In his first post he states that farmers are '*fed up with the people behind Wakker Dier [...] who are simply out there to bully farmers*'. Within three days the page has over 10.000 followers. Farmers use the page to express their frustrations about Wakker Dier's misleading negative portrayal of livestock farming. Soon the Facebook pages of Wakker Dier and Anti Wakker Dier become battlefields in the conflict, attacked by their opponents and protected by their moderators. The online conflict is picked up by news media, who bring public attention to the conflict, rather than the policy issue. Some political actors use the momentary public stage to take a stance. The Christian Democrats (CDA) for example, explicitly state to support Anti Wakker Dier in news media. Other political actors remain silent, but are publicly and personally addressed on social media to ask their stance in the conflict.

On the same day, political parties submit parliamentary motions, both to enforce the law (PvdD), and to withdraw the law (CDA). The policy issue becomes part of a wider political debate about the legitimacy of agro-food systems in The Netherlands and the influence of (social) media on public perceptions (Nota-overleg dierenwelzijn, 2-12-2013). For example, Helma Lodders of the liberal party (VVD) argues that organizations like Wakker Dier '*unduly vilify the sector through images in the media*' and '*strongly determine the public perception of the sector*', and Jaco Geurts of the Christian Democrats (CDA) despises the idea of the Secretary of State to use social media for crisis communication, and portrays a scenario in which '*everyone in the cities will know about a crisis in the sector, except the farmer working on his land*'. In regards to a decision about the legality of the calf puller, the Secretary of State asserts that she finds it important that people do not demonize each other on this matter, that she will talk with various stakeholders, and that the calf puller remains prohibited until further notice.

On December 23rd, about a month after the press release of Wakker Dier, the Secretary of State publicly declares that the law on the calf puller will not be enforced, but revised to make it possible to use the calf puller in cases of labor difficulties. In hindsight, the press release of Wakker Dier seem to have had an unexpected effect on the social media discussion and the political decision.

This story illustrates how social media have become a space for the public framing of issues and responsibilities in agro-food governance. Moreover, the case suggests that social media may influence public debates and policy-making. Yet this raises more questions than answers: What kind of issues, events and actors receive peak attention on social media? How do online interactions of actors generate emergent dynamics, such as hypes or conflicts? And how do these social media dynamics influence the public debate and policies in agro-food governance?

In this section, I will first explain how this story is part of a wider controversy about agro-food governance in the Netherlands; I will then place this case in the context of the network society to indicate the wider societal and scientific relevance, and lastly; I will summarize what is known and unknown based on current academic literature to formulate the research objective of this thesis.

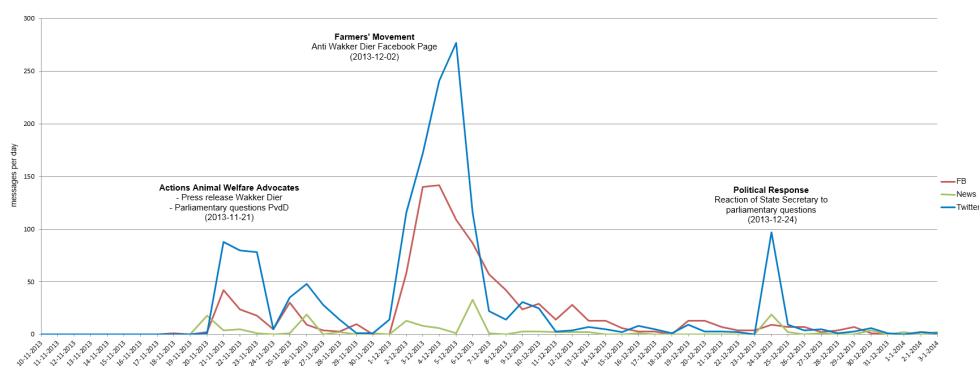


Figure 1.1 Number of messages per day on Twitter, Facebook and news media about the calf puller and Anti Wakker Dier

The Case of Agro-food Governance in The Netherlands

The issue about the calf puller seems a bounded and straightforward policy problem, with a clear responsibility for the Secretary of State and only two possible solutions: enforcing the law, or changing the law. Still, we find that the public debate, both in the media and the political arena, extends far beyond this matter and is part of a wider controversy about the legitimacy and sustainability of agro-food systems in the Netherlands that involves conflicting values and identities. This controversy is driven by a combination of high and diverse stakes in the sector, complex interdependencies in the agro-food system, and a high involvement of farmers, citizens, and consumers on social media.

The stakes in the Dutch agro-food sector are high and diverse. Despite the small size and high population density, the Netherlands is the world's second largest exporter of agricultural products with a technologically advanced agro-food system (van der Berg et al., 2016; Wageningen Economic Research, 2017). The intensification of production has led to the growth of large-scale confinement farming and a decrease in the number of farmer family businesses. As in most countries, people migrate from the rural periphery to the cities, which leads to a growing physical and perceptual distance between the consumers and producers of food, and between people's living environment and agriculture. Citizen-consumers demand safe and sustainable food and a green and clean living environment. Farmers and retailers on the other hand, compete in an increasingly global food market and demand a level playing field for fair competition (Clapp et al., 2009).

The complexity of economic, environmental and societal interdependencies in the agro-food system, combined with the engagement of a wide range of stakeholders and civil actors in public debates, makes the governance of Dutch agro-food systems extremely complex or 'wicked' (Dentoni, Hospes, & Brent Ross, 2012; van Bueren, Lammerts van Bueren, & van der Zijpp, 2014). Wicked problems have cause-effect relationships that are difficult or impossible to define and cannot be framed and solved without creating controversies among stakeholders (Dentoni et al., 2012; Termeer, Dewulf, Breeman, & Stiller, 2015). Yet, these challenges do require collective action among stakeholders and societal groups with strongly held conflicting beliefs and values (Dentoni et al., 2012). The success of such collective action largely hinges on the communication between these stakeholders and societal groups (Aarts, 2018), and this communication partly takes place in the public space that is shaped by social media (Castells, 2007; Klijn & Koppenjan, 2015).

Especially in debates concerning food and farming, which involve not only organisations but a wide range of people that have both personal and societal concerns about food production, social media provide an important platform for public debate. Food is a major societal issue since the production takes up natural resources and large areas of land (common goods) and affects public health, animal welfare, and the environment. But food also communicates personal values and identities; we all need to eat and what we eat shows what we find important, where we are from and thus who we are. These personal and societal aspects of food communication easily converge – or 'clash' – in socially networked communication. Many people take a stance in the public debate about food and farming on social media, and thus a stake in agro-food governance, whether as a vegan, carnivore, citizen, resident, or farmer. Social media thus form an important public stage where people with different values and identities come together to communicate about agro-food issues and build support or opposition for agro-food institutions, policies and products.

*Social Media Dynamics in the Network Society:
the wider societal and scientific relevance*

The case of social media dynamics in agro-food governance reflects how important interactive, internet-based media are in today's network society. The network society describes the social, political, economic and cultural transformations driven by the rise of interactive, internet-based media (Castells, 2011). The relation between advancements of information and communication technologies and societal transformations is paradoxical, and reflects the dual role of social media in the governance of wicked problems. On the one hand, ICT's enable people to communicate across time and space and have led to greater interconnectedness among people (Dijk, 2006). On the other hand, there seems to be a growing physical and perceptual distance between consumers and producers and between citizens and governing bodies (Hajer, 2010; Klijn & Koppenjan, 2015). Hence, while the people on this planet are becoming increasingly interconnected, the increased interdependencies among distant actors or epistemic communities also generates societal struggles (as can be witnessed by the rise of nationalism, protectionism, and xenophobia in today's globalized world). This is problematic because the growing economic, cultural and environmental interdependencies generate new societal challenges, such as climate change, food security and other sustainability issues, that require some sort of collective action among distant actors. The success of such collective action, depends on the communication processes between these actors, which in turn increasingly depends on mediated and mediatized ICT environments, such as social media. Social media thus seem to form not only a driving factor that transforms socio-political relations and leads to new societal challenges, but also form an important new playing field where power in the network society is enacted and the governance of wicked problems takes place (Klijn & Koppenjan, 2015). Moreover, social media not just form an additional place for public debate next to news media and the political arena, but create a new public space in which interpersonal communication, organizational communication, political communication and mass communication converge. In this new space, actors operate according a new type of logic (Castells, 2015; van Dijk & Poell, 2013) that affects the practice of news media production, political communication and the public debate more widely. Castells defines this as the 'new public sphere' (Castells, 2008, p.78) in which 'media have become the social space where power is decided' (Castells, 2007, p.242) and directly links media politics, to the politics of scandal, and the crisis of political legitimacy. Fundamentally, the growing availability, accessibility and exchange of information in online networks, is moving governance from the institutional arena towards the new communication space of the network society (Castells, 2011; Klijn & Koppenjan, 2015).

The Knowns and the Unknowns

The network society not just reflects a new social reality, but also comes with new theoretical perspectives to understand social reality. These theories provide a global perspective on the current dynamics that shape the interactions between socio-political actors, such as the networking logic through which information is processed and managed, to explain the new social structures, power relations and institutions that arise from these dynamics, like the diminishing control of nation states (Castells, 2011, 2015; Dijk, 2006; Hajer, 2010; Mol, 2006; van Dijck & Poell, 2013; van Dijck, 2005). These macro sociological theories aim to understand and capture a wide range of new empirical findings. There is however, little empirical research that focusses on how the interactions between a wide range of socio-political actors on social media generate new dynamics that form the part and parcel of the governance of wicked problems (Klijn & Koppenjan, 2015; Y. Liu, Li, Xi, & Koppenjan, 2016). When it comes to empirical research on social media in the context of governance we can identify two large fields of literature: 1) research that focusses on the strategic use of social media by particular socio-political actors, such as companies, governments and activist' organisations, and 2) quantitative research that analyses information flows that emerge out of interactions on social media platforms.

The first body of literature indicates that organisations in the agro-food sector tend to use social media as an additional communication channel or instrument for linear communication strategies (Rutsaert et al., 2014; Veil et al., 2011), but that social media particularly impacts organisations in crisis situations when public actors massively interact online and generate emergent dynamics that are hard to predict and control (Pfeffer, Zorbach, & Carley, 2014; Mou and Lin, 2014; Rutsaert et al., 2014; Shan et al., 2014; Wu, 2015). Food brands and retailers use social media for word-of-mouth marketing, community building, crowd sourcing, advanced analytics and issue-management, but have difficulty in responding to public controversies and social media attacks (Champoux, Durgee, & McGlynn, 2012; Pang, Limsico, Phong, Lareza, & Low, 2018; Veil, Reno, Freihaut, & Oldham, 2015). Governments use social media for all sorts of public services (referred to as 'E-government') and crisis communication, but have no eye for how crises emerge out of interactive communication in the first place (Rutsaert et al., 2014). Farmers use social media for innovation and networking processes (E. Bos & Owen, 2016; Kaushik, Chowdhury, Hambly Odame, & van Paassen, 2018), but the use of social media by farmers to engage in public debates has received little attention. Activists use social media for self-organisation, mobilisation, and the coordination of activities to create alternative food systems and for challenging industrial systems (Adamoli, 2012; Schneider, Eli, Dolan, & Ulijaszek, 2017), but still little is known about the impact of their activities on food policy and the public debate. Hence, what stands out in the literature about social media use in agro-food

governance is the actor-centred approach, even though the volatile dynamics that emerge out of the interactions between these actors, such as in the case of food scandals, crises and controversies, greatly affect organisations (Champoux et al., 2012; Mou & Lin, 2014; Pang, Shin, Lew, & Walther, 2018; Rutsaert et al., 2014; Shan et al., 2014; Veil, Buehner, & Palenchar, 2011; Wu, 2015).

Second, there is a field of research studying the information flows on social media that arise out of online interactions (Choudhury et al., 2010; Lehmann, Gonçalves, & Ramasco, 2012; Lin, Margolin, Keegan, Baronchelli, & Lazer, 2013; Stieglitz & Dang-Xuan, 2013b; Weng et al., 2013). These studies look at factors internal to social media communication, such as actor or network characteristics (diffusion and centrality), content features (e.g. sentiment), or social media functionalities (e.g. use of retweets or replies) to determine and thereby predict social media activity, such as whether a hashtag will go viral or not. Although they indicate that social media platforms have their own internal logic that partly determines social media activity, they also repeatedly indicate the huge influence of ‘exogenous factors’ (Lehmann et al., 2012; Oka, Hashimoto, & Ikegami, 2014); factors outside the social media platform environment, such as real world events, news media reports, context-specific meanings, and the (re-)actions of socio-political actors, that determine social media activity. Social media activity is thus largely shaped by the frame interactions of socio-political actors as part of a public debate.

Hence, we do know that social media interactions generate emergent dynamics and that these dynamics impact organisations. However, it is yet unclear how the interactions of socio-political actors in a governance context generate these emergent dynamics, and how these dynamics may or may not affect the context of which they are a part, such as the wider public debate and the policy practices of stakeholders. Therefore the research objective is to provide insights into how the online interactions of actors in the context of agro-food governance generate emergent dynamics, and how these dynamics may or may not influence the wider public debate and policy-practices of stakeholders in agro-food governance.

1.2 Conceptual Framework

Symbolic interactionism: the dual function of language in meaning-making

In this thesis, I analyse interactions among people involved in agro-food governance and postulate that any interaction is a symbolic interaction (Bruce & Blumer, 1988). This is important because people act toward things on the basis of the meaning that the things have for them (symbolic meaning), and not toward some sort of objective reality. For example, the policies of authorities written down in statutes have meaning only because they are considered to be more than letters on

paper and are continuously (re)enacted by the actors if they interact according to those statutes. Institutions (e.g. the authority of governments), policy artefacts (e.g. policies, legislations and definitions) and policy acts (e.g. the act of posing a parliamentary motion) all have symbolic meaning which is constructed in interaction. Most importantly, language itself, which is at the basis of all sorts of communication among actors from policy documents to public debates, has symbolic meaning. Symbolic interactionism basically holds that people make use of symbols, such as language, to make sense of the world and come to a shared understanding, and it is through this symbolic interaction (the use of language in interaction) that they give meaning to the world and these symbols (e.g. words). Language, as our prime system of symbols, allows us to communicate about and construct the world we know, and is thus a medium through which reality becomes constructed (we construct a reality by the use of language) as well as the product of it (e.g. words are not labels attached to their objects, but fluid constructs that gain meaning in interaction). As summarized by Blumer: language is the source of meaning and is negotiated through the use of it (Bruce & Blumer, 1988). Hence, language does not only reveal the process by which we construct reality, it is also the product of that construction process that becomes reality. Language is used in the communication between actors to make meaning, but also for administering and enacting institutionalized decisions and policies. Language is thus a tool to exercise power but also a product of power, and thus provides a window for understanding how the interactions among actors in agro-food governance shape the social production of meaning.

Framing in interaction

To analyse communication processes between actors in a governance context, I use the concept of framing. Communication processes encompass presentation and interpretation, and in both of these processes people make use of frames to select and order information (Dewulf et al., 2009; Goffman, 1981; Kramer & Weick, 2002). Frames form the lenses or filters that help people to make sense of a complex reality; to interpret a situation (to process information in the individual mind), as well as to represent a situation (through language in social interactions) (Dewulf et al., 2009). Through selection and salience – drawing attention to some aspects and thereby diverting attention from other aspects – frames provide a particular perspective on the situation, the issue at stake and the role of actors therein. For example, an event can be framed as an incident or part of wider societal problem in which the causes and consequences are defined, those responsible for the causes are blamed and those that suffer the consequences are victimized. Hence, frames constitute descriptions of events, issues and actors which are linked to form a coherent interpretation of the situation (Entman, 2003).

Framing can influence actors from the individual person (Tversky & Kahneman, 1981), to collective audiences (Iyengar, 1994; Scheufele & Iyengar, 2012) and political institutions and governments (Feindt & Kleinschmit, 2011). Since framing can influence the public debate and the ‘public mind’ (Castells, 2007), framing strategies form an important tool in the exercise of power (Castells, 2007; Entman, 2004). Frames are used by journalists and news media to create interesting news stories that generate public attention (de Vreese, 2005), by activists to aggravate societal issues and stress the need for collective action (Benford & Snow, 2000), by political actors to reject responsibility or, on the contrary, to gain control and exercise power (Feindt & Kleinschmit, 2011) and in many other ways by different types of socio-political actors. Framing theory thus offers a valuable analytical tool to analyse social media interactions between different actors in the context of agro-food governance. I take an interactional-constructionist stance on framing (Dewulf et al., 2009), which means that frames are considered to be contextual constructs in the interactional meaning-making process. More specifically, I focus on frame interactions as part of the dynamics in public debates. In the empirical studies of this thesis I generally take into account the framing of events (situations and their causal relations), issues (problems and solutions) and actors (identities and responsibilities), but use different social theories to understand the framing processes in a specific governance context; such as collective action framing in the context of activism (Benford & Snow, 2000; Snow, Vliegenthart, & Ketelaars, 2018) in chapter 4, and identity-framing in the context of conflict (Dewulf et al., 2009; Gray, 2004; Lewicki, Gray, & Elliott, 2003) in chapter 5. In all of these studies however, agro-food governance forms the wider context to interpret and understand frame interactions.

A Discursive Approach to Governance

The management of common goods for the production of private goods, such as the use of natural resources for food production, typically requires some sort of negotiation, reconciliation, or coordination among various actors, which shapes the organisation of people into states, markets, networks, partnerships, and other forms of governance. In this thesis, I conceptualise governance as all interactions among interdependent actors, and the institutions that shape these interactions, to manage the agro-food system and deal with societal issues, such as sustainability. The role or responsibility of an actor within such a system, such as governmental, corporate and civil society organisations in the agro-food system, is not set in stone, but is under continuous negotiation (Termeer et al., 2015; Termeer, Dewulf, & Lieshout, 2010). Through symbolic interactions actors enact and construct the roles and rules of the system, ranging from legal entities, policies, laws and other formal institutions, to legitimacy, norms and other non-formalized institutions that guide

social interactions. I thus take a discursive perspective on governance, in which information and communication are considered tools and products of power (Castells, 2007; Dahlgren, 2005; D. Fuchs & Kalfagianni, 2009; Hajer, 2010).

Decision-making and Meaning-making

In her work on ‘discursive institutionalism’, Schmidt (2008) describes how discourse in politics comes in two forms: the coordinative discourse among policy actors, and the communicative discourse between political actors. In line with this notion, I hold that governance constitutes the decision-making and policy-making processes of stakeholders in the political space, and the communication or ‘meaning-making processes’ among all political and public actors for the social production of meaning in the public space. Decision-making and policy-making constitute one another: Policies are plans, courses of action or procedures that are intended to influence decisions and thus form part of the context for decision-making, but it is also through decision-making processes that policies and institutions take shape. Decision-making and policy-making involve private communication outside the eye of the public, such as lobbying, negotiating, and deliberation among public servants, experts and stakeholders. However, decisions and policies become apparent through the policy practices of stakeholders in the public space. Policy practices include the communication of stakeholders in the public space, such as in the form of external organisational communication or parliamentary debates, but also include other practices with symbolic meaning such as the enactment of decisions and policies (e.g. supermarkets that change their assortment of meat products). In today’s democracies, decisions and policies gain legitimacy and become effective only when they have public support: when they ‘make sense’ not only for those that make the decisions but also according to public actors. This has implications for the policy practices of both governmental and corporate organisations involved in agro-food governance. After all, agro-food institutions, policies and products build on legitimacy, public opinion, and consumer demand respectively, which are constructed through meaning-making processes in the public space. Since the policy practices and institutions ultimately rely on meaning-making in the public space, I presume that actors involved in agro-food governance have a stake in this meaning-making process. Exactly how policy practices and the frame interactions in the public debate are interrelated in the governance of agro-food systems in the Netherlands is up for empirical investigation.

The Public Space: social media, news media and the political arena

In this research I analyse communication in the public space, which includes all public communication in the media and the political arena (see figure 1.2). The decision-making processes and policy practices in the political arena, and the meaning-making processes in the media partly converge in the new communication space of the network society (Castells, 2011). Parliamentary debates for instance – including the political debates about agro-food governance in The Netherlands – are recorded and published online, and although they generally do not receive much public attention, some messages are rephrased, put in new contexts and diffuse through online networks. Moreover, the information on which decisions are based, such as research reports, have become increasingly available online and part of public debate. Companies too are being closely watched and confronted by civil society organisations on social media. In general, the people and information involved in decision-making processes, both in governmental and commercial organisations, have become increasingly public and accessible in online interactive media environments – at least in agro-food governance in The Netherlands.

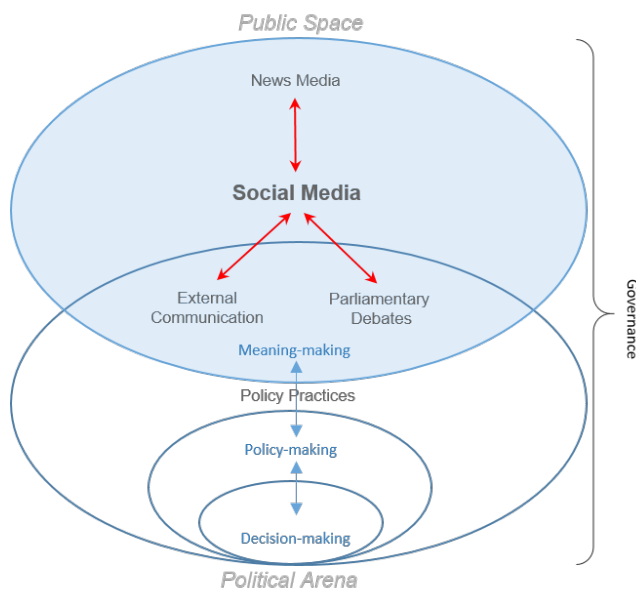


Figure 1.2 The relation between public spaces and the political arena

Social media form a central platform in this online interactive public space. I consider the defining feature of social media its affordance to enable interactive public communication. Basically, social media converge the public one-to-many ‘mass communication’ typical for broadcast media (e.g. television, websites) and private one-to-one ‘interpersonal communication’, into interpersonal, public, many-to-many communication (Luders, 2008) or ‘mass self-communication’ (Castells,

2008). The social media platforms, such as Facebook and Twitter, interlink a wider network of pages and people through interactive features such as sharing, hyperlinks and hashtags. News production, political communication and organisational communication have all been transformed by the dynamics of online networked communication (Blumler, 2015; van Dijck & Poell, 2013). The reach of news media for example is now largely determined by the spread of articles through social media, and this has transformed media businesses models and journalistic practices (Finnemann, 2011; van Dijck & Poell, 2013). Organisational communication has also become increasingly 'social', with a focus on word-of-mouth marketing practiced by social media accounts of employees, customers and ambassadors (Ang, 2011; Hanna, Rohm, & Crittenden, 2011; Miller & Lammars, 2010; Pfeffer et al., 2014). Lastly, politicians and public servants do not rely on traditional news media to communicate with citizens, and adjust their messages and practices to the logic of the new interactive media environment (Bekkers, Edwards, & de Kool, 2013; Ferro, Loukis, Charalabidis, & Osella, 2013).

Hence, in this research I focus on the role social media platforms in a larger interactive online environment comprised of news media messages, organisational communication and political communication. Social media accounts are individual or organisational actors with agency. Individuals may use social media for personal or professional purposes, and can represent, or identify with, various roles in relation to social institutions, such as the employer of an organisation, the supporter of a political party, the friend of a farmer, the vegan, etc. Social media dynamics result from all the public interactions by accounts on social media platforms, which include the commenting on and sharing of news media articles, organisational websites and political announcements.

We focus on Twitter and Facebook; the two most used social media platforms for the public debates concerning agro-food governance in The Netherlands in the period under study (2011-2018). On Twitter, users can follow and address any other user, and tweets can generally be seen by anyone with internet access. Twitter is one of the fastest, most open, and most inclusive social media platform and displays strong framing processes (Kumar, Morstatter, & Liu, 2013). Basically, Twitter forms a connecting thread of public discourse that incorporates all types of media messages and actors: stakeholders make public statements, news media and social media messages are posted through hyperlinks and all people interested in the topic attribute meaning to an on-going stream of information (Zhao & Rosson, 2009). Facebook is another important, but distinct social media platform. Users need to accept others as 'friends' to communicate on each other's timelines, but users can also post and comment on pages and in groups with different levels of accessibility (secret, closed, open).

Social Media Dynamics in Agro-Food Governance

Social media messages are not isolated expressions of individuals, but meaning-making constructs directed at a particular person or audience, in a particular discursive context, at a particular moment in time. I thus assume that social media messages form part of a larger whole; in this case the public debate about agro-food governance. The public debate is the social communication in the public space about collective issues in agro-food governance. It is through frame interactions that specific events, issues and actors are selected and connected in public conversations. This can lead to peak selective attention or ‘social media hypes’. The first quest is to understand what kind of issues, events, and actors in agro-food governance gain peak selective attention on social media through frame interactions.

If actors indeed interact on social media or respond to the public debate, then social media messages can generate an emergent dynamic. We speak of an emergent dynamic when the social media messages together form a coherent pattern that evolves over time. Social media activity is comprised of the various dimensions of communication; not just what is communicated (the content of the message), but also by whom (author), to whom (addressee), where (on what media platform) and when (time). The patterns across these four dimensions (content, interaction, setting and timing of a message) comprise social media dynamics. These dynamics are considered emergent, only if the pattern forms a ‘whole’ or system of its own; when the relations reflect some sort of social phenomena that can be understood or explained by social theory (such as hype dynamics, social movement dynamics or conflict dynamics). As little research has been done on social media interactions in the context of governance, this research aims to understand what emergent dynamics are generated in the public debates concerning agro-food governance and how various actors play a role. Hence, the second quest is to understand how the online interactions of actors in the public debates concerning agro-food governance generate emergent dynamics.

Since I conceptualize governance as a process of symbolic interaction, and the institutions that guide these interactions, the public frame interactions about agro-food governance (meaning-making in the public space) can be considered part of agro-food governance. This means that frame interactions are interpreted in the context of agro-food institutions and policy practices, but also that these frame interactions in the public space can influence the communication strategies and policy practices of stakeholders in the agro-food system. In short, social media dynamics may influence agro-food governance in various ways. This perspective results in the last quest, which is two-fold.

First, how do social media dynamics influence the wider public debate, which includes parliamentary debates, external organisational communication, and news media messages. Second, how do social media dynamics influence policy practices of stakeholders that are mentioned or held responsible, such as politicians, governments and businesses.

1.3 Research questions

The general research question of this thesis is:

How do social media dynamics influence agro-food governance?

In order to answer this question, I will direct the empirical investigation to the following sub research questions

1) What type of issues, events, and actors in agro-food governance gain peak selective attention on social media?

2) What emergent dynamics are apparent on social media and how are these generated by the online interactions of actors in the public debate about agro-food governance?

3) How do social media dynamics influence public debates and policy-practices of governments and businesses in agro-food governance?

1.4 Methodology

Case study

In this research, I take a constructivist epistemological stance and an interpretive research approach; I hold that social reality is constructed through symbolic interactions, and as researcher I interpret the communication between actors as a meaning-making process in its socio-historical context. To empirically analyse social media dynamics in the context of and in relation to governance, I use a case study research design. Case studies are often used in interpretive research for analysing the meaning-making processes of actors in context (Johnson & Stake, 1996). A case study consists of an in-depth inquiry into a specific and complex phenomenon within its real-life context (Yin,

2009, 2014). As pointed out by Yin a case study research design is particularly useful *‘when the boundaries between phenomenon and context are not clearly evident’* (Yin, 2014, p.16). Since I consider social media dynamics to be part and parcel of governance – the online interactions need to be interpreted in context, but may also influence the context – I focus on a particular socio-historical setting, in this case; social media dynamics in the context of and in relation to agro-food governance in the Netherlands. This forms an interesting case because the high level of complexity, controversy and need for cooperation in the governance of wicked agro-food problems provide a space for the public framing of issues and responsibilities and involve a high number of public actors that engage on social media (as elaborated in 1.1 problem statement). In short; social media form an important platform for the public framing of issues and responsibilities in the governance of wicked agro-food problems. Apart from the significance of the case for research purposes, the researcher is familiar with the Dutch language, culture, political institutions and agro-food sector, which supports the interpretive analysis of this case.

This case study has both intrinsic and instrumental value (Johnson & Stake, 1996). The aim is to increase the knowledge of social media dynamics in this local context, as well as to make theoretical contributions based on empirical analyses. For both of these objectives, a comprehensive understanding of the phenomenon and its context is needed. In case studies this is generally achieved by including multiple sources of data (Yin, 2009). In this case study, I extensively analysed social media activity, but I also studied policy documents, parliamentary debates, news media articles, press releases, research reports, and other forms of documentation that are part of, or reveal something about agro-food governance in The Netherlands. This helped to reconstruct the sequence of events and understand the relation between social media activity and events and policy practices for plausible causal inferences in particular cases (as part of internal validity). Moreover, this information helped to develop rich and detailed descriptions of the context (‘thick descriptions’) to improve the ‘transferability’ of the case study findings (similar to ‘external validity’ in positivistic approaches). Thick descriptions enable readers to assess whether and to what extent the reported findings are transferable to other settings (situations, times, and populations) that they are knowledgeable of, such as other governance contexts. However, I want to emphasize that the goal of case study research is not the generalisation to other or larger settings based on ‘enumerative induction’ (Mitchell, 1983) or ‘statistical generalisation’ (Yin, 2014) (i.e. based on representativeness of samples), but analytic generalisation based on theory, in which previously developed theory is used as a template against which to compare the empirical results of the case study. In this research, previously developed theories are used to analyse and understand the case, but also to validate and contribute to these theories based on the theoretically informed analysis of the case.

An Iterative and Explorative Process

Since little is known about this case and because of the dual aim of this case study, I conducted an explorative and iterative research in which both the empirical findings derived from this case and the theoretical knowledge derived from literature were used to design in-depth, embedded case studies. This approach corresponds with the notion of Stake who promoted a flexible design of interpretive case studies (Johnson & Stake, 1996). More generally, an ‘explorative’ or ‘emergent design’ can be considered one of the hallmarks of qualitative research (Bartlett & Vavrus, 2017). As pointed out by Becker (2009): *‘Not fully pre-specifying ideas and procedures at the start, as well as being ready to change them when their findings require it, are not flaws, but rather two of the great strengths of qualitative research’*. (Becker, 2009, p.548)

The explorative nature of this research implies that a large part of this research involved the identification of the ‘unknown unknowns’. To make this explicit: We knew that social media interactions can generate emergent dynamics and that these dynamics can affect organisations (as pointed out in the literature review at 1.1), and we knew that we did not know exactly how online interactions of actors in the context of agro-food governance would generate emergent dynamics, and how these dynamics would or would not influence the wider public debate and policy-practices of stakeholders in agro-food governance (the ‘known unknowns’ that resulted in the research questions). However, we were unaware (we did not know that we did not know) that, for example, conflicts and movements generate peak social media activity and have their own characteristic patterns of peak patterns, interactors of actors, issue and identity frames, and media interplay. These are the ‘unknown unknowns’ that were discovered through this explorative research and that we set out to explore through in-depth, embedded case studies.

Although the research processes was largely exploratory, I am hesitant to typify the overall research design as ‘explorative’. Explorative research is typically characterized as an open process with little use of theory to generate a better understanding of a problem by developing hypotheses (rather than conclusive results), or to unearth a theory from a collection of qualitative data based on grounded theory (Glaser & Strauss, 2017). This research however, uses theory at the outset and contributes to theory building and testing by conducting an iterative approach; combining inductive reasoning and the hypothetico-deductive approach in a cyclical process. This ensures the selection of significant cases or ‘rich information’ in combination with an appropriate and valuable theoretical-analytical approach. Hence, each study in this thesis builds on the preceding study, and has its own empirical, methodological and theoretical focus. Moreover, all empirical studies are based on the logic of qualitative comparative case studies (Esser & Vliegenthart, 2017). This dissertation is thus comprised of sequentially selected and nested comparative case studies. This means that for each

study, I selected cases based on empirical similarity, studied cases as ‘wholes’ (unit of analysis), and applied a theoretical-analytical approach to identify significant differences and similarities and to make plausible inferences about relations (based on the verification of theoretical propositions under specific contextual conditions). In the words of Mancini and Hallin, *‘theorizing the role of context is precisely what comparative analysis is about’* (2012, p. 515). Comparative case studies extend the value of the case study approach through iterative model-building and comparison (2012, Albert J. Mills, Gabrielle Durepos & Elden Wiebe) and is better suitable for the generalization of theoretical relations than single case studies (Esser & Vliegenthart, 2017).

Mixed Methods Research

The term ‘interpretive research’ is often used loosely and synonymously with ‘qualitative research’, but the two concepts are quite different. Although interpretive research tends to rely heavily on qualitative data, such as on messages of actors with textual information (symbols with meaning), a quantitative analysis of this data, such as frequency analysis or term co-occurrences, can also provide insights into the meaning-making process of actors. In this research, I collected and analysed social media data (primarily Twitter and Facebook), news media articles, and policy documents and debates. These data sources comprise textual information (the message itself), but also information such as the author of the message, and the time and place of publishing. I analysed the messages interpretively as qualitative data (what does this text mean to the communicators in this context), but also quantitatively (level of social media activity; term frequencies; term co-occurrences). This research can thus be characterized as mixed methods research; the mixing of qualitative and quantitative data, methods, methodologies, and/or paradigms in a research study or set of related studies (Creswell, 2007).

For the data collection and data analysis I made use of automated methods in Coosto, and the QDA miner - WordStat software package. The integration and computation of the data collection (or data ‘selection’ within a dataset) and the data analysis within these software applications enhanced an iterative research process (Boumans & Trilling, 2016). Besides shifting between data selection and data analysis, this iterative process involved shifting between 1) quantitative macro-analysis and qualitative micro-analysis, and 2) inductive pattern finding and deductive hypothesis testing (see figure 1.4). This means, 1) I used quantitative methods for analysing ‘big data’, such as term frequency and word co-occurrence measures in a dataset of over 100.000 tweets, but also focussed (zoomed in) on specific actors, messages and moments in time, for interpretive analysis of messages; and 2) the automated methods enabled me to find patterns inductively, such as identifying relations in word co-occurrences, but also to apply dictionaries (categories) based on expectations or ‘hypotheses’ for deductive analysis.

In the last paragraph of this chapter ‘Tools and Methods’, I provide some additional information about the basic principles of the methods and the functionalities of the tools. A detailed description of the data collection and analysis methods applied in each study can be found in the respective chapter, and part of the data and intermediary results of the analysis are shared in an open source data base (Stevens, 2019a, 2019b).

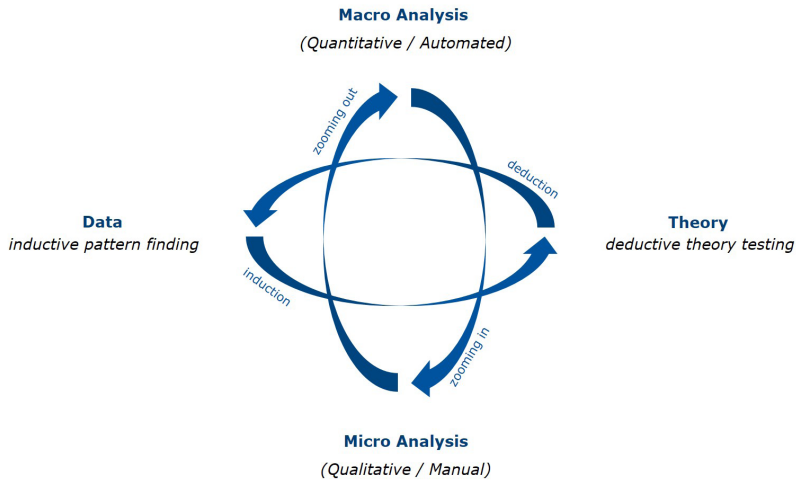


Figure 1.4.1 The iterative research process which involved shifting between 1) quantitative macro-analysis and qualitative micro-analysis (top-bottom axis), and 2) inductive pattern finding and deductive hypothesis testing (left-right axis)

Operationalization: Social media dynamics and Frame interactions

Social media dynamics are defined as the patterns that emerge out of social media interactions. These dynamics are studied by analysing the multiple dimensions of online activity and their interactions over time. I thus collected not only the content of social media messages, but also the authors and addressees, the source (media platform) and date of messages with Coosto. To analyse the relations between these four dimensions on a macro-level I imported these dimensions as variables in WordStat to conduct correspondence analysis (described in more detail in the next section under Tools and Methods), as applied in chapter 3 and 4.

These social media dynamics are generated by the interactions of social actors in social context (online and offline). To understand the actions of actors and their implications in context, framing was used as the theoretic-analytical framework for the interpretive analysis. As I take an interactional-constructivist perspective on framing, the framing-analysis took into account the content of the message, the social interaction, the setting and the timing (the same four dimensions). Framing-theory was used to interpret patterns in social media activity (chapter 3), but also to direct the analysis (verify hypotheses) about frame interactions or frame dynamics based (chapter 4 and

5). For the framing-analysis on a macro-level I applied co-word analysis and clustering methods to study the content of messages (elaborated in the next section), and the relation of these co-word networks with actors and time through correspondence analysis (in chapter 3 and 4). Moreover, I analysed direct discursive interactions between actors on a micro-level using coding methods (in chapter 4 and 5).

Tools and Methods

-Social media data collection with Coosto

A Coosto account was used for the collection of social media data. Coosto is a company that provides access to social media data (including Twitter, Facebook, Youtube, blogs, discussion fora and news media) and a user-interface platform for the analysis of, and engagement with this data. Customers can search, analyze and export social media data. The analysis options of Coosto, such as trending topics, sentiment analysis, activity over time, productive authors, reach, influence, etc., helped to generate insights into social media debates. Hence, by selecting different time periods and search terms in the search query, and by analyzing this data through the various analysis options, I explored the debate extensively and iteratively. However, the analysis functionalities of Coosto are not appropriate for academic research because the measures and algorithms used (e.g. for computing 'influence' and 'sentiment') are not transparent. Moreover, the insights are based on a sample of the data, and the sampling technique is also not transparent (i.e. randomness is not guaranteed). Hence, Coosto was only used for exploring social media activity, for finding relevant cases and for fine-tuning search queries to import data. Only raw data was imported (not any statistical data generated by measures of Coosto) in csv files, which contained the content of the message, but also the author of the message (link to social media profile), the platform (e.g. Twitter, Facebook) and the date; i.e. the various dimensions of social media dynamics. The data was imported into other software tools, such as Microsoft Excel, QDA Miner and WordStat 7 for more advanced analysis.

- Coding and Co-occurrences with QDA Miner and WordStat

The four dimensions of social media data were imported as variables in QDA Miner 4, and then into WordStat 7. These software tools are part of an integrated package of Provalis Research for the qualitative and quantitative analysis of textual data. For the qualitative analysis I mainly used retrieval functions (to zoom in on significant accounts or time-frames), coding and annotation methods. For the quantitative analysis I used correspondence analysis to identify interrelations between the 'variables' (the dimensions described as part of social media dynamics), such as the use of a keyword in a particular month or year, the use of a keyword by a particular account or

of the co-word analysis see Hellsten, Dawson, & Leydesdorff, 2010; Leydesdorff & Hellsten, 2006). This method enabled the analysis of frame dynamics on two levels of text; explicit words as framing devices and implicit structures of co-occurring words as frames.

The semantic map method in this research consisted of four steps: 1) pre-processing (e.g. removal of stop words, stemming, lemmatization) to prepare the data for the text-analysis on the level of words, 2) generating a word-document matrix (the co-occurrence of frequent terms in documents) and applying the tf-idf measure (term frequency / inverse document frequency) to identify keywords 3) applying an index (e.g. Jaccard's coefficient) to measure first-order co-occurrences of words or second-order co-occurrences of profiles to generate relational data 4) applying clustering methods and multidimensional scaling for visualizing the network structure of co-occurrences, such as hierarchical structuring in dendrograms, and multidimensional scaling in 2D-mapping.

Since these steps are largely automated and integrated within the software package, I was able to move back and forth to explore the data and generate insights (such as by moving words to the exclusion list in multiple iterations). Moreover, I applied various indexes (e.g. Jaccard's coefficient, cosine theta) in WordStat to compute relations (for example, since Twitter messages are shorter and more homogenous than Facebook messages the co-occurrence of words within cases (i.e. messages) is generally higher and thus requires a different index to generate clusters that provide insight into the corpus). For illustrative purposes, I included the 2D map used in WordStat for the analysis of co-occurrence profiles in figure 1.4.3. Note that this is a snapshot of a dynamic analysis (rather than a result), in which I applied multiple measures (indexes), exclusion list and dictionaries to analyze the data.

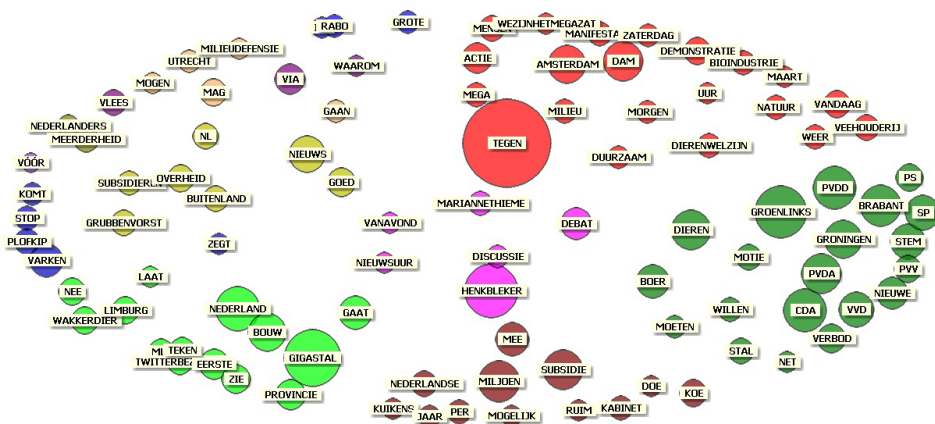


Figure 1.4.3. Two-dimensional map of the co-occurrence of keywords (based on tf-idf) in messages about mega-stables. The size of the circle indicates the frequency of the word, the distance between words indicates correlation, and the color indicates the cluster.

1.5 Overview of Studies

This thesis consists of four studies, which are presented in Chapters 2-5.

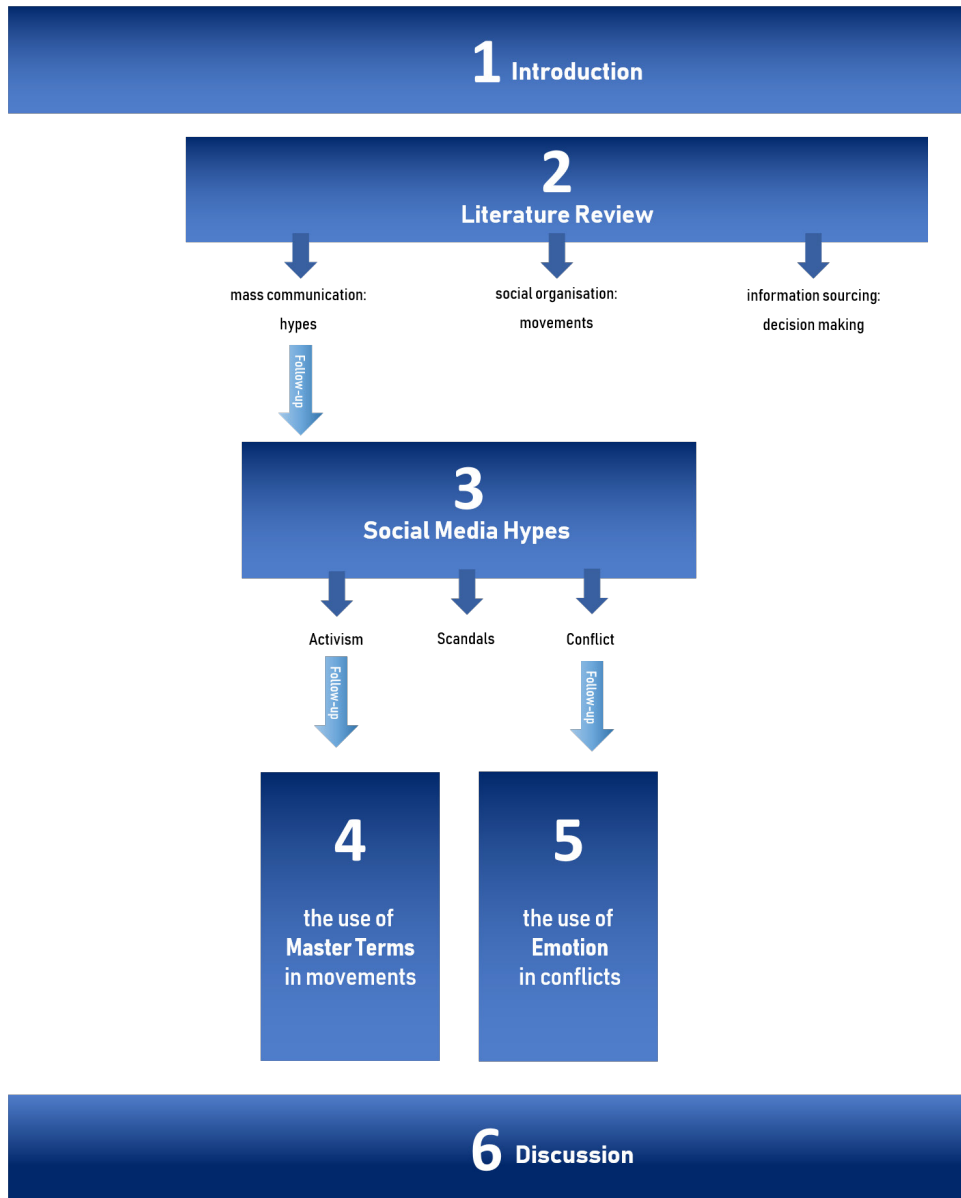
Chapter 2 describes a literature review which reports on the role of social media in agro-food governance. Social media is reviewed as a space for public information dissemination in the form of networked mass communication, a space for interactive communication as the basis of social organisation and group formation, and a space for information sourcing to support decision-making and strategic communication. Three pathways are delineated that highlight the ways in which social media can have implications for the governance of agro-food sustainability; hypes on controversial agro-food issues, the self-organization of alternative food movements, and data mining for new forms of agro-food governance. I conclude that while mass self-communication on social media forms an emergent force that disrupts agro-food governance, it also generates data that forms a resource for powerful players to regain control. The findings of this literature review raised the question to what extent social media activity simply follows waves of news media reports about events in the sector (such as crises or scandals) and to what extent the actors on social media can also instigate, generate or reinforce peak public attention for particular issues, events and actors. This informed the choice to focus the first empirical study on 'hypes', i.e. cases of peak selective activity on social media.

Chapter 3 presents the first empirical analysis, which focusses on peak selective activity about agro-food issues on social media in The Netherlands from 2011-2015. The study develops a model for analysing social media hypes and builds a typology to provide insights into the dynamics of social media hypes in the context of agro-food governance. Five cases of peak social media activity are analysed along four dimensions: peak patterns of activity, issues and frames, interaction of actors, and media interplay. An analysis of the dimensions and the interrelations across cases shows that social media hypes revolve around activism, scandals, and conflicts. The results of this study triggered my interest in two phenomena that I set out to explore in greater detail. First, I found that hypes not just result from important events in the sector, but are generated through the use of organizing concepts with a hashtag to evaluate and establish occasions. This triggered the quest to find out how the two most frequent used keywords became and remained dominant framing devices in public debates (news media, social media and policy debates) over the course of time (chapter 4). Second, I found an emotional conflict between farmers and animal rights activists that reflects three stages of conflict. This triggered the quest to find out how online intergroup conflicts evolve through frame interactions and the discursive use of emotion (chapter 5).

Chapter 4 presents a study that provides insight into how keywords become dominant framing devices. I conduct a longitudinal comparative case study on the emergence and evolution of two dominant keywords in the Dutch livestock debate: plofkip (booster-broiler) and megastal (mega- stable). Based on an analysis of social media messages, news articles, and policy debates and documents, I study the role of keywords in semantic fields, communication strategies, and policy practices. I present four dynamics that help to understand how keywords become ‘master terms’. I propose the concept of ‘master term’ as a keyword that not only reflects, but activates and establishes a master frame around which conversations and practices revolve.

Chapter 5 reports a comparative case study in which I analysed two social media conflicts between farmers and animal right advocates to understand how conflicts establish, escalate and return dormant through issue- and identity-framing and the discursive use of emotions. The results show that the two groups used the same set of frames throughout the three phases to directly oppose each other. Despite the stability in frames, the conflict escalates into an identity-conflict through the discursive use of emotion in group-labelling and -blaming. I discuss how this online intergroup conflict differs from previously studied conflicts to provide plausible explanations for these findings.

Finally, chapter 6 includes the summary of conclusions, in which the three research questions are addressed, a discussion of the theoretical and methodological contributions, limitations and suggestions for future research, and implications for practice.



Chapter 1) Introduction

Chapter 2) Social Media as a Playing Field for Agro-Food Governance

Chapter 3) Social Media Hypes: Activism, Scandals and Conflicts

Chapter 4) The Emergence and Evolution of Master Terms in the Public Debate about Livestock Farming

Chapter 5) Using Emotions to Frame Issues and Identities in Conflict: Farmer Movements on Social Media

Chapter 6) Discussion

Figure 1.5 Overview of the relations between the studies



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[“Social Media as a New Playing Field for the Governance of Agro-Food Sustainability.”](#)

[Current Opinion in Environmental Sustainability 18:99–106.](#)

2.

Social Media as a new playing field for the governance of agro-food sustainability

Abstract

Social media bring various stakeholders of the agro-food system together into a new playing field. This article reveals the dynamics of this playing field and the ways in which this influences the governance of agro-food sustainability. We delineate three pathways that highlight the ways in which social media have an impact; 1) Hypes on agro-food sustainability issues, 2) Opportunities for the self-organization of food movements, and 3) Data for new forms of agro-food governance. We conclude that while mass self-communication on social media forms an emergent force that disrupts agro-food governance, it also generates data that forms a resource for powerful players to regain control.

2.1 Introduction

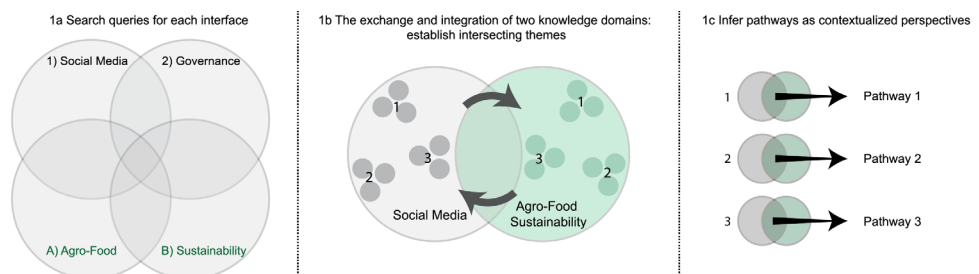
Agro-food sustainability is a contentious theme on social media that pulls together farmers, citizen-consumers, businesses, politicians, journalists and other actors. Issues such as animal welfare, GMO and food safety generate high levels of social media activity. The rapid and fluid interaction on social media combined with high public concerns about the transparency and sustainability of the agro-food sector generates opportunities and challenges for different actors in the agro-food system. Since social media bring together commercial, political, and public interests in a new arena, with new roles and new rules, we consider social media to constitute an important new playing field in the governance of agro-food sustainability.

It is yet unclear however, what dynamics are at play in this new field and in what ways this influences the governance of agro-food sustainability. Despite the rise of studies on social media and politics¹ this body of literature lacks integration and theoretical reflection to capture social media as a field of governance. Moreover, there is little research on social media in the agro-food domain specifically. This paper combines different fields of literature in order to infer the ways in which social media influence the governance of agro-food sustainability. The results are presented in the form of three pathways, which highlight how the interaction of players generates emergent dynamics that affect the governance of agro-food sustainability.

2.2 Method and Conceptual Lens of the Review

The literature review for this paper has been carried out on the interfaces of four fields: social media, governance, agro-food and sustainability (figure 2.1a). With a list of key-words for each field we searched all overlapping areas². Because of the limited number of studies at the intersection

Figure 2.1 Literature Review



¹ As an indication, an analysis of Scopus results shows that studies with “social media” AND “politic* OR govern*” increased with 692% from 2010 to 2013, in comparison to an increase of 9% on the same search without “social media”.

² In total, 137 words were applied over 15 search queries on Scopus and Google Scholar to find results for each overlapping area.

of all areas, this review mainly applied the insights from social media literature to the domain of agro-food sustainability. To relate these two knowledge domains, insights from both domains informed each other to establish intersecting themes (figure 2.1b). By congregating and differentiating the various roles of social media in the domain of agro-food sustainability, we identified three pathways of influence (figure 2.1c). A pathway is not a corridor in which a chain of effects leads to governance outcomes, but a coalescence of social media activities that form a pattern in the way it implicates the governance of agro-food sustainability. Pathways allow us to synthesize literature, to provide concrete contextualized interpretations, and to illustrate the dynamics at play in this new field of governance. Hence, we do not provide a detailed overview of the literature but highlight how the interactions of players bring about emergent phenomena in the governance of agro-food sustainability.

To further explain our method we have to clarify the conceptual lens through which the literature was reviewed. Governance refers to the interactive processes through which stakeholders enact and construct the roles and rules that shape their interrelations, ranging from legal entities, laws and other formal institutions, to legitimacy, norms and other non-formalized institutions that guide social interactions. In this paper we take a perspective on governance in line with Mol (Mol, 2006), Dahlberg (Dahlberg, 2005, 2011; Dahlberg & Phelan, 2013), Dahlgren (Dahlgren, 2000, 2005), Fuchs (D. Fuchs & Kalfagianni, 2009) and Castells (Castells, 2011) focussing on information and communication processes in the public space. Agro-food institutions, policies or products ultimately build on legitimacy, public opinion or consumer demand, which is constructed through communication in the public realm. As communication becomes increasingly mediated and mediatized, the media has become an important space where agro-food sustainability is being shaped (Castells, 2007). It forms the stage on which governmental, civil society and private organizations communicate with each other and with citizen-consumers. With the rise of social media, the media system has become a platform where people self-produce, -direct and -select

Box 2.1 Social Media as playing field for the Governance of Agro-Food Sustainability

The agro-food sector employs over one-third of the global available workforce, exploits over one-third of the land, and delivers a product that is essential for human survival. Yet, an increasing share of the market is controlled by a few powerful conglomerates (Clapp et al., 2009). The broad public interest and social value of food, the various sustainability issues related to food production and the disparate power relations in the agro-food system make agro-food sustainability a contentious field on social media. Retailers promote their products and engage with customers to steer the discourse on food and sustainability, citizen-consumers voice their concerns about food safety, transparency and sustainability, and farmers -who have traditionally been positioned at the background of the public arena- use social media to engage in online discussions, collaborate with each other and reconnect with consumers. Social media is the space where these players and games confluence and through their interaction create emergent dynamics that have implications for the governance of agro-food sustainability.

information. The defining feature of social media is its ability to facilitate mass self-communication, which converges public one-to-many (mass) communication typical for broadcast media (e.g. television, websites) and private one-to-one (interpersonal) communication. We thus consider social media as 1) a space for public information dissemination in the form of networked mass communication, 2) a space for interactive communication as the basis of social organisation, and 3) a space for information sourcing to support decision-making. From a governance perspective, various games are being played on this field. Stakeholders aim to steer the public discourse on food and sustainability through agenda-setting or ‘mind framing’ (Castells, 2007); communicate, collaborate and organise to establish relations and social structures, and; import and transform information from social media to support decision-making, public relations or marketing.

Box 2.2 Social Media

Social media are internet-based applications in which people create, share or exchange information and ideas in virtual communities. It includes social networking (e.g. Facebook), (micro-) blogging (e.g. Twitter), media sharing (e.g. Youtube) and other services that support interactive public communication.

Taken together, we understand social media to constitute a new playing field in which governance are the games being played; the information and communication processes through which roles and rules are enacted and reconstructed. We study information as a resource and transformative force in governance processes (Mol, 2006) and use the concepts of power and counter-power to understand governance implications (Castells, 2007). Hence, a governance perspective is used both to understand the interaction of stakeholders on social media and to describe the implications for agro-food sustainability. This means we not only look at the strategic use of social media by stakeholders, but study the dynamics of the interplay and the unplanned consequences that affect the governance of agro-food sustainability.

Box 2.3 The Concept of Sustainability in the Setting of Agro-food Governance

In this paper, sustainability is considered a container concept that draws in stakeholders who aim to attribute meanings in favour of their enterprise. Hence, we do not use a predetermined definition of agro-food sustainability, but consider sustainability to be an open concept that is given shape by stakeholders in a particular governance setting - where specific meanings have specific implications.

The work of Fuchs (Clapp et al., 2009; D. Fuchs et al., 2014; D. Fuchs & Kalfagianni, 2009) informs us about this governance setting of agro-food sustainability. We can identify various tensions in this field; between farmers and retailers, between industrial and alternative food systems, between private interests and various public interests and between nations or other regional regimes. From an industrial perspective, sustainability is framed in terms of environmental and economic efficiency, which can be increased by (bio-)technological innovations, centralization (vertical and horizontal integration) and standardization. Actors that do not fit industrial production standards are often organized through local, organic or fair trade food networks, in which farmers play a greater role and the social and environmental origins of food products are emphasised.

2.3 Results

Pathway 1: Hypes on agro-food sustainability issues

The agro-food sector is frequently confronted with media hypes on issues of food safety, transparency and other sustainability issues. Recent ‘food scandals’, such as the salmonella outbreak in 2012 and the horse-meat adulteration scandal in 2013, are prime examples. Media hypes can influence public opinion and impact the governance of agro-food systems. Although hypes have only been studied as news waves in mass media, social media are likely to play a key role in today’s hypes, particularly in the agro-food domain. In this part we review literature on the framing of agro-food sustainability, the driving forces of media hypes, and the dynamics of social media interaction.

In news media, the complexity of various approaches on agro-food sustainability is generally reduced to a straightforward conflict between organic and conventional food products. In addition, controversial issues, such as food scandals, are likely to be considered ‘news-worthy’ (Wien & Elmelund-Praestekaer, 2009): it is of high relevance to many people, involves a violation of norms, and the event can be covered from a variety of perspectives. There is thus a tendency to report on agro-food sustainability in terms of controversies and scandals. With a high public concern for sustainability, the public distrust in the agro-food industry and the universal necessity of food, news on agro-food systems has the potential to trigger media hypes (Anderson, 2000; Randall, 2009).

A review of the literature on media hypes (Elmelund-Praestekaer & Wien, 2008; Vasterman, 2005; Wien & Elmelund-Praestekaer, 2009) leads to a number of key features. A hype is triggered by new information about a ‘key event’ that has general news value. Through framing processes, such as amplification, enlargement and problematization, the event becomes an issue and attracts public attention. When other events are related to the issue and media refer to other media messages in the reproduction news, it becomes a news item. This creates a media momentum, providing social actors a podium to profile themselves. Social responses become news, which in turn triggers new responses. In general media hypes are periods of peak public attention driven by self-reinforcing processes, such as social amplification through framing processes, a self-referential media system, and positive feedback loops between news media and social actors.

The dynamics of social media interaction, such as personalization, amplification, polarization and dispersion of information through networks, are likely to reinforce the main drivers of hypes on agro-food sustainability issues. First, social media play a key role in exposing or ‘leaking’ new information. User-generated content, including videos and pictures made with mobile phones, is easily posted on social media and increases the availability of information on food production. The

lack of transparency in agro-food systems makes this new information of interest to newsmakers and the public. When information becomes publicly available, social media can amplify the framing and dissemination of information. The personalisation of information and group formation on social media can lead to amplification within echo chambers and conflicts between communities. As emotional messages spread faster on social media (Stieglitz & Dang-Xuan, 2013a), this can increase the attention for and the social amplification of agro-food sustainability issues. Food safety in particular is an emotive issue of universal interest (Anderson, 2000), carrying the potential to attract widespread attention and turn into a news item. While distinct discourses can develop in different virtual communities, news tends to diffuse across online communities. On Twitter for example personal interactions are more likely to occur on internal links to the groups (strong ties), while events transmitting new information go preferentially through links connecting different groups (weak ties) and even more through links connecting to users belonging to several groups that act as brokers (intermediary ties) (Grabowicz, Ramasco, Moro, Pujol, & Eguiluz, 2012). These dynamics combined with the global nature of social media networks and the food system means that a local issue can swiftly become global news. The self-referential dynamic of the media is reinforced by the liking, sharing and retweeting on social media, creating the rapid diffusion of uniform information. Moreover, the repository of information on agro-food already available on digital media can be linked to the issue and provided with new meaning via social media platforms, creating a news item. This generates a media momentum that can be fully exploited on social media. Social media offer a stage for all actors involved, such as farmers, citizens, consumers, politicians and experts to engage in the conversation and voice their opinion. If important actors remain silent they can be personally and publicly addressed on Twitter or Facebook to be held accountable. Since most politicians, managers or companies have a social media account, they have no chance to escape the tumult. Each response on social media can in turn become a new event and trigger new responses. Social actors thus generate news by reacting on the news and each other. This creates rapid positive feedback loops between news and social responses, up to a point in which media events ('representation') and news events ('reality') completely blend – which is the 'distortion of reality' and 'exaggeration' that we commonly associate with media hypes (Vasterman, 2005).

Recapped, the dynamics of social media interaction are likely to reinforce hypes on agro-food sustainability issues. Considering the polarized discourse on agro-food sustainability, the extensive media coverage on crisis situations, and the broad public concern for food, social media dynamics such as personalization, amplification, and polarization are likely to generate self-reinforcing processes that result in erratic and uncontrollable peak flows of information on agro-food sustainability issues. Although hypes are generally unpredictable, the large number of citizen-consumers that

shape the dissemination of information combined with the distrust in big companies, recent food scandals and the dichotomised discourse on food sustainability, peak information flows are likely to turn against ‘the food-industry’.

Pathway 2: Opportunities for the self-organization of food movements

Since 2010, scholars increasingly talk about a “food movement”³ to signify various forms of civic action around agro-food, from global activism to local food systems (Alkon & Agyeman, 2011; DeLind, 2011; Holt Giménez & Shattuck, 2011; Murdoch & Miele, 2004; Nestle & McIntosh, 2010; Starr, 2010). The “food movement”, or perhaps we should say “movements”, is unified by little more than the claim that industrial food production is in need of fundamental reform because its social, environmental, public health, animal welfare or gastronomic costs are too high. Although it is made up of communities with diverse interests and ideologies that are in conflict in some cases, their voices frequently join for a common cause (Murdoch & Miele, 2004). A recurrent observation is that food movements are not concerned about food per se, but about social values more broadly (Holt Giménez & Shattuck, 2011; Murdoch & Miele, 2004; Starr, 2010). Furthermore, fair-trade, local, organic, and slow-food movements all have a “relational aesthetic”, fostering the link between the consumer and producer through an emphasis on the social and environmental origins of food (Murdoch & Miele, 2004). Social media seem to have played an important role in linking people and ideas in the food movement, but empirical studies in the agro-food domain are still limited. We apply insights from social media and civic action literature to the agro-food context in order to delineate the ways through which social media support food movements.

The work of Castells on the global civil society in the new public sphere (Castells, 2008) and on social movements in the internet age (Castells, 2015) is pivotal in this domain. Castells argues that social media are tools for the construction of communicative autonomy from power structures and that these media facilitate collective action (Castells, 2015). In addition, he stresses the global nature of these virtual networks that prompt the emergence of a global civil society and of ad hoc forms of global governance (Castells, 2008). What new movements have in common is that they are instantly created to fight for a specific case but with a general undertone of opposition against dominance. This is also what is observed in the food movement (Murdoch & Miele, 2004). What unites the food movement is not a common ideology for an alternative, but a common enemy, which is the industrial food system. Flexible networks enable different communities to join for a common cause. The opposition to dominance as well as the flexibility and connectivity of these movements

³ As an indication, a search in Scopus on “food movement” showed an increase of 725% from 2009 to 2014, compared to an increase of 1% on “movement” in the same period.

is exemplified by the strong discursive and organizational link between the ‘Right to Know Rally’ movement for GMO labelling and ‘Occupy Wall street’. Moreover, with the globalized industrial food system, the cross-cultural interest for food, and the inherent global nature of sustainability issues, social media provide a platform for connecting issues, ideas and communities to oppose industrial food production. Local food communities can link to global activists and vice versa. The ‘March Against Monsanto’ for example, started with a single Facebook event but branched off into various local events spread over 436 cities, illustrating the power of global communication networks in the food movement.

Social media support food movements in various ways. It promotes personal and group identity construction—key antecedents of political behaviour— by allowing multiple channels for interpersonal feedback, peer acceptance, and reinforcement of group norms (Adamoli, 2012). As food and eating habits form an important ingredient for identity construction (Greene, 2011), various online food communities have emerged. Moreover, the organization of individual action is increasingly assigned to lifestyle elements, such as food, resulting in the personalization of issues (W. L. Bennett & Segerberg, 2011a). This not only brings individuals’ own narratives to the fore in the mobilization process, but also allows the definition of issues to be more flexible. This personalization in combination with the large number of contacts in social media networks helps movements to reach a critical mass (Lovejoy & Saxton, 2012), which is of particular importance to movements with an open structure, such as the food movement. Besides public advocacy and activism, food movements also strategically employ social media for collaboration, innovation and organization, such as for community-shared agriculture, food-sharing, and urban food systems. Hearn et al.(2014) provide ample examples of how farmers and consumers employ social media to bypass players in the food supply chain. Networks facilitate information transfer by bypassing institutional structures via horizontal links, which cut across institutional boundaries to put people in direct contact with each other. Moreover, “*social media accentuate fundamental social interconnections normally effaced by conventional industrialised approaches to food production and consumption*” (Hearn et al., 2014). This is important because social factors including community building and social connectivity are considered to play an important role in the development of alternative food systems (Pearson, Pearson, & Pearson, 2010). In these systems farmers tend to play a greater role: organic food systems are by definition based on minimal use of off-farm inputs, fair trade systems help farmers in developing countries achieve better trading conditions, and local food systems often bypass large wholesalers, food processors and supermarkets.

Recapped, previously dispersed food movements, either in space, time or ideology, easily connect on virtual networks. Flexible networks enable communities to join for a common cause in opposition

against industrial food production, the horizontal links can bypass industrial-economic institutions and the interpersonal communication supports the social connections important to alternative food networks. This provides an opportunity for actors that do not fit industrial production standards, in which farmers play a greater role and the social and environmental origins of food products are emphasised.

Pathway 3: Data for new forms of agro-food governance

Although organizations in the agro-food system are challenged by the disruptive effects of erratic information flows, mass self-communication on social media also generates data for new forms of governance. Social media data informs organizations about their environment. This is used for public or customer engagement, issue-management, risk and crisis communication, but especially for advertising and marketing purposes.

While little empirical research has been carried out in the agro-food domain specifically, there is an emergent field of literature on social media strategies. This field includes studies that examine the use of social media by public organizations (e.g. E-government, government 2.0) (Bertot, Jaeger, & Grimes, 2010; Bertot, Jaeger, & Hansen, 2012; Kavanaugh et al., 2012; Khan, Yoon, & Park, 2014; Linders, 2012; Magro, 2012) and private organizations (e.g. viral marketing, electronic word-of-mouth marketing) (Asur & Huberman, 2010; Castronovo & Huang, 2012; Kotler, 2011; Miller & Lammass, 2010; Saravanakumar & SuganthaLakshmi, 2012), social media analytics (Cambria, Wang, & White, 2014; Manovich, 2011; Sterne, 2010), and critical studies examining structural political-economic forces (C. Fuchs, 2013, 2014; C. Fuchs & Trottier, 2014). We combine this knowledge with empirical studies, examples from grey literature and knowledge on the governance of agro-food sustainability (Clapp et al., 2009; D. Fuchs, Glaab, Hamenstädt, Forssell, & Lankoski, 2014; D. Fuchs & Kalfagianni, 2009). To highlight the impact of new data in this domain, we first focus on strategies that aim to gain insight from social media conversations and second on strategies in which social media user-profiles are used for marketing purposes.

Governmental, private and civil society organizations analyse social media to gain insight on sentiments and to steer conversations. In the agro-food domain, and particularly in the context of sustainability, conversations tend to be volatile, such as in cases of 'food scandals' or 'food safety crises'. Risk and crisis communicators, whether concerned about consumer health or the reputation of a company, use social media data to monitor, interpret and respond to public tumult (Panagiotopoulos, Barnett, & Brooks, 2013; Regan, Raats, Shan, Wall, & McConnon, 2014; Rutsaert et al., 2013). The full potential of this new resource lies in using large data sets and advanced analytics,

commonly referred to as big data and data mining. In food communication, commercial parties are most innovative in developing methods to respond to public information (Panagiotopoulos, Barnett, & Brooks, 2013). Monsanto for example, developed social media strategies to monitor and steer conversations on agro-food sustainability (Peekhaus, 2010). The company identified social media as the medium that facilitated the expansive European protest against its products. In response, the company doubled the public affairs team in 2008, mainly to establish a social media team. The aim is to open up and steer a conversation about how agriculture is going to meet the needs of the world in 2050, inserting the notion that biotechnology is vital to keep up with growing food demands.

Social media are not just a space for inter-personal conversations on public matters, but also a marketing and advertisement platform. Social media platforms make a profit by selling data, customer insights or advertising space. In his book on social media and the public sphere, Fuchs (Fuchs & Trottier, 2014) sets out how social media mirror the power structures of capitalist society, showing how more economically powerful actors get more influence. This also seems to be the case in the agro-food sector. The food and beverage industry is at the forefront of interactive marketing and new types of digital targeting and tracking techniques (Montgomery & Chester, 2009). Food retailers have taken over social media marketing companies to gain more data and enhance their marketing strategies. In 2011, Walmart acquired the social media analytics firm Kosmix and Tesco acquired the word-of-mouth media and marketing firm BzzAgent for a reported \$60 million. Retailers use predictive analytics to anticipate and shape consumer preferences. Fuchs & Clapp (Clapp et al., 2009) have indicated how resource asymmetries between corporate actors and other actors in the agro-food system adds to the relative discursive power corporations exercise and impact sustainability agendas. Large food retailers not only have leverage over public information to shape consumer preferences, they also dominate the supply chain all the way down to the farmer, either through standardization, ownership or contracts (Clapp et al., 2009; D. Fuchs & Kalfagianni, 2009). The power of food retailers to shape public information on food, agriculture and sustainability can thus enhance their influence over agro-food production, and vice versa, leading to an increasing concentration of power (Clapp et al., 2009).

Recapped, social media users produce large amounts of data that form a new resource for decision-making and communication strategies. Although the public communication on social media provides an information source for all actors, high levels of expertise, information technology and financial capital is needed to exploit the full potential of social media data. Moreover, social media as a marketing and advertisement platform is most beneficial for retailers. In the agro-food domain, large food retailers are at the forefront of data mining and utilize this to anticipate and shape consumer preferences and to steer the public discourse on food and sustainability.

2.4 Conclusion and Directions for Further Research

In this article we studied social media as a space where various players and games confluence and through their interaction create emergent dynamics that have implications for the governance of agro-food sustainability. Social media was reviewed as a space for public information dissemination in the form of networked mass communication, a space for interactive communication as the basis of social organisation, and as a space for information sourcing to support decision-making.

In the context of food scandals, conflict frames, and public distrust, new information on agro-food sustainability issues can rapidly diffuse across networks to prompt hypes or controversies. These moments bring together sustainability problems and peak public, media and political attention, creating a window of opportunity for shifts in governance. Although such peak flows of information are hard to anticipate and can influence public opinion and policies in various ways, the large number of citizen-consumers that shape the dissemination of information can easily turn against 'the food-industry'. Whereas the fluidity and volatility of social media interaction create erratic information flows that disrupt agro-food governance, we can also identify self-organisation, an overall order in the organisation of actors and ideas that arises out of mass self-communication. The dynamics of information flows and the self-organization of networks are two sides of the same process: Networks form the structure through which information travels and transforms, but it is through the active information exchange between actors that networks take shape. While news diffuses rapidly across networks and generates wide public attention, interpersonal communication mostly occurs among like-minded people, which supports the co-construction of ideas and shapes communities. Consumers and farmers, who make up the masses in the agro-food supply chain and on social media, establish horizontal networks around shared ideals that can diversify and decentralize the governance of agro-food systems. Although actors use social media strategically, hypes and self-organisation result from mass self-communication as an emergent force.

Mass self-communication not just creates information flows and networks that disrupt conventional agro-food chains, but also generates an emergent resource for the governance of these forces. Large amounts of data ('big data') and advanced techniques ('data mining') provide insight into information flows, social networks and user profiles. Primarily organizations with high levels of capital develop new forms of governance to extract actionable patterns from user-generated data. This informs their decision-making and communication strategies that feed back on public information processes on food, agriculture and sustainability.

Social media as a playing field for governance constitutes both the forces that move the players as well as the resources the players employ. In the current agro-food system, signified by the power

of transnational corporations and the polarized discourse of industrial versus alternative food, mass-self communication reflects forces of counter-power, while social media data is a resource primarily accessible and exploitable for those in power. As mass self-communication generates emergent forces beyond anyone's control, new forms of governance are established that aim to capture information as a resource to regain control.

As we have seen, governance involves not only the direct influence of actors within institutional boundaries, but includes the interplay and the unplanned consequences that feed back into the game. To appreciate social media as a new field of governance, research needs to move beyond linear models of planning and instrumental perspectives on social media and include the study of complex adaptive systems, social networks, micro-interactions, emergence and self-organization. The diffusion and framing of information on social media networks, stakeholder's communication strategies and the interplay of social media conversations and decision-making processes are of particular significance for gaining insights into social media as a force and resource in the governance of agro-food sustainability. Social media data combined with computational analysis provide a promising new research area to understand emergent phenomena that arise out of the vast and complex interactions on social media. Social network analysis and text mining methods for example, can provide insights into the framing and dissemination of information on social media networks during periods of peak social media activity. This research area however, is predominantly method and data driven and needs to be complemented by interpretive research that contextualizes findings from social media data in governance settings. In general, multimethod case studies can help to understand the role of social media in governance processes and bridge knowledge gaps that result from the distinct fields of quantitative and qualitative research.



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3.

Social Media Hypes about Agro-Food Issues: Activism, Scandals and Conflicts

Abstract

Events and controversies in the agro-food domain frequently generate peak selective activity on social media. These social media hypes are a concern to stakeholders because they can affect public opinion and policy, and are almost impossible to predict. This study develops a model for analysing social media hypes and builds a typology to provide insights into the dynamics of social media hypes in the context of agro-food governance. Five cases of peak social media activity in the Dutch livestock sector are analysed along four dimensions: 1) peak patterns of activity, 2) issues and frames, 3) interaction of actors, and 4) media interplay. An analysis of the dimensions and the interrelations across cases shows that social media hypes revolve around activism, scandals, and conflicts – each with characteristic patterns of activity, framing, interaction and media interplay. Hypes do not just result from important events in the sector, but are generated through the use of organizing concepts with a hashtag to evaluate and establish occasions. Peak activity thus revolves around a few themes and is recurrent and judgmental. Moreover, stakeholders play an active role in instigating and framing social media hypes. Our results show the need to adopt a proactive and interactive approach that transcends the view of social media as a mere communication channel to respond in crisis situations.

3.1 Introduction

Food and farming gain wide public and media attention. Public concerns about food safety and transparency, distrust in the agro-food industry and controversies around sustainability make agro-food an exciting topic for news media stories. Scandals, scares and crises, in particular, can generate waves of media attention. These events incite public indignation, engender journalistic research, provoke reactions and actions from stakeholders, and together generate a wave of media messages. A wave of media attention generated by such self-reinforcing processes is captured by the concept of media hype (Ginneken, 2003; Vasterman, 2005; Wien & Elmelund-Praestekaer, 2009). Media hypes shape public information dissemination as only some information is selected, emphasized or repeated. This can impact risk perceptions, public opinion and decision-making processes of stakeholders in the agro-food sector (Randall, 2009).

With the rise of social media the dynamics of public information flows have changed, as well as the relation between the media, stakeholders and the public. The interactivity of social media enables people to self-produce, -direct and -select information (Castells, 2011). Information is not only produced and disseminated by news media, but also constructed through the continuous interaction between individuals on online networks, including journalists, farmers, politicians, retailers, and citizen-consumers. It is unclear however, what the key dynamics are that lead to peak selective activity on social media. While news media are limited by media space (the coverage of one news-item is at the expense of another) and target a mass audience (creating stories of interest for a wider public), the open and interpersonal communication on social media is likely to generate different, more dispersed, more diverse and more erratic peak activity. Yet it is unclear what issues generate peak activity, how these issues are framed, and who is involved.

This study aims to provide insights into the dynamics of peak selective activity on social media in the context of agro-food governance. As there is no established theory on social media hypes, we first develop a model to analyse cases of peak social media activity. Then, by analysing and comparing five cases in the Dutch livestock system along four dimensions, we identify overall patterns of hypes and distinguish three types of hypes. The typology serves as a heuristic device to understand, explain and anticipate the dynamics of social media hypes in the agro-food domain.

3.2 Livestock Farming and Food Production in The Netherlands

In the Netherlands, the stakes in the agro-food sector are high and diverse. Despite its small size and high population density, it is the world's second largest exporter of agricultural products and represents a technologically advanced and knowledge intensive agro-food system (CBS, 2017;

Wageningen Economic Research, 2017). As in most countries, citizens are moving to the cities, which leads to a growing physical and psychological distance between consumers and producers and between people's living environment and agriculture. Citizen-consumers demand safe and sustainable food and a green and clean living environment, while farmers and retailers compete in an increasingly global food market. In this context, social media form an important public stage where people with different interests and ideas come together to communicate about agro-food issues and build support or opposition for agro-food institutions, policies and products (Stevens, Aarts, Termeer, & Dewulf, 2016).

Our social media analysis from 2011 to 2015 indicates that issues related to the sustainability of animal farming and food production generate the highest levels of social media activity in the agro-food domain. Hence, to enable the interpretation and comparison of social media hypes in a particular governance context, we focus on the Dutch livestock and food production system, from farmer to consumer. The livestock sector in the Netherlands has witnessed major changes in policies during this period, such as a new animal welfare law (July 2014), the abolition of the milk quota (April 2015), environmental policies and the introduction of land-based growth. Moreover, several crisis situations occurred, such as food fraud in meat processing, antibiotics in cattle-fodder, and incidents of cattle diseases; although there was no major outbreak of a zoonotic disease that affected public health (Rijksoverheid, 2016). These political processes and events create a communication space that provides an opportunity for stakeholders to influence each other and the public. Farmers, retailers, sector organisations, politicians, governmental organisations, interests groups and citizen-consumers can discuss various issues, events and policies on social media. There are two notable actors in this field: the Party for the Animals (PvdD), which is the first political party in the world with parliamentary seats focused primarily on animal rights; and Wakker Dier, which is an animal welfare activist organisation focussed on campaigning for public awareness raising. This forms the context in which social media activity is interpreted: what policy or crisis events generate peak activity? what issues are discussed and who is held responsible? what actors are involved and what frames do they use? and what is the role of news media, Facebook and Twitter?

3.3 Theoretical Framework

The rapid, networked interaction is a key characteristic of social media that generates volatile dynamics. Peak online activity has received wide academic attention, covered by studies on trending topics (Choudhury et al., 2010), emergent hashtags (Lin et al., 2013), and information, emotion, or meme diffusion in social networks (Kim, Newth, & Christen, 2013; Ratkiewicz et al.,

2011; Stieglitz & Dang-Xuan, 2013a). To explain or predict peak selective activity, studies tend to differentiate between endogenous driven activity (by internal dynamics or propagation through networks) and exogenous driven activity (responses to external stimuli, such as news) (Lehmann et al., 2012; Oka et al., 2014). A study on bursting behaviour on Twitter shows that each key-term has a critical threshold: below this threshold bursts are endogenous and increase along with a baseline fluctuation, but above this threshold bursts are exogenous and unpredictable (Oka et al., 2014). Similarly, exogenous factors form the main driver of peaks in the use of hashtags (Lehmann et al., 2012). Although these studies provide insights into the dynamics of social media platforms (internal factors that predict activity), the recurring significance of ‘exogenous’ factors also shows the necessity to consider the wider context to explain peak selective activity. In addition to interactions within social media networks, events and news media coverage are important factors that generate peak activity on social media (Bandari, Asur, & Huberman, 2012; Kim et al., 2013; Oka et al., 2014; Yang & Leskovec, 2010).

In media studies, the concept of ‘hype’ is used to understand how peak selective attention emerges from self-reinforcing processes, such as self-referential media systems, positive feedback loops between media reports and social responses and social amplification through framing processes (Elmelund-Praestekaer & Wien, 2008; Vasterman, 2005; Wien & Elmelund-Praestekaer, 2009). The concept originated from the need to explain news waves that not just represent reality, but (co-)create reality through amplification. To find explanations for hypes the theoretical framework considers peak patterns, framing dynamics, and media-interplay (Vasterman, 2005). However, the lack of a common definition or selection method for identifying a hype – and consequently the lack of case-comparisons – has led to conceptual ambiguity (Wien & Elmelund-Praestekaer, 2009). Moreover, the underlying supposed distinction between media events (representation) and news events (reality), news production and consumption, and thus between media and social responses is based on the model of mass media (‘news production’) and of limited use for understanding peak selective activity on social media. Studies that do use the concept for online communications, apply it to analyse the interplay of media (Hellsten & Nerlich, 2010; Hellsten & Vasileiadou, 2015), without considering framing strategies of social media accounts.

Hence, to understand social media hypes in a governance context, we need to combine hype theory and social media studies, and conceptualize social media not as a media system with intrinsic dynamics but as a space that is partly shaped by the strategic actions of actors. To this purpose, we look into four dimensions:

Peak Patterns of Social Media Activity

Empirical studies on hypes suggest a common structure of peak patterns (Vasterman, 2005; Wien & Elmelund-Praestekaer, 2009). In 'An anatomy of media hypes', Wien and Elmelund-Praestekaer (2009) conclude that media hypes begin with a trigger event, last approximately three weeks and come in several, usually three, waves of decreasing intensity. This peak pattern results from self-reinforcing processes in news media attention and differs from daily news reports that do not activate these self-reinforcing processes (relatively short peaks of media activity) and from continuing media coverage on broader topics that report on multiple events (relatively long and steady heightened media coverage). Issues can also remain on the public agenda after an attention cycle (Downs, 1972) and can be activated for a new cycle (Newig, 2004). This means hypes do have the potential to generate recurring waves of media activity, for example when a news theme – a unifying concept that functions as a frame of reference – is used to link events or issues.

Peak patterns on social media differ from news media for several reasons, such as differences in type of communication, audience and publishing space. We thus do not build on the 'anatomy of media hypes' (Wien & Elmelund-Praestekaer, 2009), but study the key aspects of peak patterns, considering the intensity (height), duration (length) and structure (recurring waves) of activity. This indicates the level of attention for the issue, how long the heightened activity endures (usually through reinforcing interactions), and whether the issue generates recurrent waves of activity (possible phases in the evolvement of a hype).

Framing: Linking Events, Issues and Actors

In hype research and studies on peak social media activity, the concept of framing is generally used to study framing-processes over time, such as amplification and magnification (Vasterman, 2005), or frame alignment (Van der Meer, Verhoeven, Beentjes, & Vliegthart, 2014a). In this study, we are more concerned with the strategic actions of actors, and the social meaning and implications of frames (Entman, 2003). Frames select and order information and help to make sense of the world (de Vreese, 2005; Goffman, 1981; Weick, 2001). Especially when situations are ambiguous or 'new' in some way (e.g. unusual, disruptive, repugnant) there is a high need to structure or accommodate information into an interpretative frame. This can lead to framing contests to interpret events, their causes and consequences, and responsibilities of actors (Boin, 't Hart, & McConnell, 2009). Journalists aim to create a salient story that makes sense of the situation (de Vreese, 2005) and political actors try to impose their frame in order to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation (Entman, 1993).

Frames are constituted by descriptions of 1) events, 2) issues and 3) actors, which are linked to form a coherent interpretation (Entman, 2003). First, hypes are triggered by an event. The trigger event can be independent of news coverage, called a genuine-event, such as the outbreak of a zoonotic disease (Boorstin, 1971; Kepplinger & Habermeier, 1995), but can also be media-generated, such as by journalistic research, or actor-generated, such as by a press release or tweet of stakeholders⁴. Second, through a particular representation of the event it is made relevant and important. An event only becomes an issue when it is problematized (linking it to a broader problem), polarized (emphasizing contrasting views or interests of actors), personalised (making it relevant by drawing implications for people) or made salient in another way. Third, the role or responsibility of social actors is reflected in a frame. To make the issue relevant or important problems and solutions are politicised and personalized by identifying the victim, the culprit, and the problem solver of the story, reflecting the three dimensions of responsibility—who is responsible to whom and for what (Feindt & Kleinschmit, 2011).

Interaction of Actors

The patterns of activity and the framing of events, issues and identities are produced by the (inter) actions of social media users. Hence, the level and type of interaction, and the role of key players therein, helps to understand and explain cases of peak social media activity. The interactions in the overall discussion and of key players can provide information about the role of actors, such as leadership (Stieglitz & Dang-Xuan, 2013a), and the general dynamics in the wider communication network, such as amplification or conversation (Conover, Ratkiewicz, & Francisco, 2011). Retweets and Facebook likes and shares reflect the diffusion of uniform information, indicative of amplification – which is defined as an important driver of media hypes (Vasterman, 2004). Twitter replies and mentions, and Facebook comments, signify public person-to-person exchange, indicative of conversation (Conover et al., 2011).

Media Interplay

Hypes are partly generated through the interaction between different media, reinforcing each other (Hellsten & Vasileiadou, 2015; Vasterman, 2005), but few studies have looked into the interplay of social media and news media (Hellsten & Nerlich, 2010; Hellsten & Vasileiadou, 2015). As media platforms become increasingly interconnected, it has become essential to take into account the effects of interactions between different social networks and media types (Kim et al., 2013).

⁴Vasterman differentiates 'media-' and 'source-generated' news (Vasterman, 2005), but we use the concept 'actor-generated' (as a particular 'source') for social media hypes triggered by the communicative acts of stakeholders in the agro-food system.

Research shows that social media tend to be very responsive to the diffusion trends of news media (Kim et al., 2013). Twitter in particular plays an important role in the diffusion of news (Kwak, Lee, Park, & Moon, 2010; Lerman, Ghosh, & Surachawala, 2010), where tweets with URLs, such as hyperlinks to other media, are more likely to be retweeted (Suh, Hong, Pirolli, & Chi, 2010). Conversely, social media can also influence news. In studying the climate gate hype, Helsten & Vasileiadou (2015) found that blogs and newspapers influence each other in the level of attention and content, and that blogs played a leading role in the emergence phase.

3.4 Methodology

Research Design

This study combined hype research and social media studies to develop an analytical framework for studying social media hypes. However, social media is not conceptualised as a system with its own inherent dynamics, but as a playing field of governance that may partly be given shape by the strategic actions of actors. This means that besides media dynamics, it is essential to consider how issues are being framed and what stakeholders are involved. Hence, to understand a social media hype we examined when and how much is communicated (peak patterns), what is communicated (framing), who communicates (interactions of actors) and where it is communicated (media platform). This leads to the four key dimensions;

- 1) Peak Patterns of Social Media Activity (when, how much)
- 2) Framing: events, issues and actors (what)
- 3) Interaction of Actors (who)
- 4) Social Media and News Media Interplay (where)

The interplay of these four dimensions form the dynamics of social media activity. Hence, the analysis of the interrelation of these dimensions across cases of peak social media activity enabled us to build a heuristic framework of social media hypes. By looking at the commonalities and differences within the dimensions and across cases, we identified overall patterns as well as different sets of dynamics in social media activity. Different fields of literature were used to define and discuss the patterns in the context of agro-food governance. Hence, the types in this paper are not conceptually differentiated ideal types (Weber, 1949), nor purely inductive taxonomies that result from a cluster analysis of multiple variables (Bailey, 1994). Instead, the types of social media hypes are ‘empirically grounded types’ (Kluge, 2000), as they resulted from empirical analyses combined with theoretical knowledge.

Case Selection and Data Collection

Studies on hypes have used two elements for hype definition: level of attention and framing (Hellsten & Vasileiadou, 2015). Few studies however, have actually used these two elements to select or define a case as a hype before analysing these dimensions (Wien & Elmelund-Praestekaer, 2009). This means that the cases defined and studied as 'hype' differ in unknown ways. In this research, the case-selection procedure was largely inductive, starting with the exploration of a broad domain and iteratively specifying search queries to isolate issues and identify periods where specific key-words showed peak activity. Web-applications for social media analysis and monitoring (i.e. Coosto and Meltwater) were used to develop search queries and import data. The analysis option within these applications show results of a search query (such as word frequency lists, top posters and amount of messages per day), and thus enabled an iterative method, in which search queries and insights developed. Through this iterative method (by including frequent used words in the search query for example) a Boolean search string of 86 terms was established to monitor and analyse the broad social media conversation on livestock farming from 2011 to 2015. To detect peak selective activity, the number of social media messages was combined with word frequency-lists. More specifically, peak selective activity was determined by at least 100 social media messages per day and a hundred-fold increase within a month within a single search query of specific key-words. In this way, long discussions on general topics were excluded and peak selective activity in response to events was included. Through a content-analysis of peaks, we identified five cases (some of which include multiple peaks) in this period, for which case-specific queries were established to collect Twitter, Facebook and news media data. The cases are outlined in chronological order:

- 1) *Factory Farms*. Since 2011 multiple peaks appeared with 'megastal' as the most frequent term. This term literally translates into 'mega stable' (Termeer, Breeman, Van Lieshout, & Pot, 2010). Officially the term signifies a farm with a large number of animals for which the minimum differs per sector (Gies, van Os, Hermans, & Olde Loohuis, 2007), but it has got a negative connotation similar to factory farms.
- 2) *Booster Broiler*. From 2012 onwards, multiple peaks appeared about 'plofkip'. This term is used as a rhetorical device to portray the fat and fast-growing chicken of the broiler industry that grows to 2 kilo within six weeks' time. The term has gained increased attention since 2012, when Wakker Dier started to use the term in their campaigns.
- 3) *Horsemeat*. At the beginning of 2013 a wave of social media activity was found, produced by the increase of messages with 'horsemeat' and 'scandal'. This was in response to the reports that horse DNA had been discovered in frozen beef burgers sold in several Irish and British supermarkets. It

turned out that a large part of the adulteration originated at meat processing and trading companies in The Netherlands.

4) *Poo-Meat*. A peak of social media activity was found at the beginning of September 2013 about 'poepvlees' (poo-meat). This hype was induced by a Dutch investigative documentary about a meat processing company. Based on infiltration and interviews, the filmmakers accused the company of food fraud, selling regular meat as animal friendly certified meat, but also of unsanitary processing and possible contamination with *E. coli*.

5) *Calf puller*. This wave of social media messages, in November 2013, started with a press release by Wakker Dier in which they criticized the calf puller, a tool used for laboring calves. The calf puller tool is prohibited by law and Wakker Dier asked the state secretary to strictly enforce the law and penalize 'illegal use of the tool'. In response to the press release of Wakker Dier, a farmer started a Facebook page called 'Anti Wakker Dier', generating a wave of social media activity.

Data Analysis

- Peak Patterns of Social Media Activity

The number of social media messages over time was taken to measure patterns of activity. First, graphs were plotted to get a notion of the peak patterns in each case. A moving average on various timescales (day, week, month) was applied to smooth out short-term fluctuations and find longer-term trends or cycles. Then, to compare cases on particular characteristics, we measured the duration of a case, average messages per day, and the duration, frequency, volume and increase rate of peaks. We defined a peak as a time-period (t) with activity at least 3 times higher than the average of a similar time-period before ($t-1$) and after ($t+1$). The length of t varied from 1 to 7 days. A peak was classified as a 1, 2, ..., 7-day peak according to which time window shows the strongest increase rate. This enabled us to compare peaks of different lengths (1 to 7 days) on frequency, volume and increase rate.

- Framing: Linking Events, Issues and Actors

Twitter was used for the framing analysis as it is the most used medium (64% of the messages), the most widely used (most users and dispersed activity), and the most integrative medium (most references to news media and Facebook). Moreover, the short messages of 140 characters reflect strong framing practices.

For the analysis, a semantic map method⁵ was combined with an interpretative framing analysis, using WordStat 6. For the semantic map method the link strength between key-terms was measured by co-occurrences of key-terms in messages. Then, through clustering methods and the multidimensional scaling of key-term correlations, the semantic structure was analysed. For the framing analysis we coded and categorized events, issues and actors in the semantic network. First, by looking at descriptions of what happened (the event that receives attention) and the source (which can indicate the strategy of an actor to draw attention), we differentiated genuine events, media-generated events, and actor-generated events. Second, we differentiated between what is defined as the problem, what is defined as the solution and what should be done (call to action). Third, we differentiated between actors defined as victim, culprit or problem solver. Lastly, we identified whether there is a frequent used term or phrase central in the semantic network that serves as an organising concept.

- Interaction of Actors

The ten most productive accounts, (i.e. the accounts which sent the most messages) and the ten most addressed/mentioned accounts (i.e. the accounts that received the most messages) on Twitter and on Facebook, were selected as key players. These accounts were coded and categorized based on the self-representation on profiles. To be able to make meaningful interpretations and compare cases, we differentiated news media, personal and organisational accounts. Within organisational accounts we differentiated NGO's, companies, political parties, governmental organisations, and community-organisations. Within news media accounts we differentiated national news, local news and sectoral news. On Twitter, we also differentiated personal accounts; politicians, celebrities, farmers, representatives of agricultural organisations, activists, anonymous, and others.

To study the role actors and interaction we analysed the overall levels of interaction and type of communication within a case, as well as the interactions of key players more specifically. We measured the share of retweets ('RT @'), replies and mentions (@) and normal tweets on Twitter, and the share of posts and comments (reactions) on Facebook. A high level of interaction among addressees or productive accounts indicates a high level of engagement.

- Media Interplay

To gain insights into the role of Facebook, Twitter and online news media platforms in cases of peak social media activity, three dimensions were analysed: the proportion of each media platform in total activity, the synchronicity of activity between media platforms and the information flows

⁵ A more extensive explanation of the semantic map method is provided by Hellsten, Dawson, and Leydesdorff (2010).

within, across and outside media platforms. First, to indicate the relative importance of each media platform, the proportion of each media platform to the total number of messages was measured. Next, to analyse the synchronicity of peak patterns between media platforms over time, the correlation between the number of daily messages on different media platforms was calculated. A high level of synchronicity can result from information exchange between these platforms or similar functions of media. Finally, to grasp the information flows within, across and outside media platforms, we looked for hyperlinks on news media, Twitter and Facebook. Hyperlinks can direct to the same platform (within), to one of the other two platforms (across), or to an external information source (outside), such as political documents, research reports, blogs, or websites of organisations. To be able to grasp the direction of information flows between platforms we studied short periods of peak activity after the emergence of links to external information. By analysing the course of the conversation per minute, looking at content (external links or references), type of interaction (proportion of retweets) and peak patterns of the three media platforms per minute, we were able to identify the main pattern of media interplay for each case.

3.5 Results

Peak Patterns of Activity

As expected, there is not a single ‘anatomy’ of social media hypes. Cases of peak social media activity differed strongly in duration, volume and structure (Figure 3.1 and Table 3.1). Still, some overall patterns could be identified. Issues that gained peak attention did so repeatedly through continuous recurring peaks (in the case of factory farms and booster broiler) or in several waves within a period (horsemeat, poo-meat and calf puller case). This reflects the insight that already emerged during the case selection process: instead of solitary peaks about distinct issues, we found peaks with similar frequently-used key-terms – collected as cases – which constitute the key themes around which discussions revolved. Although activity generally fluctuated strongly per day (1-day peaks are most frequent), 7-day peaks had a higher volume per day and a higher increase rate (table 3.2). These findings suggest that although social media hypes seem ephemeral, it is important to study peaks in a larger context; in relation to broader discussions and over a longer time.

Besides these commonalities, we identified three clusters of peak patterns. First, both the factory farm and booster broiler case had many short peaks over a long period (more than two years). Second, the horsemeat and poo-meat case showed a similar pattern with one high and relatively long peak, and some low and short peaks that followed. Third, the calf puller case showed a distinct

pattern: the first peak was succeeded by a second high and long peak after which some short and small peaks followed. This case also had a lower level of activity and shorter duration compared to the other cases. These peak patterns formed the baseline to interpret framing, interaction and media-interplay.

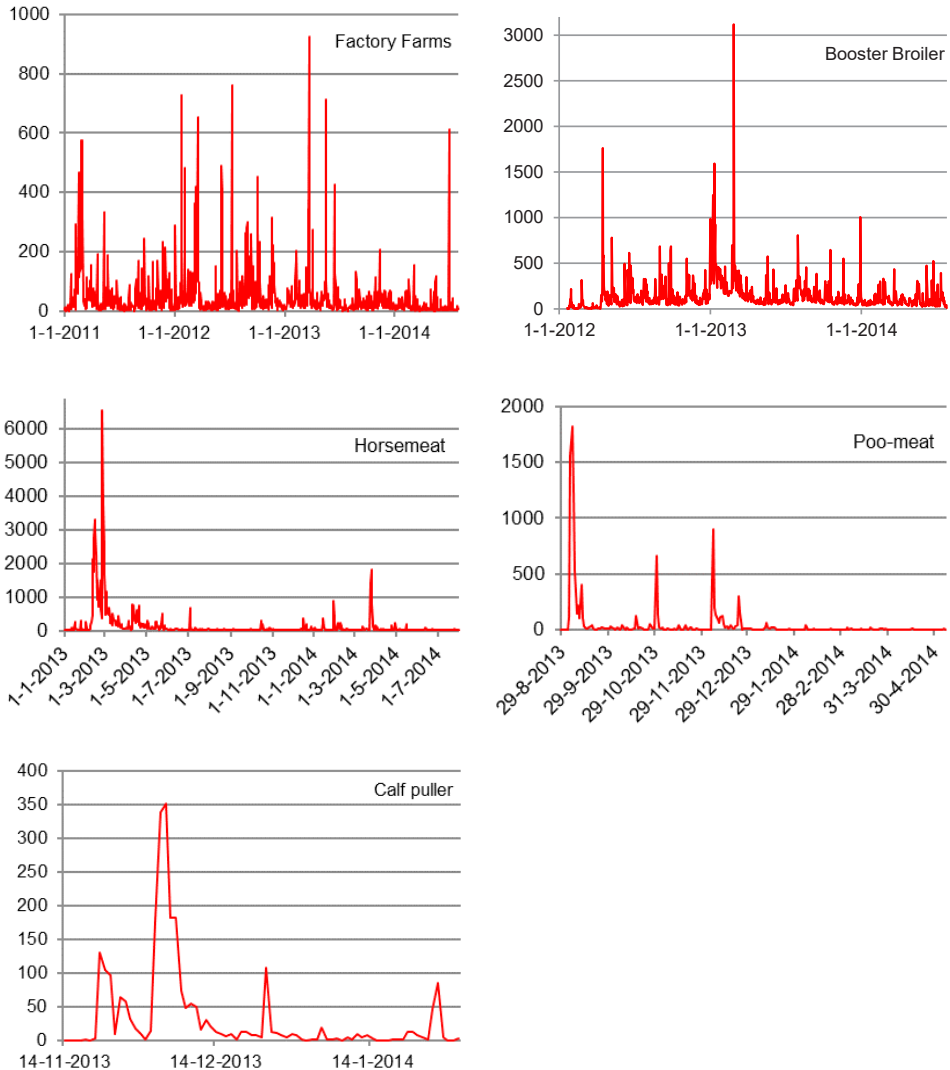


Figure 3.1 Peak patterns of social media activity: the number of social media messages (Facebook and Twitter) per day.

Note: For each case a different scale is applied for the number of messages (X-axis) and time (Y-axis) to be able to compare patterns of activity. Table 1 provides detailed statistics about the duration, volume and increase rate of each case.

Table 3.1 Statistics of peak activity

	Duration in months	Average messages per day	Proportion of messages in peaks	Duration of peak average	Duration of peak SD	Volume Peak Average	Volume Peak SD	Increase Rate Average	Increase Rate SD
Factory Farms	44	47	40%	1.86	1.06	234	332	5.21	2.94
Booster Broiler	31	142	22%	1.82	1.84	759	747	4.94	1.73
Horsemeat	19	138	23%	2.07	1.32	488	3469	6.67	6.06
Poo-meat	8	44	89%	2.39	2.11	350	1090	8.06	4.50
Calf puller	3	18	77%	3.43	2.44	279	441	10.58	2.07

Table 3.2 Comparison of peaks of different lengths (1 to 7 days)

Peak duration, in days	1	2	3	4	5	6	7
Total Number of peaks	106	47	38	11	5	2	9
Average Volume of peak per day	167	260	739	652	359	1094	3902
Average Increase rate of peak	7.0	6.5	7.5	6.9	4.9	7.1	9.3

Note: A peak was defined as a time-period (t) with activity at least 3 times higher than the average of a similar time-period before (t-1) and after (t+1) and classified as a 1, 2, ..., 7-day peak according to which time window had the strongest increase rate.

Framing Events, Issues and Identities

- Events and Sources

Only two cases, the horsemeat and poo-meat case, started with one trigger event: a disclosure in the news media about malpractices in meat processing companies. In the poo-meat case journalistic research revealed food fraud and insanitary practices, which we define as a media-generated event. In the horsemeat case, reports from food safety authorities were reported in news media, which we define as a genuine event. The other three cases were characterized by multiple actor-generated events in which the communicative acts of stakeholders instigated peak activity. In the factory farm case the occasion most referred to is a ‘demonstration’ organised by a civil organisation (Megastallennee) and in the booster broiler case it is a ‘campaign’ of an animal welfare organisation (Wakker Dier). In the calf puller case, an open letter of Wakker Dier to the State Secretary and parliamentary questions of the PvdD together generated a first wave of activity. The second and biggest wave in this case started after a farmer launched the ‘Anti Wakker Dier’ Facebook page, creating a new venue for discussion.

- Organising Concepts

In all cases the most frequent used concept was a negative term that contained and signified the story (table 3.3, row 2). Each of these terms was used as a rhetorical device, was applicable to many situations as an organising concept, and implied a strong moral evaluation. Moreover, in each case, it was used as a hashtag term to indicate what was at stake.

- Issues and Identity Frames

Looking into the issue- and identity-frames, several patterns can be identified. ‘Booster broiler’ and ‘factory farm’ are both hyperboles used to problematize industrial agriculture. In the factory farm case the problem was defined on a systemic level (e.g. ‘public health’, ‘environment’, ‘animal welfare’) and in the booster broiler the attention focussed on sentiments about animal welfare (e.g. ‘limp’ or ‘miserable’ chicken). In both cases, citizen-consumers were called to action for confronting the actors who were held responsible: politicians and retailers respectively.

The calf puller issue was not so much about the industrial system, but about farming practices more specifically. However, farmers were not portrayed as the culprit, but the state secretary for not enforcing the law. Still, farmers counteracted using identity frames, turning the discussion about the issue into a conflict between farmers and animal welfare activists (in the second peak, actors and identity-frames are more frequent and central in the semantic network).

The problem in the horsemeat and poo-meat case was mainly about the lack of transparency in the meat processing sector. In both cases the trigger event was linked to other events and thus became part of a news theme about ‘food scandals’. However, most attention went out to identify the culprit in each case, for which ‘research’ was needed. The horsemeat case was mainly framed as a ‘scandal’ of the industry and the poo-meat case as ‘fraud’ of a company.

Interaction of Actors

In comparison to the benchmark of January 2014 (Y. Y. Liu, Kliman-Silver, & Mislove, 2014), cases of peak social media activity had a high level of retweets (46%, in comparison to 27%) as an indication of amplification; the diffusion of uniform information. The proportion of person-to-person communication through replies and mentions was average (23%, in comparison to 24%), suggesting that the level of exchange increases proportional to the level of activity.

Table 3.3 Frames of events, issues and actors in each case

	Factory Farms	Booster Broiler	Horsemeat	Poo-meat	Calf Puller
Organising concept	'Factory Farms'	'Booster Broiler'	'Scandal'	'Fraud'	'Anti Wakker Dier'
Event Trigger event What happened?	Actor-generated Demonstration , but also other events.	Actor-generated Campaign , but increasingly also other events.	Genuine event Meat adulteration Horsemeat is found in meat products.	Media-generated Meat adulteration & contamination by a Dutch meat processing company	Actor-generated 1 Press release of Wakker Dier in which State Secretary is asked to enforce the law against the calf puller 2 Facebook Page 'Anti Wakker Dier'
Source Who started this?	Megastallennee , but also other actors that report on other events	Wakker Dier , but increasingly other actors that report on other events	Various official sources, disclosed by news media	Zembla . Dutch investigative documentary discloses malpractices in one company	1 Wakker Dier sends open letter to State Secretary + PvdD states to ask parliamentary questions 2 Farmer starts Facebook page
Issue-frame					
Problem What is at issue?	Agro-food system is at issue. Systemic : various problems related to industrial or intensive farming (public health, environment, animal welfare)	Animal welfare is at issue. Sentiment : focus on emotions with images of booster broilers	Transparency of meat processing company and industry Framed as scandal	Transparency and hygiene of meat processing company Framed as fraud	1) Calf Puller is used by farmers illegally . 2) Wakker Dier portrays negative image of farmers by telling lies.
Solution What is the solution?	Regional, National and International Policy	Stop Selling Booster Broiler	1 st Research 2 nd Control food production chain 3 rd Punish company	1 st Research needed 2 nd Punish company 3 rd Control food production chain	1) Enforce the law 2) Change the law
Action What should be done?	call to action : demonstrate against factory farms Also: Twitter-protest, sign petition	call to action : social media protest against retailers	No call to action	No call to action	1) State Secretary: enforce the law 2) Farmers: share true story. WakkerDier: stop telling lies
Identity-frame					
Victim	Livestock	Chickens	Consumers	Consumers	1) Animals 2) Farmers
Culprit	Politicians , regional and national	Supermarkets and other retailers	The Industry . Secondary the company	The Company . Secondary the industry	1) State Secretary 2) Wakker Dier
Solver	Political parties You: Citizen	Supermarkets (and other retailers) You: Citizen	NVWA, EU	NVWA, politics	1) State Secretary 2) You: Farmers

Note: In the calf puller case, the 1st and 2nd wave are differentiated.

An analysis of the ten most productive and most addressed accounts and their level of interaction (table 3.4) across cases revealed several patterns. News media accounts were more productive on Twitter, while organisations and groups were more productive on Facebook. The most addressed accounts on Twitter are personal accounts, which were used professionally (profession is mentioned on profile). On Facebook organisational accounts received most reactions. Retailers, more specifically, had high level of posts on Facebook because they responded to critics that addressed them on their fan page. On Twitter retailers were largely absent, but other organisations, such as meat processing companies, political parties, agricultural organisations (such as sector-organisations) and experts were present. This reflects the more professional (political and sectoral) and interpersonal (horizontal) communication on Twitter, in comparison to the vertical exchange between citizen-consumers and organizations on Facebook.

Looking more specifically at the key players across cases, we found that Wakker Dier received most reactions on Facebook in all cases, except for the calf puller case, in which Anti Wakker Dier received most comments. On Twitter various key players (activists, politicians and representatives of sector organisations) were active in all cases, which indicates an extensive contestation about livestock production, with leaders particularly on the side of animal welfare advocates.

Based on a case comparison of the most productive and most addressed accounts (top 10 senders and top 10 receivers) on Twitter and Facebook we found the following patterns. In the horsemeat and poo-meat case, news media accounts played a dominant role. Whereas national news media sources were dominant in the horsemeat case, in the poo-meat case sectoral news, NGO's and persons (representatives of agricultural sector and politicians) also formed key players. Moreover, in the horsemeat case the key players generated a much smaller part of the total number of reactions. This suggests that the poo-meat case had relatively high engagement of stakeholders, and the horsemeat issue was a news item of general public interest. The companies that were offended played a key role in both cases: in the poo-meat case the meat processing company was an active player on Twitter, responding to criticism, in the horsemeat case various retailers that sold products containing horsemeat were criticized on their Facebook page. In the booster broiler and factory farm case, an animal welfare organisation (Wakker Dier) and a citizens organisation (Megastallennee) were active, as well as 'activists' on Twitter and 'persons' on Facebook. In these cases, the key players also generated high level of reactions, both on Twitter and Facebook suggesting a leading role in activity. In the calf puller case, farmers were most productive and agricultural professional were the most addressed on Twitter, suggesting a high level of engagement of persons involved in livestock farming.

Table 3.4. Key players.

Productive Accounts	Twitter						Average	SD
	Booster Broiler	Factory Farm	Horse- meat	Poo- meat	Calf Puller			
National News	0%	0%	91%	27%	0%		23%	0.39
Regional News	0%	0%	9%	0%	0%		2%	0.04
Sectoral News	0%	0%	0%	55%	38%		19%	0.26
Politician	0%	6%	0%	0%	0%		1%	0.03
Farmer	0%	9%	0%	8%	42%		12%	0.17
Popular	0%	0%	0%	0%	0%		0%	0.00
Representative	0%	0%	0%	10%	0%		2%	0.04
Anonymous	0%	0%	0%	0%	0%		0%	0.00
Activist	67%	31%	0%	0%	10%		22%	0.28
Journalist	0%	0%	0%	0%	10%		2%	0.05
Other (person)	5%	13%	0%	0%	0%		4%	0.06
NGO	28%	7%	0%	0%	0%		7%	0.12
Company	0%	0%	0%	0%	0%		0%	0.00
Political party	0%	0%	0%	0%	0%		0%	0.00
Governmental	0%	0%	0%	0%	0%		0%	0.00
Community org.	0%	35%	0%	0%	0%		7%	0.15
Public Group								
Interaction	1.20	1.25	0.01	0.53	2.07		1.01	0.78

Addressed Accounts	Twitter						Average	SD
	Booster Broiler	Factory Farm	Horse- meat	Poo- meat	Calf Puller			
National News	2%	0%	58%	6%	0%		13%	0.25
Regional News	0%	0%	0%	8%	0%		2%	0.04
Sectoral News	0%	0%	0%	5%	8%		3%	0.04
Politician	9%	38%	21%	28%	0%		19%	0.15
Farmer	0%	6%	0%	0%	10%		3%	0.05
Popular	4%	0%	0%	4%	0%		2%	0.02
Representative	5%	0%	0%	11%	58%		15%	0.25
Anonymous	0%	0%	0%	0%	0%		0%	0.00
Activist	6%	6%	0%	0%	0%		2%	0.03
Journalist	0%	7%	0%	0%	0%		1%	0.03
Other (person)	0%	15%	0%	0%	7%		4%	0.06
NGO	71%	16%	22%	33%	17%		31%	0.23
Company	3%	0%	0%	6%	0%		2%	0.03
Political party	0%	0%	0%	0%	0%		0%	0.00
Governmental	0%	0%	0%	0%	0%		0%	0.00
Community org	0%	14%	0%	0%	0%		3%	0.06
Interaction	0.44	0.48	0.12	0.24	0.13		0.28	0.17

The ten most productive (top table) and the ten most addressed accounts (bottom table) on Twitter (left) and Facebook (right) of each case, categorized into type of actors. Percentages in cells: the percentage of the number of messages per type of actor, in proportion to the total number of messages of all ten accounts. Interaction (last row in both tables): total number of messages sent by all ten accounts, divided by total number of messages received by all ten accounts.

Table 3.4. (continued)

Facebook								Productive Accounts
Booster Broiler	Factory Farm	Horse- meat	Poo- meat	Calf Puller	Average	SD		
0%	0%	6%	6%	0%	2%	0.03	National News	
0%	0%	0%	0%	0%	0%	0%	Regional News	
0%	0%	0%	0%	0%	0%	0%	Sectoral News	
n/a	n/a	n/a	n/a	n/a	n/a	n/a	Politician	
n/a	n/a	n/a	n/a	n/a	n/a	n/a	Farmer	
n/a	n/a	n/a	n/a	n/a	n/a	n/a	Popular	
n/a	n/a	n/a	n/a	n/a	n/a	n/a	Representative	
n/a	n/a	n/a	n/a	n/a	n/a	n/a	Anonymous	
n/a	n/a	n/a	n/a	n/a	n/a	n/a	Activist	
n/a	n/a	n/a	n/a	n/a	n/a	n/a	Journalist	
43%	22%	22%	80%	58%	45%	0.25	Other (person)	
44%	42%	20%	9%	0%	23%	0.20	NGO	
13%	0%	19%	0%	0%	6%	0.09	Company	
0%	21%	0%	0%	0%	4%	0.10	Political party	
0%	0%	15%	0%	0%	3%	0.07	Governmental	
0%	0%	0%	0%	42%	8%	0.19	Community org.	
0%	15%	18%	5%	0%	8%	0.08	Public Group	
6.44	4.19	2.12	1.99	3.58	3.66	1.81	Interaction	

Facebook								Addressed Accounts
Booster Broiler	Factory Farm	Horse- meat	Poo- meat	Calf Puller	Average	SD		
2%	4%	46%	5%	0%	12%	0.02	National News	
0%	0%	0%	0%	0%	0%	0%	Regional News	
0%	0%	0%	0%	0%	0%	0%	Sectoral News	
n/a	n/a	n/a	n/a	n/a	n/a	n/a	Politician	
n/a	n/a	n/a	n/a	n/a	n/a	n/a	Farmer	
n/a	n/a	n/a	n/a	n/a	n/a	n/a	Popular	
n/a	n/a	n/a	n/a	n/a	n/a	n/a	Representative	
n/a	n/a	n/a	n/a	n/a	n/a	n/a	Anonymous	
n/a	n/a	n/a	n/a	n/a	n/a	n/a	Activist	
n/a	n/a	n/a	n/a	n/a	n/a	n/a	Journalist	
2%	10%	0%	34%	17%	13%	0.14	Other (person)	
94%	84%	54%	50%	23%	61%	0.28	NGO	
2%	0%	0%	0%	0%	0%	0.01	Company	
0%	0%	0%	0%	0%	0%	0.00	Political party	
0%	0%	0%	0%	0%	0%	0.00	Governmental	
0%	2%	0%	5%	60%	14%	0.28	Community org	
0%	0%	0%	5%	0%	1%	0.02		
23.8	16.1	74.0	49.5	64.1	45.5	25.05	Interaction	

Media interplay

Overall, Twitter comprised 64% of all messages, Facebook 25% and news 11%. The proportions did not differ strongly per case (SD), except for Facebook, which is largely due to the high proportion of Facebook messages in the calf puller case on the Anti Wakker Dier page. The correlation between the number of Twitter and news messages per day was high in all cases, most likely due to retweets of news. Facebook had the most independent pattern of activity, reflecting a different use (table 3.5).

News media linked mostly to other news media messages (68%). Social media platforms referred more to news media, rather than the reverse (42% of the links on Twitter and 71% of the links on Facebook referred to news media, compared to 6% on news media). External links, such as websites and documents were linked to from all media platforms (table 3.6).

The case comparison revealed several patterns in media interplay. The factory farm and booster broiler case had many links to external pages (50% and 37%). In the factory farm case, these linked to activist websites (82%), petition websites (8%), animal welfare organisations (6%) and political party websites (4%). In the booster broiler, they linked to the animal welfare organisation Wakker Dier. In the factory farm case, external links were disclosed on social media and were widely shared.

Table 3.5 Proportion of each media platform in total activity (left) and the average correlation of amount of messages per day as indicator of synchronous activity (right)

	Proportion			Correlation		
	Twitter	News	Facebook	Twitter-News	Twitter-FB	News-FB
Factory Farm	76%	13%	12%	0.72	0.58	0.36
Booster Broiler	63%	9%	27%	0.68	0.48	0.41
Horsemeat	67%	16%	16%	0.89	0.75	0.67
Poo-meat	62%	13%	25%	0.71	0.63	0.59
Calf puller	50%	5%	45%	0.99	0.96	0.95
Average	64%	11%	25%	0.80	0.60	0.52
SD	0.094	0.043	0.129	0.133	0.325	0.347

Table 3.6. Hyperlinks from (source of link) and towards (destination of link) media platforms

		Destination of link			
Source of link		News	Twitter	Facebook	External
	News	68%	4%	2%	25%
	Twitter	42%	33%	3%	22%
	Facebook	71%	0%	0%	29%
	Average	60%	12%	2%	26%

News media reported only after heightened social media activity, which was followed by an increase of social media activity. In the booster broiler case, new information of external links diffused parallel on social and news media, most likely because Wakker Dier disseminated its message through press releases and social media campaigns.

The horsemeat and poo-meat case both had relatively many links from news media (10% and 17%) and towards news media (62% and 83%). Also, we found relatively many links to 'official documents', such as research reports and political documents, which were disclosed on news media. The calf puller case had relatively many links towards Facebook: mainly the Anti Wakker Dier (78%) and Wakker Dier Facebook (19%) page. In this case, news media peaked right after the social media peak and linked to the Anti Wakker Dier Facebook page, which suggests that news media reported about the conflict on social media.

3.6 Discussion

Social Media Hypes and Types

To interpret the findings we first examine the overall patterns across cases and then differentiate three types of hypes for a more contextualized interpretation.

A content analysis of peak activity over a four-year period revealed that peaks have similar frequent used key-terms (such as 'booster broiler', 'factory farm', 'food scandal'). These key-terms are negative and are used with hashtag. More neutral frequent terms, such as 'industry', 'livestock', 'chicken', 'animal friendly' were not used with hashtag and displayed a smoother pattern of activity. Moreover, policy events as such (e.g. 'milk quota') did not generate hypes because they were discussed more broadly and lengthy. Hence, organising concepts, such as a master frame, news-theme or conflict-frame, serve as an interpretative frame to make sense of policies, issues and events. This means that peak activity on social media revolves around a few themes, is recurrent and judgemental.

In the Dutch agro-food domain, issues related to animal farming and food production generate most activity on social media. These issues are diverse; regional, national and international issues and actors are mentioned, and various sectors and levels in the food production chain are involved. In general, the public or 'the people' (farmers, consumers or citizens) are framed as change makers, who protest against organisations, companies and governments. Some key players are active in all cases, which suggests a widespread contestation of industrial livestock farming and food

production. Civil society organisations, political parties and farmers strategically create occasions or venues that generate social media activity and thus play an important role in instigating social media hypes. All types of stakeholders are eventually involved in a social media hype, both as top senders and top receivers: political, public, and various private actors throughout the production chain (farmers, meat processing companies, retailers) are active as well as addressed, mentioned or talked about. Also companies portrayed as culprit are active players, suggesting they respond to allegations on social media.

- Activism against Industrial Livestock Farming

In two of the cases, a single term acts as a rhetorical device to problematize industrial agriculture; the ‘plofkip’ (booster broiler) and ‘megastal’ (factory farm). We consider this to reflect a form of activism because civil society organisations propel this frame and activists, citizen-consumers and news media reiterate. Framing processes are regarded, alongside resource mobilization and political opportunity processes, as a central dynamic in understanding the character and course of social movements (Benford & Snow, 2000). Metaphors and other rhetorical devices are a key element of successful movements, not only because they simplify complex issues but also because they shape interpretation and moral evaluation. Booster broiler and factory farm are both hyperboles, using exaggeration as a rhetorical device to evoke affective responses. They portray intensive livestock farming as being problematic, but the words as such do not signify who is responsible and what should be done. This rhetorical function, together with the frequency of these terms and the recurring peaks, reflects the use of a master frame. Master frames are inclusive and flexible frames, *“functioning as a kind of master algorithm that colours and constrains interpretations of movements”* (Benford & Snow, 2000). In social movement literature, a master frame is considered to be a collective action frame capable of bridging diverse movements. Although we found action-frames as part of motivational framing in both cases (Benford & Snow, 2000), the identified culprits and problem solvers differ. Hence, despite the relations between these cases, such as similarity in active actors, action-frames and the contestation of industrial agriculture, we cannot identify this as unified form of collective action. Bennett (2012) points out that under the influence of social media collective action frames based on group identity are displaced by personal action frames related to lifestyle values, such as food and sustainability, which are flexible and can be activated for multiple causes. Rather than bridging distinct movements these two inclusive, flexible and popular hashtag terms can be seen as linking various actions of like-minded individuals that contest industrial agriculture.

To better understand the function of key terms as framing devices for activism an analysis of the involvement of these terms is necessary, looking at longitudinal changes in meaning and involved actors. In addition, to infer the political significance research needs to include the reliance on and the strategic use of social media by activist organisations as well as the influence of this activism on political discourse or manifestations of agro-food policies and products. A point of specific interest in regards to social media activism in the food domain is the attack of Facebook pages. We found that NGO's and activists attack brands on their Facebook pages, turning fan pages into platforms of protests: a common phenomenon in the food sector that is widely discussed by professionals but has received little attention in science hitherto (Champoux et al., 2012; Veil et al., 2015)

- Food Scandals

The horsemeat and poo-meat case are the only two cases that are not triggered by a communicative act of stakeholders, but by an external event. Also, in both cases news media accounts are most productive on Twitter and social media activity follows news media activity. Food scandals, scares and crises have received considerable academic attention in relation to news media coverage and risk and crisis communication (Feindt & Kleinschmit, 2011; Randall, 2009; Shan et al., 2014; Yuksel, Karantininis, & Hess, 2013). A lack of information and a high degree of uncertainty in these situations provide room for interpretation and the direction of attention (Boin et al., 2009; Maitlis & Sonenshein, 2010). Attention can focus on the cause of the event, which is common in cases of food fraud or scandals (who is to blame?) or the consequences of the event, which is common in cases of contamination to become an issue of food safety (what is the impact on citizen-consumers?). In the poo-meat case, the documentary revealed insanitary practices and possible contamination with the E. Coli bacterium. However, most attention was directed towards the cause (naming and blaming the culprit), rather than the consequence of the event (food safety and public health). In both cases, the respective meat processing company blamed for food fraud is the most mentioned actor and identified as culprit. There is very little attention for other actors and possible solutions to the problem: problem solvers ('NVWA' the food safety organisation) and solutions ('research') have a relatively low frequency in comparison to other cases. There is thus very little attention for what should be done (prognostic or motivational framing) (Benford & Snow, 2000). Moreover, in contrast to the other cases, here we find episodic rather than thematic framing (Iyengar, 1994). Episodic news frames focus on individual case studies and events, while thematic news frames have more attention for contexts and environments. This has important political implications. The solution to problems within an episodic frame is better information (in these cases; 'research'), in contrast to a thematic frame, which portrays structural problems and asks for better policies. The dominant frames in these scandals thus do not foster structural change.

Of the various possible ‘crisis events’ from 2011 till 2015, such as antibiotics found in cattle-fodder, the Schmallenbergvirus and cases of bird flu on Dutch farms, only these two events generated peak selective activity. We present two possible explanations. First, these events have high news value (Price & Tewksbury, 1997). Food products, such as meat, are more likely to receive broad public attention than agricultural issues, such as animal welfare and environmental issues. Moreover, cases of fraud violate the law and are characterized by strong attributions of crisis responsibility (Coombs & Holladay, 2011) and stories with a clear culprit are more likely to be extensively reported in news media (Petley, 2013). This would also explain why activity in the horsemeat case peaked only two months after the official reports about adulterated meat products; when it became clear that a Dutch meat processing company was involved in the fraud. Second, these food fraud events could be linked to create a news theme. Both cases refer to each other and to other food scandals. In addition, we found nine references to cases of ‘scandals’ in 2014 following the horsemeat scandal, in comparison to only two cases in the other three years. The horsemeat scandal that generated mass media attention in the beginning of 2013 might have instigated the journalistic research which led to the documentary about the poo-meat scandal in September the same year. The news theme of food scandals can enhance the interpretation of events as scandals, the search for such events and the likelihood to report such an event because of the lowered news threshold.

Hypes triggered by an external event, such as scandals or other crises, are often generated and shaped by news media coverage, but recent studies indicate that social media can have an important role to play. In recent years social media have been used for exposing and spreading sensitive information about food production that resulted in crisis (Guidry, Messner, Jin, & Medina-Messner, 2015; Peng, Li, Xia, Qi, & Li, 2015). More particularly, social media provide a space for instant framing contests in which the culprit is publically addressed on social media and responds to allegations (Champoux et al., 2012; Veil et al., 2015).

- Conflict between Farmers and Activists

The calf puller case has a distinct pattern that is characterized by a conflict between farmers and activists. Based on the relations between the four dimensions over time we can distinguish three phases. First, two organisations seem to have collaborated to create a media momentum; Wakker Dier addressed the State Secretary in a press release to enforce the law against the use of the calf puller and 81 minutes later the PvdD reported parliamentary questions, together generating a first wave of activity. Activity gradually diminished, but ten days later a farmer launched the ‘Anti Wakker Dier’ Facebook page, which generated the second and biggest wave. Changes in the semantic network indicate that the controversy about the issue, turned into a conflict about

identity. More specifically, farmers stated to be ‘fed up’ with Wakker Dier’s negative portrayal of livestock farming. This suggests that the press release of Wakker Dier about the calf puller was the last push that induced the Facebook page and opened up a space for farmers to finally voice their frustrations. News media messages peaked after social media, which indicates that the media was more interested in the conflict than the calf puller issue. In the last phase, about a month after the press release of Wakker Dier, the state secretary released an official public statement: She declared not to enforce the law, but to allow the use of the birth tool by farmers in special cases. The action of Wakker Dier and PvdD thus seem to have had an unforeseen effect on the social media conversation and a contrary effect on policy.

In recent years, the contestation of farming practices by animal welfare advocates frequently triggered a counter movement by farmers. Although the Facebook page continued to function as an important platform, this ‘farmer movement’ was diffuse - without leaders and without generic collective action frames. Because of the absence of a central organising concept (such as the master frame) and the diffuse activism of farmers, these conflicts were not captured by our method for case selection (peak selective activity). These findings suggest that issues related to farming practices escape the master frame used for discussing ‘industrial agriculture’, and can lead to a conflict when farmers feel offended.

A complexity approach can provide insights into how online conversations shift into a conflict dynamic (Coleman, 2006), in this case; how the seemingly unvoiced frustration of farmers could accumulate before it finally boiled over; how the Facebook page might have functioned as a venue or attractor in the conversation and; how processes of central- or self-organisation shaped this counter-movement. To understand the expansion of conflicts studies can look into whether important figures are involved through public and personal imputations on social media (Veil et al., 2015) and/or whether political actors willingly use increased public attention as a stage to profile themselves (Vasterman, 2005).

Reflections on Hype and Social Media Research

Rather than looking at the overall discussion about agro-food on social media, we focussed on periods of peak selective activity using the concept of hypes to understand the dynamics; i.e. the patterns in activity, framing, actors and media interplay. A novel approach for hype research was taken by performing an inductive case-selection method, a case-comparison along multiple dimensions, and a contextual interpretation of results.

The inductive and explorative approach of this study is unique in hype research and social media studies. The lack of a common definition or selection method for identifying a hype, and consequently the lack of case-comparisons, has led to conceptual ambiguity (Wien & Elmelund-Praestekaer, 2009). Hence, rather than presupposing a singular phenomenon or different types of hypes based on previous research into waves of news media (Vasterman, 2005; Wien & Elmelund-Praestekaer, 2009), we simply analysed commonalities and differences in cases of peak social media activity. To select cases, we explored social media activity about the agro-food domain from 2011 to 2015 using applications for the analysis of historical data (Coosto and Meltwater). Such an inductive, explorative approach is rarely taken in social media research. Most researchers use software that relies on API's to harvest real-time social media data based on pre-defined key-words. This makes it difficult to acquire data that results from unexpected events, such as hypes. More importantly, it impairs to study social media messages as part of broader conversations and to study longitudinal changes in these conversations.

The comparison of multiple dimensions and cases created a comprehensive research design, but was accompanied by limitations in the analysis of each dimension. In hype research, peak patterns form the baseline to analyse framing, interactions and media interplay. In this regard, statistical time-series analysis can help to identify relations between peak patterns and other variables. Helsten & Vasileiadou (2015) developed an innovative and promising method for hype research, combining time-series analysis and framing analysis through the use of Auto Regressive Integrated Moving Average (ARIMA) modelling and semantic co-word maps. Moreover, for a more detailed understanding of relations between dimensions, co-word measures could be applied to study framing dynamics over time (Van der Meer et al., 2014a), mutual influence between media platforms (Hellsten & Vasileiadou, 2015) or framing strategies of particular stakeholders (Van der Meer, 2014). Overall, the main limitation of this research is that dimensions were analysed separately and relations were inferred through interpretation.

Despite these limitations, the results of this study show the explanatory value of our framework. Although our findings largely correspond to dynamics found in social media studies (Lehmann et al., 2012; Oka et al., 2014); they are not explained by them. We did not find a single dynamic or 'anatomy' of hypes (Wien & Elmelund-Praestekaer, 2009), but three patterns that could be defined and explained by various social theories (e.g. social movement theory, crisis communication, identity conflict). The results confirm the validity of our approach: because social media are partly given shape by the strategic actions of actors, interpreting social media activity in its socio-political context helps to understand and explain the dynamics. Our interpretive multidimensional approach addresses the problem in Internet research of single-deterministic study-designs that produce

mono-causal explanations (Dahlberg, 2006), and supplements multi-determinant frameworks to assess the role of social media in specific situations (Porter & Hellsten, 2014). Because the selection and interpretation of peak selective activity was domain-specific, and because the results confirm the importance of social context, we are reluctant to generalize these three types of hypes to social media in general and encourage similar research in other domains.

3.7 Policy Implications

This research provides a new perspective on the use of social media in agro-food governance. In the research domain of food policy, media is generally studied in the context of crisis events (P. Liu & Ma, 2016; Rieger, Kuhlitz, & Anders, 2016) and social media are considered a new instrument for food risk and crisis communication (Mou & Lin, 2014; Rutsaert et al., 2014; Shan et al., 2014; Wu, 2015). Stakeholders in the food sector value social media as an one-way channel to help spread a message in crisis situations, but there is little reference to the interactive nature of these media (Rutsaert et al., 2014; Veil et al., 2011). The current instrumental approach of social media in crisis situations ignores how some issues generate peak social media activity in the first place and how this is shaped in interaction. Not just crisis events, such as food scandals, generate peak activity on social media, but also activism and conflicts in which stakeholders instigate peak activity. This points to the importance of a more anticipative and interactive approach of social media. Both researchers and practitioners in the food domain should view social media not just as an instrument, but as a playing field for agro-food governance.

This study has shown that social media hypes involve all types of actors in the sector and that social media are strategically employed by stakeholders (e.g. directly and publically addressing culprits, using powerful framing devices as hashtags, creating venues for new communities and conversations, attacking organisation's Facebook page). More specifically, this study identified three types of hypes. Although the case-specificity of hypes and the limited number of cases in this comparison restrain possibilities for inferences, the typology can serve as a heuristic device for understanding the dynamics of peak social media activity in the agro-food domain more broadly. In order to generate peak activity, a discussion needs to involve the masses, such as through widely supported consumer or citizen activism, the collective engagement of farmers, or news of general public interest. Citizen-consumers and farmers make up the biggest groups involved in agro-food discussions on social media, but single accounts, such as activist organisations and politicians, have the power to move the masses. A key strategy for activating groups is to make an appeal to identity and frame them as active change makers rather than perpetrators of the situation. Whereas

farmers seem to form latent networks without leading organisations, animal welfare organisations continuously trigger, convene and curate the social media conversation on agro-food. Moreover, they engage in interactive communication and make use of collective action frames through which online communities take shape. They are thus likely to play an important role in building conversations and networks that oppose industrial food production, as well as in conversations about agriculture through which smaller but more engaged communities of animal welfare activists take shape.

However, we must note that on social media people can take different roles at different times, depending on the context. For example, critical consumers and animal welfare activist are not distinct communities and can easily join forces when a master frame defines a common cause. Moreover, the three types are not a fixed constellation in which the relations between actors, issues and frames are organized but reflect three sets of dynamics in social media activity. As we have seen, the dominance of a master frame actuated by animal welfare advocates can suddenly evoke a counter-movement of farmers and shift the online discussion into a conflict dynamic that revolves around identity. Besides online activism and conflicts, sudden events can trigger mass public attention through news media coverage. Hence, different types of dynamics can involve similar actors or issues, and small changes - online or offline - can push social media activity into a new dynamic.

3.8 Conclusions

In the Dutch agro-food domain, social media activity focusses on controversial issues in animal farming and food production. Based on our analysis of peak selective activity in the Dutch livestock food system from 2011 to 2015, we distinguish three types of peak social media activity: activism, scandals and conflicts, each with characteristic patterns of activity, framing, interaction and media interplay.

First, in activism a master frame is used to problematize industrial agriculture – ‘plofkip’ (booster broiler) and ‘megastal’ (factory farm). These popular hashtag terms are used for discussing diverse issues related to industrial agriculture and generate recurring waves of peak activity. Civil society organisations tend to propel this master frame and online citizen communities and news media reiterate. Second, of the various events from 2011 to 2015, only food scandals generated peak selective social media activity. Food scandals are extensively reported in news media and generate one high and relatively long peak of social media activity. Most attention is directed towards the

cause (naming and blaming the culprit), rather than the consequence of the event (food safety and public health). Third, conflicts can emerge when farmers feel offended in their identity and collectively respond. Farming practices and local controversies escape the master frame used for discussing industrial agriculture, but can generate peak selective activity when the discussion about the issue shifts into a conflict driven by identity frames. The conflict on social media can expand when it is reported in news media and when politicians and agricultural professionals get involved – which is more likely to occur when the issue is related to policy.

Hence, peak selective activity on social media does not comprise solitary peaks resulting from distinct events such as policy-changes, but revolves around a few themes, is recurrent and judgemental. Moreover, stakeholders play an active role in instigating and framing social media hypes. The findings of this study, show the need in food governance to adopt a proactive and interactive approach that transcends the view of social media as a mere communication channel to respond in crisis situations.



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4.

The Emergence and Evolution of Master Terms in the Public Debate about Livestock Farming: Semantic Fields, Communication Strategies and Policy Practices

Abstract

In the new public space shaped by short, fast, and networked interactions on social media, single keywords, often used in combination with a hashtag, have become important framing devices that structure conversations and communities. This study provides insight into how keywords become dominant framing devices. We conduct a longitudinal comparative case study on the emergence and evolution of two dominant keywords in the Dutch livestock debate: plofkip (booster-broiler) and megastal (mega-stable). Based on an analysis of social media messages, news articles, and policy debates and documents, we study the role of keywords in semantic fields, communication strategies, and policy practices. We present four dynamics that help to understand how keywords become 'master terms': 1) loaded keywords used for contested politicized objects become powerful framing devices if they carry normative meaning and yet are open enough to be applied widely; 2) if activists explicitly and consistently relate the meaning of a loaded term to realities and responsibilities in the sector, the term becomes the signifier of an activist frame; 3) counter terms and frames increase attention, broaden the involvement of actors and deepen the conversation to a value-based debate, through which keywords become master terms; 4) master terms are politically defined and shape policy practices, which in turn reinforces the affordance and legitimacy of the term in the public debate. We propose the concept of 'master term' as a keyword that not only reflects, but activates and establishes a master frame around which conversations and practices revolve.

4.1 Introduction

The short, fast, and networked interactions on social media influence communication dynamics and the formation of communities in the public space (Castells, 2012). In this new, more fluid public space, it has become critical to use keywords as framing devices to shape conversations and communities (Giaxoglou, 2018; Norton, 2010; Scott, 2018). The use of keywords, online and offline, can unite or divide communities: Politicians strategically employ hashtags, mostly on divisive issues (Hemphill, Culotta, & Heston, 2013), but hashtags can also serve as collective action frames, such as in the case of #Occupy and #JeSuisCharlie (Giaxoglou, 2018). Popular hashtag terms generally refer to a single event and their use in public debates is rather short-lived (Lehmann, Gonçalves, & Ramasco, 2012). However, in some cases single keywords continue to generate attention over longer periods of time. Research has indicated several factors that determine continuous online activity, such as replies (interactivity) and unique retweet sources (diversity) in the persistence of hashtags on Twitter (Lin, Margolin, Keegan, Baronchelli, & Lazer, 2013), but in general, contextual factors best explain the continuous online use of keywords (Oka et al., 2014) and hashtags (Lehmann et al., 2012). Hence, in order to understand how keywords become and remain popular, it is essential to consider how terms obtain and maintain a framing function in changing policy contexts and public conversations.

In the public debate about the Dutch livestock sector, two terms have dominated the past five years: *megastal* (mega-stable) and *plofkip* (booster-broiler). *Megastal* literally translates into *mega-stable* and has a negative connotation similar to factory farms. *Plofkip* means a chicken (*kip*) that cannot stand on its feet and is on the verge of exploding (*plof*) and is used as a rhetorical device to portray the fat and fast-growing chicken of the broiler industry. Despite the specific and subjective meanings of these terms, they are the two most frequently used keywords and hashtag terms in the online conversation about agro-food in the past five years (Appendix 4.1). Both terms function as rhetorical devices to evoke a dominant frame that problematizes the ‘industrialisation’ of livestock farming (Stevens, Aarts, Termeer, & Dewulf, 2018). They are popular on social media and news media, but are also used in parliamentary debates, as illustrated in the following two quotations (original Dutch quotations can be found in Appendix 4.2):

1) “There is a promising majority that wants to get rid of booster-broilers and mega-stables. The prime minister has always stated that she has found industrial livestock farming troublesome. [...] Perhaps this is the moment that we can agree factory farming must come to an end.” (Marianne Thieme – PvdD. Tweede Kamer Debat, Begroting Economische Zaken (XIII) 20, 11, 2014)

2) “If we discuss agriculture or farmers in The Netherlands, it is always about ‘booster-broilers’ and ‘mega-stables’. This negative portrayal is unjust [...] I have stated before that the VVD does not recognize ‘booster-broilers’”. (Helma Lodders – VVD. Tweede Kamer Debat, Begroting Economische Zaken (XIII) 20, 8, 2014)

Although the terms have a common connotative use, the terms are used in distinct policy contexts and have different functions in the attribution of responsibilities in agro-food governance. *Mega-stable* is used for contesting public policies related to the development of factory farms as an issue of scale-increase, for which politicians and public administrators are held responsible. *Booster-broiler* is used to stress the issue of animal welfare, for which the companies that sell the meat are held responsible. The use of the two terms thus reflect two strategic pathways to contest intensive livestock farming (Stevens et al., 2018). In sum, both terms refer to significant objects in livestock farming and have strong connotations, but have different meanings and different functions in the attribution of responsibilities in agro-food governance. A comparative case study thus enables us to study the different semantic and pragmatic functions of keywords, as well as the different roles of actors in the public debate and in the context of agro-food governance. More generally, the aim of this comparison is to provide insights into how keywords become dominant framing devices.

4.2 Theoretical framework

To analyse the function of loaded keywords as framing devices in public debates we build on the literature on collective action frames (Benford & Snow, 2000) and on an emerging area of research that investigates the evolution of single signifiers such as keywords, hashtags and memes on online media (Lehmann et al., 2012; Lin et al., 2013; Norton, 2010; Spitzberg, 2014). On the one hand, framing refers to discerning selective activity in interpretation and (re)presentation to make sense of reality. Framing thus denotes an active, processual phenomenon that implies agency and contention at the level of reality construction (Benford & Snow, 2000). The literature on framing and social movements works with the concept of ‘master frames’ as ‘flexible and inclusive collective action frames’ that can bridge social movements and function as ‘a kind of master-algorithm’ that colours and constrain interpretations (Benford & Snow, 2000. p. 618). Research into collective action frames has extensively reported how framing processes such as frame alignment, and the wider socio-cultural context such as political opportunity structures, shape the evolution of frames (Benford & Snow, 2000). However, frames are seen as generic implicit structures and there has been little attention to the competition and evolution of keywords as framing devices in this field.

On the other hand, research into keywords, hashtags and memes looks at the diffusion of signs as carriers of meaning (Lehmann et al., 2012; Lin et al., 2013; Norton, 2010; Spitzberg, 2014). This

field of research provides insights into the dynamics that shape the evolution of signs, such as the role of competition between signs at multiple levels in discursive environments (Spitzberg, 2014). However, this approach tends to neglect the agency of actors and employs a partial perspective of the sign. In the theory of memetics for example, actors are mere 'hosts' of memes and memes signify beliefs ('signifieds') and are thus not considered to represent objects in the world (Kilpinen, 2007). This is particularly problematic when it comes to framing contests of politicized objects, such as booster-broilers and mega-stables. In order to understand the function of keywords as framing devices we combine these two perspectives and apply a multi-level analysis of discourse, analysing the interrelation of actors and language, as well as the interrelation of explicit words and implicit structures in framing practices.

The three-dimensional framework of textually oriented discourse (Fairclough, 2010; Fairclough & Wodak, 1997) is used for the research design of this study. This framework combines micro-, meso-, and macro-level analysis: 1) linguistic analysis of texts, such as metaphors or keywords as rhetorical devices, 2) analysis of discursive practices of social actors that (co-)create texts, 3) analysis of social practices, considering the wider discursive context, such as policy decisions and processes.

First, we explore the role of keywords in semantic fields (Cheng & Ho, 2017; Fillmore, 2006; Hintikka, 1994; Nerlich & Clarke, 2000). A semantic field is a set of words from the same grammatical and semantic category (e.g. nouns that denote a farm), but that functionally contrast on the dimensions of binary semantic oppositions (e.g. positive/negative or specific/generic) (Faber & Mairal Usón, 2012; Hills & Stern, 2006; Hintikka, 1994) – for example, *varkensflat* (pig-flat) as a specific (not generic), negative (not positive) word for a large farm. An analysis of keyword frequencies in semantic fields and word co-occurrences (Hellsten & Nerlich, 2010; Leydesdorff & Welbers, 2011) in the context of events and policy practices provides insights into: what alternative terms were used, or could have been used, in various contexts; if there already was increased public and political attention to large farms and broiler chickens before *mega-stable* and *booster-broiler* became popular; if the rise of these terms co-occurred with the fall of other terms, and if so, whether this reflects a frame shift. This inquiry is guided by RQ1: How did the various keywords in the semantic field rise and fall in media and policy, and how does this relate to the discursive context of events and practices (e.g. protests, campaigns and policies)?

Second, we explore the role of actors' communication strategies. Collective action frames are continuously being constituted, contested, and/or replaced by actors and these processes shape the evolution of frames. Snow and Benford (2000) differentiate three processes that shape the development of action-frames: discursive, strategic and contested processes. Discursive processes

are conceptualized by frame articulation (connecting and aligning events, issues and responsible actors with experiences) and frame amplification (punctuating particular issues, beliefs, or events). Strategic processes involve deliberative, utilitarian, and goal directed actions, such as campaigns or actions by movement organisations and are conceptualized by ‘frame alignment processes’, which include frame bridging, frame amplification, frame extension, and frame transformation (for a complete overview, see (Snow, Rochford, Worden, & Benford, 1986). Contested processes refer to processes such as ‘counter framing’ and ‘the dialectic between frames and events’ (Benford & Snow, 2000, p. 625). Based on this tripartite framework we explore: the role of activist organisations in the design, definition and development of these terms as part of frame articulation; the function of these terms in the movement(s) against intensive livestock farming as part of frame alignment processes; and the contestation through counter terms and counter frames. This inquiry is guided by RQ2: How did the discursive (inter-)actions of actors on social media, in news media and policy debates and documents influence the evolution of these keywords?

Third, we analyse the role of stakeholders’ policy practices. It is not well understood whether and how collective action frames impact the policies of stakeholders that are held responsible. Moreover, the responses of stakeholders can in turn affect the evolution of keywords, but this reverse influence has received little attention. As these keywords have different functions in the attribution of responsibilities in agro-food governance, we comparatively analyse the role of commercial and governmental stakeholders based on public responses and policy debates and documents. In particular we analyse the role of these keywords in political practices (parliamentary questions, motions), political events (elections), policy or legislative definitions and policy decisions (by governments and businesses). This inquiry is guided by RQ3: How did the evolution of keywords in the public debate affect stakeholders’ policy practices and how did this affect the course of the conversation?

In this study, we do not intend to answer each of these three questions separately, but instead analyse the interplay of these dimensions (keywords in semantic fields, communication strategies, and policy practices) as part of a single process through which keywords become dominant framing devices.

4.3 Methodology

We conducted an iterative three-staged research design. The results of each phase informed the analysis in the next phase, as shown in the grey text between the phases in table 4.1. As shown in the columns of table 4.1, the study involved an increasingly detailed analysis in terms of: the time-period

under study and level of analysis (years; months; minutes); the data under study (multiple terms in news and policy; single term on Twitter; key messages of key players); the method (frequency analysis; co-word network analysis; interpretive framing analysis). First, we identified key events and studied the rise and fall of the various keywords in semantic fields by keyword frequencies in news media and policy debates and documents. Second, we focused on the period of increased use of the dominant keyword and studied the evolution of meaning and the role of social actors therein through a co-occurrence analysis of Twitter data (Hellsten & Nerlich, 2010; Leydesdorff & Welbers, 2011). Third, we concentrated on key moments (shifts in the public debate or key events) and key players' messages and mentions in news media, social media, and policy debates and documents. Process-tracing (A. Bennett & Elman, 2006; Collier, 2011) was used to reconstruct the sequence of events and draw plausible causal inferences between events, discursive practices and policy decisions within each case. Then, by comparing the interplay between keywords in semantic fields, communication strategies, and policy practices in these cases, we identified the generic dynamics through which keywords become dominant framing devices.

Data collection

A Boolean search query was developed to collect messages about broiler chickens and large scale farms (Appendix 4.3). News media messages were collected with LexisNexis: an online archive for news sources. Policy debates and documents were collected from two governmental databases: rijksoverheid.nl/documenten and officielebekendmakingen.nl. Social media data, which included public messages on Twitter, Facebook, blogs and news media comments, were collected with

Table 4.1: Research Design

	Analysis	Method	Time period	Data
1	The rise and fall of keywords in the semantic field	- keyword frequency - key events in the sector through interpretive analysis	Period of attention to the topic: <i>mega-stable</i> : 1997-2017 <i>booster-broiler</i> : 2010-2017 level of analysis: per year	News media messages, Policy debates and documents
Based on 1, we identified the keyword and the period for the analysis of 2				
2	Evolution of use/meaning of keyword, and the role of actors and interaction	co-occurrence analysis	Period of increased use of keyword <i>mega-stable</i> : 2011-2016 <i>booster-broiler</i> : 2012-2016 level of analysis: per month	Twitter data: text, author, date
Based on 1+2, we identified key players and key moments for 3				
3	Stakeholders' practices and policies	Interpretative framing analysis and process tracing	Key moments level of analysis: per day /minute	Key players' messages and mentions in: news, social media, policy debates and documents
Based on 1+2+3 we identified dynamics in the emergence and evolution of master terms				

Coosto, a web-application for social media analysis. The dataset is accessible in Mendeley data repository (Stevens, 2019b). An overview of the data is given in table 4.2.

Table 4.2: Overview of data; number of messages per channel in the period under study

	News media	Policy documents	Twitter
Booster-broiler	6150 messages in period 2010-2016	203 messages in period 2010-2016	125,706 messages in period 2012/1-2016/7
Mega-stable	9818 messages in period 1997-2016	1186 messages in period 1997-2016	80,383 messages in period 2011/1-2016/7

Methods and Tools

The text, date, source, and author of the collected data were imported in WordStat 7 for automated text analyses on the three levels: 1) keyword frequencies in different sources (media and policy); 2) keyword co-occurrences and the discursive (inter)actions of actors (i.e. authors) over time through co-occurrence analysis; 3) the use of keywords by specific actors in specific contexts through keyword retrieval functions. Together these methods enabled the analysis of frame dynamics on two levels of text (explicit words and implicit structures of co-occurring words), as well as an interpretive analysis of the use of keywords to identify function in context.

For the co-occurrence analysis applied in phase two, the link strength between keywords was measured by co-occurrences of keywords in messages (i.e. ‘co-word analysis’)⁶, and the network structure was analysed iteratively through clustering methods and multidimensional scaling (for a detailed explanation of the co-word analysis see Hellsten, Dawson, & Leydesdorff, 2010; Leydesdorff & Hellsten, 2006). To infer relations with date and author, we used co-occurrence analyses such as correspondence and heat maps (Stevens, 2019a).

The interpretive analysis of the key messages of specific actors in specific contexts in phase 3 is based on the wider discourse analytical approach, taking into account the socio-political relations between the actors that are interacting; in this case primarily activist organizations and the stakeholders being contested. More specifically, we analysed interactive meaning-making processes through which keywords become and remain dominant in discourse using the analytical framework of Snow and Benford (2000), looking at discursive, strategic and contested processes.

⁶ The Jaccard similarity coefficient (J) is used as a uniform measure for word co-occurrence in the result section

4.4 Results:

Dynamics in the Emergence and Evolution of Master Terms

Keyword frequencies in media and policy documents are shown in figures 4.1 and 4.2. The relevant findings for keyword co-occurrences and discursive interactions are referred to in the text (including statistical measures if applicable). Key messages and key moments, and interpretations of the function of keywords, are referred to in the text (including quotations if applicable). Based on keyword frequencies and the use of keywords in context we mapped how competing keywords were situated on to the two most relevant dimensions of the semantic field (semantic binary opposites): specificity and valence (figure 4.3)⁷.

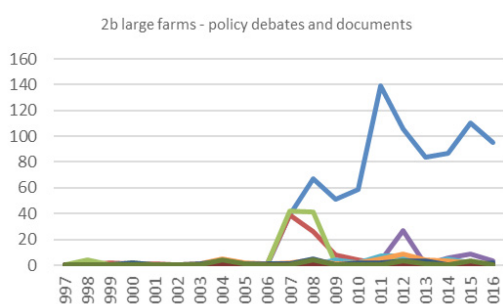
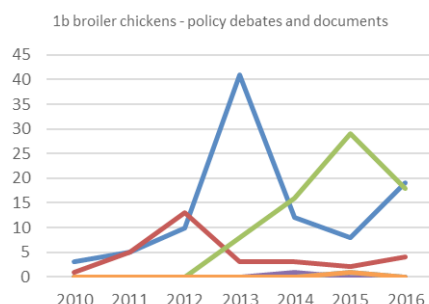
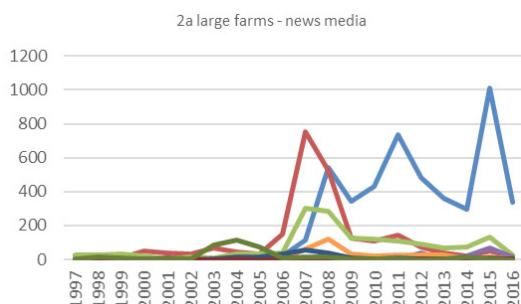
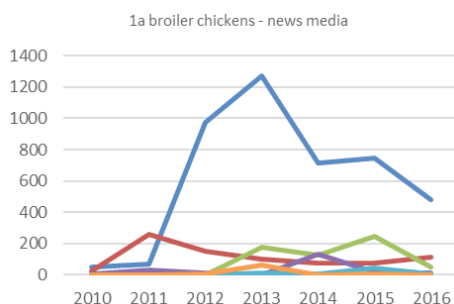
Based on a comparison of the interplay between keywords in semantic fields, communication strategies, and policy practices of these two cases, we identify four dynamics through which keywords become dominant framing devices. These are not consecutive phases, but gradual, overlapping and sometimes mutually reinforcing processes that signify the emergence and evolution of master terms.

Using loaded and flexible keywords for frame articulation

The framing contest in both cases revolved around an object (an animal and a farm) – not an actor, issue or event. These concepts relate to familiar images in livestock farming that are widely applicable, but also entail semantic associations that can be linked to responsibilities of stakeholders in the sector. The farm is in the countryside as part of the Dutch landscape – a public space and national heritage – and part of discussions about landscape planning, pollution, public health and livestock diseases, for which local and national governments are held responsible. The chicken is inside the farm, outside the sight of the public, but promoted to consumers as meat by retailers. These concepts thus each have potential to generate specific framing contests about the governance of livestock farming.

General attention to large farms and broiler chickens increased (in social media, news media and policy documents and debates) with the rise of specific normative terms. In both cases the most frequently used term was a compound lexeme that specified the object and these compounds became more frequently used in the public debate about intensive livestock farming than the generic lexeme (not stable but *mega-stable*, not broiler chicken but *booster-broiler*). The attribute of scale (mega

⁷ We interpreted the relative specificity and valence of words in relation to the other words based on the use of keywords in context. This means that the exact coordinates of words on the map are not informative, but that the position of words in relation to the other words is.

Dutch

Plofkip

Kiloknaller

Kip v Morgen

Hollandse kip

Bofkip

Floppkip

English

Booster-broiler

Cheap-meat

Chicken-of-tomorrow

Dutch-chicken

Lucky-chicken

Failed-Chicken

Dutch

Megastal

Varkensflat

Megabedrijf

Gigastal

NGB (Nieuw Gemengd Bedrijf)

Veefabriek

PC (Pig city)

AP (AgroPark)

KH (Knorhof)

English

Mega-stable

Pig-flat

Mega-company

Giga-stable

New-mixed-company

Cattle-Factory

Pig-city

Agro-park

Knorhof

Figure 4.1: Term frequencies for broiler chickens in news media (a) and policy debates and documents (b), with literal English translations

Figure 4.2: Term frequencies for large scale farms in news media (a) and policy debates and documents (b), with literal English translations

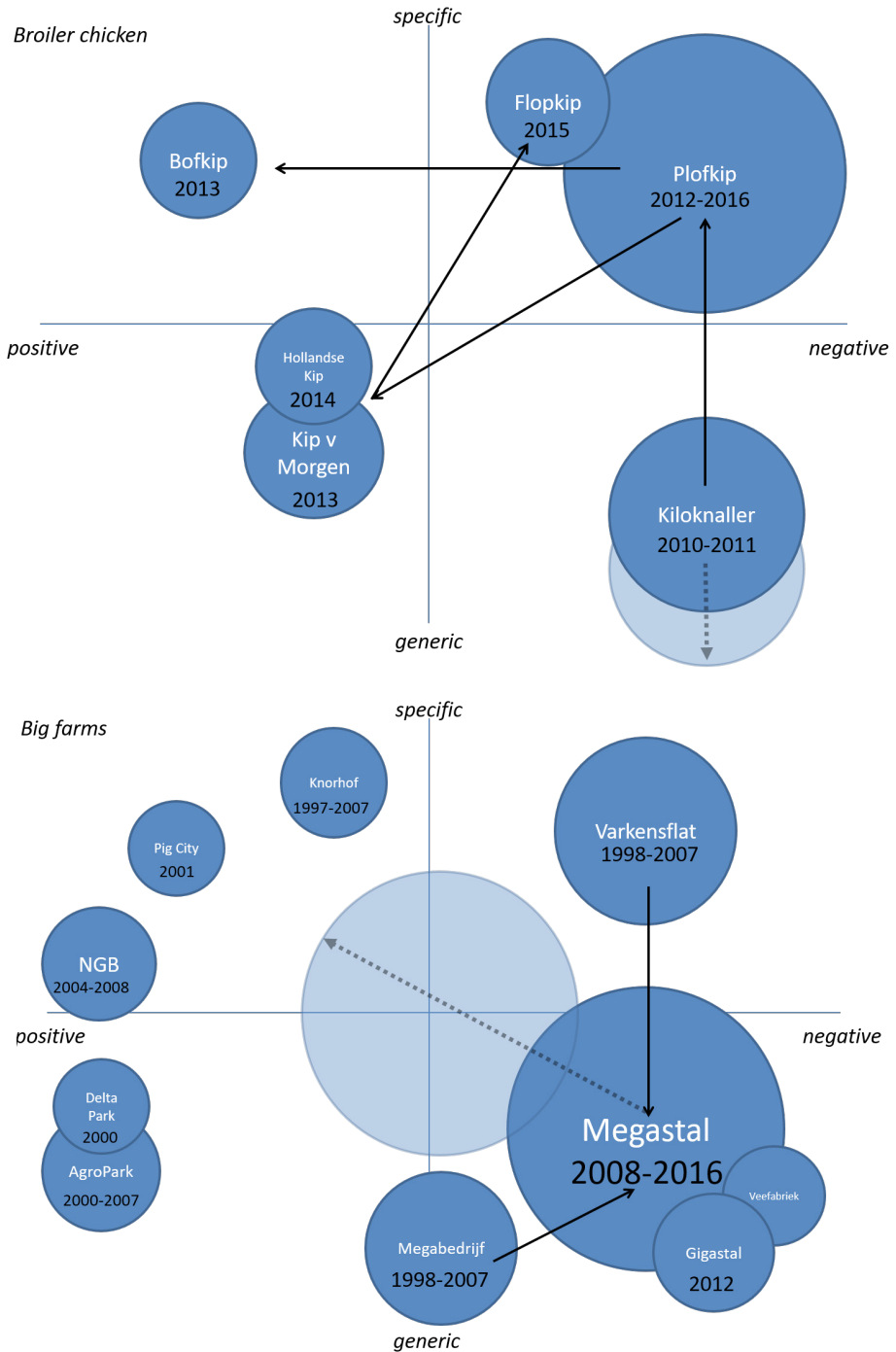


Figure 4.3. The semantic field of broiler chickens (top) and big farms (bottom), with keywords situated along the two dimensions: specificity and valence. Circle size indicates term frequency; arrows indicate the chain of reactions; transparent circles and dotted arrows indicate change of meaning over time. For English translations, see figure 4.1 and 4.2.

and boost) links the familiar images of farming (the farm and the chicken) to industrialisation and implies a moral evaluation (immoral or negative valence). The use of *mega-stable* highlights the large construction in which animals are kept ('stable'), in contrast to the farmstead as a family business (*boerderij* in Dutch), to implicitly frame the influx of large buildings in rural areas as alien and industrial. The use of *booster-broiler* relates the image of the meat product that people buy, to the image of a fat and maltreated animal, stuffed and slaughtered for mass consumption. As both compounds include a contrast that triggers a moral judgement, it is not possible to be in favour of *mega-stables* and *booster-broilers*. We define these terms as loaded terms. Loaded language carries emotional valence, as it triggers a value judgment that can lead to an emotion (Walton, 2014).

In addition to the moral evaluation implied by these loaded terms, they trigger other constituents of the frame: the problem definition and causal attribution. *Mega-stable* implies a cause or issue (namely: scale increase), which was attributed to an increasing variety of problems in practice (animal diseases, public health, social inequality). *Booster-broiler* defines the issue (namely: animal welfare) and this problem was attributed to an increasing variety of actors in practice (supermarkets, restaurants and other retailers). In addition, both terms were used for making sense of a variety of (news) events, from farm fires to elections. These terms thus implicitly frame the subject to a great degree (through 'high-inference language'), yet are open enough to be applied widely, such as for addressing multiple problems, for blaming various actors and for making sense of various events in livestock farming and food production⁸. As the implied normative and semantic meanings were explicitly and consistently related to realities and responsibilities in the sector, the terms came to designate a frame: mentioning the term evoked a frame in which events, issues and responsible actors were woven together. This process of ascribing implied meaning to keywords to create a coherent frame can be seen as part of the process of frame articulation (Snow, 2004). As pointed out in the literature about frame articulation, highlighted elements of the frame may function much like synecdoches, symbolizing the larger frame or movement of which it is a part (Benford & Snow, 2000).

Frame alignment through amplification and bridging

Booster-broiler first appeared in the media in 2001 but became popular when it was employed as a campaigning term by Wakker Dier (an animal welfare organisation) in 2012. Before 2012 Wakker Dier campaigned with '*cheap-meat*' ('*kiloknaller*'). *Cheap-meat* was a term already used by supermarkets to promote meat, but Wakker Dier linked the notion of cheap-meat to poor animal welfare and presented a new definition: any meat with a price per kilo lower than cat feed (€4,12)

⁸ Concepts implied (carried) by a keyword were reflected by terms that co-occur consistently, while concepts that are associated with (ascribed to) the keyword were reflected by temporary co-occurring terms.

– most of which is chicken meat. According to Wakker Dier, ‘animals pay the price’ and with the support of farmers in their campaign they blamed supermarkets for selling cheap meat. In 2012 Wakker Dier focussed their framing strategy with the booster-broiler campaign: concentrating on the broiler industry, portraying the animal behind the meat product and thereby stressing the issue of animal welfare. They defined booster-broiler as meat chicken without an animal welfare label and targeted companies that sold booster-broiler through a naming and blaming campaign. Although Wakker Dier continued with their cheap-meat campaign, the term *cheap-meat* declined in 2012 and *booster-broiler* became the most popular term.

In the mega-stable case, various alternative terms circulated in news media and policy, starting in 1997 and peaking in 2007 before *mega-stable* took over. Some of these terms refer to a particular type of eco-industrial farm, such as *agro-park* and *new-mixed-company*. Other terms were used as negative labels, such as *cattle-factory* and *pig-flat*. The start of the use of these terms co-occurs with the swine fever epidemic in 1997-1998. In response to the swine fever, the national government organised a large project to reallocate pig farms: the Reconstruction Plan (‘Reconstructieplan’). Although this plan was intended to restructure the pig sector it became an instrument for land-use planning of rural areas in general. In addition to the reconstruction plan, the Ministry of Agriculture, Nature and Food Quality (LNV) commissioned research for prototypes of eco-industrial farms: large enterprises that combine agricultural activities based on industrial ecology, which resulted in four designs of *agro-parks*, such as *Delta Park*.

The introduction of each concept was related to a negative frame in news media (e.g. *pig-flat*) and every reallocation of a farm generated local protests. Attention was still fragmented: allocations and local protests were reported in regional news media which used different terms for large farms (such as *pig-flat*, *cattle-factory*, and *mega-company*). However, from 2007 to 2010 there was an amplification of attention and subsequently a concentration of term-use: *mega-stable* became the dominant term. Milieudefensie, an environmental organisation, started a campaign to support and coordinate local protests against large farms. They opened a registration centre to map the rise of mega-stables in The Netherlands, which generated news attention. Citizen initiatives from various provinces and livestock sectors, joined forces through the more generic collective action frame *mega-stable*. In response to the public turmoil the national government commissioned a study to independently map the development of mega-stables. Hence, the term became widely used in news media and policy debates and evolved into a common denominator for all large farms. Most significantly, the most well-known ‘*pig-flat*’ in the Netherlands (*Knorhof*) that generated attention as *pig-flat* from 2004 to 2008, was labelled as ‘*mega-stable*’ in 2017 (110 news articles used ‘*mega-stable*’ and 11 used ‘*pig-flat*’) when it caught fire and burned down.

A case comparison of co-word dynamics reveals that in both cases similar loaded terms were used in similar ways. With the rise of *booster-broiler* and *mega-stable*, the use of the most frequently used alternative term decreased. These terms (*cheap-meat* and *pig-flat*) were used similarly as the keywords (in a similar context as *booster-broiler* or *mega-stable*) but had a relatively low co-occurrence with the keywords (*Jo.26* and *Jo.41* respectively) in comparison to other alternative terms in the semantic field. *Booster-broiler* narrowed the conversation about cheap-meat production to the issue of animal welfare in the broiler industry, while *mega-stable* widened the conversation about pig farms to intensive livestock farming and was linked to various problems and policies. The most important affordance of *mega-stable* was its applicability to various sectors and provinces: The co-word analysis shows a decrease of the frequency of the term 'pig' relative to other animals (goats, cows, chickens) between 2007 and 2009, and a stronger co-occurrence with provinces other than Brabant (the 'pig province'). *Booster-broiler* was used in combination with visual images of maltreated chickens, reflecting the specification towards a more concrete, graphic and affective concept to amplify attention. Hence, the rise of the keyword and the decline of the most frequently used alternative term reflects a shift of attention, but in opposing directions on the dimension of generality (see figure 4.3).

A case comparison of the discursive (inter-)actions reveals that both keywords were not designed, but defined and popularized by activist organisations. Before the terms were employed by activist organisations (*mega-stable* in 2007 and *booster-broiler* in 2012), they were used occasionally and with increasing frequency in public discourse (for about ten years) and in policy debates and documents (for about two years). Various people used the terms in various ways. Through the promotion of activist organisations, the use became more consistent, and the meaning more coherent: both terms became utilized as activist frames. Wakker Dier defined *booster-broiler* solely in terms of animal welfare: a meat chicken without an animal welfare label, and showed the animal behind the meat product sold by retailers. Their leading role was reflected on Twitter: Wakker Dier was the most active and most retweeted account (and the activity was highly correlated with the overall level of activity (r0.91), mainly due to being retweeted (r0.98)). Milieudefensie on the other hand, did not push any single term through a media campaign, but empowered citizen initiatives and facilitated a nation-wide movement whereby the more generic *mega-stable* emerged as the common activist frame. Accordingly, on Twitter there is no leader: Milieudefensie was not an active player, and the most active account – the citizen-initiative *MegastallenNee* – had a relatively low number of followers, replies and retweets. As the keywords became symbols of activist frames, only left-wing politicians in opposition used these terms and posted parliamentary questions, while the secretary of state and the ruling centre-and right wing parties consistently avoided the use of the

terms. For example, left-wing politicians posted 13 parliamentary questions about *mega-stables* and *pig-flats*. In all responses, the secretary of state avoided the use of *mega-stables* and *pig-flats* and used ‘companies’ instead (18 times).

Together, the co-word dynamics and discursive (inter-)actions in each case reflect two types of frame alignment as part of the mobilization process: frame amplification and frame bridging (Snow et al., 1986). In the booster-broiler case, the focus on the animal behind the meat product and the use of the term as activist frame to blame retailers clarified and invigorated beliefs, values and emotions, as a reflection of amplification. In the mega-stable case, the national notification centre formed an organisational base that linked local protest groups with congruent frames (similar grievances and attributions), as a reflection of bridging. Although the cases show some overlap in actors (similar activists) and frames (link to ‘industrialization’), the cases show different patterns of interactions and there is no bridging trend (simultaneous or overlapping use of terms) between the movements.

From activist term to master term: counter terms and counter frames

In the year after the popularization by activists (booster-broiler in 2013, mega-stable in 2008) there is peak attention in news media and the political arena, primarily because of stakeholders’ responses.

In the booster-broiler case, alternative keywords for *plofkip* (booster-broiler) emerged, such as *bofkip* (lucky-chicken), *Hollandse kip* (Dutch-chicken) and *flofkip* (failed-chicken). The Dutch poultry farmers’ trade union (NPV) directly opposed the notion of poor animal welfare and launched a counter campaign with the name *bofkip* (lucky-chicken), because of the high animal welfare standards in The Netherlands. However, *bofkip* was framed as a response to the booster-broiler campaign: only one newspaper article in 2013 that contained *bofkip* did not mention *plofkip*. Besides campaigns and counter frames, representatives of broiler farmers, processors, abattoirs, supermarkets and the Dutch Food Retail Association (CBL) collaboratively developed a transition plan to fully replace the ‘regular meat chicken’ with the *Chicken of Tomorrow* (a slow growing breed that would have more space and is environmentally sustainable). Despite the efforts to introduce this concept as a more sustainable alternative in contrast to ‘regular chicken’, Wakker Dier framed the chicken as a ‘booster-broiler in bullshit sauce’ as the chickens would not have an animal welfare label. Again, only one newspaper article in 2013 that contained the counter term (in this case *Chicken of Tomorrow*) did not mention *booster-broiler*. In 2014 supermarkets started to launch the intermediary chicken independently under their own brand name. In anticipation of this, Wakker Dier set up a campaign asking people to share a name for ‘the new booster-broiler of

supermarket Albert Heijn'. Out of the many entries, *flopkip* (failed chicken) was elected as winner. *Flop* has exactly the same letters as *plof*, and points out that the new concept of Albert Heijn is old wine in new barrels: *flopkip* is *plofkip*. Hence, the frame was already set before Albert Heijn launched their new *Hollandse kip* (Dutch chicken) in page full advertisements: All newspaper articles that contained *Hollandse kip* also contained either *flopkip* or *plofkip*, and on Twitter *flopkip* was used more frequently than *Hollandse kip* (318 over 126 tweets). The co-word analysis shows that these terms had a high co-occurrence with *plofkip* ($J > 0.9$) a rather short life-span (<1 year) and that they increased the number of messages about the issue. Hence, the terms did not establish alternative meanings but reinforced the existing frame set by *booster-broiler*. As *plofkip* came to dominate the semantic field of meat chickens, Wakker Dier redefined their other campaigning term *cheap-meat* from meat less than €4,12 per kilo (mostly chicken meat) to any meat without an animal welfare label (see dotted line in figure 4.3a). This redefinition not only raised the normative boundary (more meat was considered *cheap-meat*), but also enabled them to attack other sectors after their successes in the broiler sector.

In policy debates and documents we also find increased activity (figure 4.1b) and the introduction of counter terms and counter frames. Politicians from the governing centre- and right-wing parties started to use *booster-broiler*, but between quotation marks to signify the term as a rhetoric of others, rather than a reality. As stated by Helma Lodders (VVD) 'a minor group led by activist organisations such as Wakker Dier is shaping the public debate with 'booster-broilers' and 'mega-stables' [...] but the sector is 'highly productive, efficient and sustainable'. The critique on booster-broilers and the new concept chicken of the private sector (*chicken of tomorrow*) instigated a fundamental debate about the sustainability of intensive livestock farming and the role of governmental, private and civil society organisations.

In the mega-stable case we found an opposite dynamic: the introduction of new positive concepts for large scale farms stopped, and the meaning or definition of *mega-stable* itself became contested. In an inventory rapport commissioned by the government (Gies et al., 2007), the term *mega-stable* and *mega-company* were defined by the number of animals per stable/company for various livestock sectors. This operationalization turned the open signifier (i.e. a word without a commonly agreed upon definition) into a politically defined object for public administration and policy purposes. What was conceived as the 'rhetoric of activists' established into a real, commonly acknowledged problem. Milieudefensie continued to use their own definitions and surveys to announce that 'the number of mega-stables more than doubled in five years' and 'the majority of people are against mega-stables', creating a story about a real, swelling problem, that was taking place against the will of the people. This was used as a call to action and put the issue of *mega-stables* on the agenda

of the provincial elections. The Party for Animals for example campaigned to keep municipalities 'mega-stable free'. Surveys indicated that 64% of the Dutch population found *mega-stables* a 'very important' issue for the Provincial Elections (Omroep Brabant, 2011) and approximately 100,000 signatures were collected by the various local citizen initiatives to stop mega-stables (Trouw, 2011). The citizen-initiative *MegastallenNee* for example brought the issue on the agenda of the Provincial Council which led to a stop of mega-stables in March 2010 – illustrating both the protest and political function of the mega-stable concept.

From April 2011, there is increased political activity and a shift in the Twitter conversation: The secretary of state started the project *Dialogue Mega-stables* in order to facilitate and coordinate 'a moral public debate about scale-increase and the future of farming in The Netherlands' (Bleker, 2011). The project consisted of a public survey, citizen panels, an internet dialogue and a stakeholders dialogue. Discussions were generally structured by theme (economy, public health, environment, animal welfare and landscape), which animal welfare advocates saw as a strategy to steer the public debate away from an industrialization-frame towards a sustainable intensification-frame: by focussing on themes, the intensification of livestock farming could also be framed as a solution, instead of as a problem. The dialogue project was criticised for a poor representation of more critical views and for not making enough use of social media. To overrule the outcome of the dialogue project, The Party for Animals started their own survey and presented their results a day before the presentation of the dialogue project: 'the majority does not trust dialogue project' and 'the majority is against mega-stables' (PvdD, 2011).

In sum, these cases show two different responses to the dominant term with similar effects on the public debate. First, stakeholders developed alternative concepts for the contested object in the form of real alternatives or new labels. These new concepts were related to the dominant keyword, failed to establish alternative meanings and instead fed the existing frame (indicated by a high co-occurrence with the dominant keyword, short life-span and increased number of messages on the topic). Second, stakeholders contested the definition or meaning of the dominant term: literally by definitions, or implicitly by creating or linking the term to new contexts. Both trajectories increased attention to the contested object, broadened the involvement of actors, and deepened the conversation to a fundamental debate about industrial farming in which discussants took a position and expressed underlying values. As the responses to the activist frame by stakeholders outside the movements generated a moral debate about industrial livestock farming in which various parties expressed their position in relation to this dominant frame, the terms can be considered to structure or 'master' the public debate beyond the movement.

Master terms shape policy practices

In both cases, attention in news media preceded attention in policy. Upon closer look however, political practices (parliamentary questions, motions), political events (elections), policy and legislative definitions and policy decisions (by governments and businesses) also influenced the public conversation (social and news media messages). The interplay of events, policy practices and communication strategies ultimately influenced policy decisions in both cases, but the pathways differed substantially.

Booster-broiler was framed as a specific issue with a specific solution (sell only meat with an animal welfare label). Moreover, there was little space for negotiating or refuting responsibilities. Wakker Dier dominated the debate, propelled media attention and triggered policy responses in the private sector. These policy responses (introduction of alternative chickens) were either reframed by Wakker Dier (causing negative publicity) or famed (after which assaults would stop). By alternating campaigns (addressing different retailers intermittently) and by altering definitions (raising the bar), Wakker Dier steered an incremental process towards better animal welfare standards. First, organisations with a symbolic role, such as a hospital and KLM airlines, stopped using booster-broilers, which helped to set the norm: booster-broiler is not OK. The sector soon started to collaborate and develop the *chicken of tomorrow* covenant, to collectively make a transition to a more sustainable chicken breed. Eventually, in January 2016, the three biggest supermarkets, which together sell half of the consumed chicken in The Netherlands, fully replaced the booster-broiler with their intermediary chicken. The sales of booster-broiler dropped from more than half of the total chicken consumption in 2012, to less than 10% in 2016. This must be interpreted however, in the context of global agro-food systems: about 70% of the Dutch chicken meat is exported to other countries, which means that still more than half of the chicken production in The Netherlands is regular broiler chicken (Agrimatie, 2018).

In contrast, *mega-stable* was related to multiple issues and events, and had no clear solution or alternative. In addition, multiple sectors and layers of public governance were involved and responsibilities were continuously contested. Policies shaped the context in which conversations about mega-farms flourished (e.g. the reallocation project in response to swine fever), but also affected the course of the conversation more directly. For example, the failure of the reallocation project in provinces put the issue on the national agenda and widened the debate (reflected by the project ‘dialogue mega-stable’). Hence, diffuse responsibilities, contestation and worsening situations, reinforced public attention and political activity.

Moreover, provincial elections (2007, 2011, 2015) correlated with increased public attention. Elections formed a window of opportunity for policy decisions, political changes and the influence of public opinion: on provincial and national level. In 2011, for example, the Provincial Council of Noord-Holland postponed the debate about requests for building mega-stables until after the elections, while the Provincial Council of Brabant loosened the ban on mega-stables just before the elections. In the national parliament, a motion for a temporal stop on mega-stables was approved in the Dutch lower chamber, but not enforced by the secretary of state, which triggered a confrontation on television. Hence, peak social media activity in 2011 was partly in anticipation of political events (provincial elections, political debates), but public attention also generated increased political activity.

Just as responsibilities and solutions were ambiguous, so too was the impact in the sector. In the first phase from 2007 till 2011, the local resistance to particular mega-stables was successful: none of the Agro Parks got implemented (Bakker et al., 2011) and just a few of the intended 250 reallocations were realized (DLG, 2010). In the second phase, from 2011 onwards, *mega-stable* was increasingly used to frame other policy issues related to scale-increase (such as land based growth, pasturing, milk quota and phosphate limits). Scale-increase however, did not stop: Overall, the total number of mega-stables gradually grew from 2005 to 2013 (Gies & Edo, 2015).

Both *booster-broiler* and *mega-stable* were politically contested and defined. Besides the connotative use of these terms to negatively frame intensive livestock farming in policy debates, the keywords were defined in more objective terms (a particular chicken breed and a farm of a particular size) for policy purposes. The dual function of these terms required continuous negotiation and frequently turned specific policy debates into a moral dispute about intensive livestock farming. The politicized objects stimulated the development of alternative objects or concepts (such as the intermediary chickens and new types of eco-industrial farms), which could function as boundary objects to generate communication between opposing groups (such as between the private sector and animal protection organisations about animal welfare labels) (J. M. Bos, Feindt, & Gremmen, 2015). However, movement organisations continued to curate the normative debate by redefining the master term to raise the normative standards (to include more types of farms/chickens). Since the concepts remain contested and are related to multiple problems and stakeholders, the 'issues' that these master terms bring on the agenda may never be solved definitely.

4.5 Discussion

As we have seen, dominant terms can occupy the semantic field and reduce the use of alternative terms for the object, but they can also trigger the introduction of alternative concepts. If alternative concepts are related to the dominant keyword, they fail to establish alternative meanings and instead feed the master term (indicated by a high co-occurrence, short life-span and increased overall attention). Lakoff (2004) has extensively written about the phenomenon that explicitly negating a frame can evoke the frame, and points at neurological associations for explanations. This study shows through associations in signification (word co-occurrences), that counter terms can trigger the master term and evoke the master frame that is associated with that term. In the field of memetics, this phenomenon can be explained in terms of competing memes (Coscia, 2013): within group competition (between terms) can strengthen the cluster or frame in its competition with other frames (between group competition). Besides the introduction of new concepts for the contested object in the form of real alternatives or new labels, stakeholders can contest the meaning of the term and the implied frame. Both counter terms and counter frames increase attention to the contested object, broaden the involvement of actors and trigger a debate in which underlying values and perspectives are expressed.

These dynamics designate the importance of a multi-level approach of discourse (Fairclough & Wodak, 1997; Spitzberg, 2014): a methodological approach at the level of keyword frequencies as well as clusters of word co-occurrences; and considering the semantic meaning of language as well the utilisation and creation of meaning in context. Such an approach can account for first-order or 'denotative' signification (altering definitions or objects), second-order or 'connotative' signification (ascribing implicit meanings) and third-order 'ideological' signification (signs as memes or myths). This study has demonstrated how these levels of signification are intertwined and become employed in meaning-making processes: a master term signifies a politicized object, implies evaluative meaning, and symbolizes an ideological frame.

Although the extensive multilevel analysis resulted in rich case descriptions, it did not provide conclusive evidence for causal relations. In fact, the methods combined in this study are based on different models of social reality (in particular in regards to agency and language). This means that the results presented in this study are based on the plausible causal inferences in two cases derived through process-tracing, and not grounded in a theoretical model. We thus encourage researchers to further disentangle and verify specific explanatory mechanisms.

In addition to such verifications, we encourage researchers to investigate the influence of social media on the use of dominant keywords in the public debate. In this study social media data were used as one of the sources to analyse the public debate, but our findings suggest social media played an important role in the emergence and evolution of master terms: besides the relative high frequency of master terms on social media channels, social media were actively employed for mobilizing activists and addressing and engaging opponents in the public debate.

4.6 Conclusion

In this longitudinal comparative case study, we analysed the emergence and evolution of two keywords in the public debate about livestock farming. More specifically, based on social media data, news articles, and policy debates and documents, we analysed the role of keywords in semantic fields, communication strategies, and policy practices. Process-tracing was used to infer plausible relations in each case, and through an interpretive case-comparison. We identified four dynamics that help to understand how keywords become dominant framing devices: 1) loaded keywords for contested politicized objects become powerful framing devices if they carry normative meaning, but are also open enough to be applied widely; 2) if activists explicitly and consistently relate the meaning of a loaded term to realities and responsibilities in the sector, the term becomes the signifier of an activist frame; 3) counter terms and counter frames increase attention, broaden the involvement of actors and deepen the conversation to a value-based debate, through which keywords can become master terms; 4) master terms are politically defined and shape policy practices, which in turn reinforces the affordance and legitimacy of the terms in the conversation. These are not consecutive phases, but gradual, overlapping and sometimes mutually reinforcing processes that help to understand how keywords become master terms. Master terms not just reflect, but also activate and establish a master frame around which conversations and practices revolve.

Appendices Chapter 4

Appendix 4.1: List of most frequent keywords and hashtag terms in the online debate about Agro-Food

	keywords	% of top 15
1	plofkip	16%
2	megastal	14%
3	industrie	10%
4	kippen	8%
5	voedselveiligheid	7%
6	vee	6%
7	supermarkten	6%
8	varkens	6%
9	boeren	6%
10	overbevissing	5%
11	producten	4%
12	bio	4%
13	milieu	3%
14	voedselverspilling	3%
15	gmo	2%

	hashtag terms	% of top 15
1	#plofkip	21%
2	#megastal	18%
3	#gmo	12%
4	#foodwaste	10%
5	#wakker dier	6%
6	#duurzaam	5%
7	#ttip	4%
8	#marchagainstmonsanto	4%
9	#gigastal	4%
10	#bijvangst	4%
11	#voedsel fraude	4%
12	#fail	4%
13	#organic	2%
14	#dierenleed	1%
15	#megazat	1%

Search Query for Agro-Food:

(voedsel* OR voedingsmiddelen* OR levensmiddelen* OR landbouw OR agri* OR agro* OR veeteelt* OR vee OR zuivel* OR melk* OR vlees* OR eier* OR scharreleier* OR legkip* OR pluimvee* OR kippen* OR kip OR rund* OR koe OR koei* OR kalf OR varken* OR biggen OR melk* OR zuivel OR “zaanse kip” OR “hollandse kip” OR paardenvlees OR boer* OR mest OR slachte* OR slachthuis OR akkerbouw* OR tuinbouw* OR teelt OR glastuinbouw OR tuinders OR boomgaard* OR groente* OR fruit* OR sojabonen OR zaden OR granen OR graan OR mais OR rijst OR zaden OR aardappel* OR komkommer* OR tomaten OR tomaat OR paprika* OR aarbei* OR appel* OR peer* OR peren* OR kersen OR pruimen OR monsanto OR bayer OR nfo OR vis OR viss* OR viskwekerij OR visverwerk* OR aquacultuur OR zeevisserij OR diepzeevisserij OR kustvisserij OR noordzeevisserij OR riviervisserij OR binnenvisserij OR schol OR haring OR kabeljauw OR platvis OR tonijn OR markeel OR paling OR oesters OR zalm OR pangasius OR boomkorl OR trawl OR visnet* OR walvisvaart OR viswijzer OR goedevis OR MSC OR ASC + duurzaam* OR duurzame OR verduurzaam* OR biologisch* OR ecologisch* OR gecertificeerd* OR fairtrade OR chemisch* OR chemical* OR giftig OR milieu OR vervuiling OR EKO OR dierenwelzijn OR dierenleed OR diervriendelijk* OR knippen + snavels OR ammoniak OR mestoverschot OR MINAS OR beterleven OR “beter leven” OR dynamisch OR kunstmest OR bestrijdingsmiddel* OR pesticide* OR insecticide* OR biocide* OR roundup OR “genetisch gemanipuleerd*” OR “genetisch gemodificeerd*” OR GMO OR permacultuur OR patent* OR bijensterfte OR discard) OR voedselschanda* OR voedsel fraude OR *vleeschandaal OR *vleesfraude OR voedselveiligheid OR voedselverspill* OR foodwaste OR bio-industrie OR vee-industrie OR legbatterij* OR megastal* OR gigastal* OR plofkip OR bofkip OR flofkip OR visquot* OR overbevissing OR visserijoorlog OR visserij-oorlog OR bijvangst OR teruggooiverbod OR visbestand* OR gmo -gezond*, -arts*, -bloed, -koolhydraten, -patient*, -sportvis*, -koken, -hengelsport, -antioxidenten, -surconsommation, -artritus, -lippenstift, -gluten, -dieet, -BP, -olievlek, -olielek

Sources: Facebook, Twitter, Blogs, News media

Appendix 4.2: Original quotations in Dutch

“Er is een veelbelovende Kamermeerderheid die af wil van plofkippen en megastallen. De minister-president heeft altijd gezegd, grote moeite te hebben met de bio-industrie [...]. Misschien is dit het moment waarop wij samen van mening zijn dat er een einde moet komen aan de bio-industrie.”
(Marianne Thieme – PvdD. Tweede Kamer Debat, Begroting Economische Zaken (XIII) 20, 11, 2014)

“Als het in Nederland over de landbouw of de boer gaat, hebben we het over de plofkip en megastallen. Deze negatieve beeldvorming is onterecht [...] Ik heb al vaker aangegeven dat de VVD de plofkip niet kent.”
(Helma Lodders – VVD. Tweede Kamer Debat, Begroting Economische Zaken (XIII) 20, 8, 2014)

Appendix 4.3:

Search query for data collection booster broiler and mega-stable

Search query booster-broiler:

plofkip* OR bofkip OR flofkip OR kiloknaller OR “Hollandse kip” OR “kip van morgen” OR (kippen* OR kip OR vleeskip* OR vleeskuiken* OR pluimvee* OR “zaanse kip” OR “hollandse kip” + duurzaam* OR duurzame OR biologisch* OR ecologisch* OR intensieve* OR grootschalig* OR massaproduct* OR knippen + snavel* OR antibiotica OR kreupel OR Wakkerdier OR *welzijn OR diervriendelijk OR dierenleed OR dierenbescherming OR beterleven OR “beter leven” OR gigastal OR megastal) -kippenvel, -mandela, -”kip zonder kop”, -kiplekker, -”als de kippen bij”, -vleeswijzer, -supermarktmonitor, -SjachiePlofkip, -plofkip_x, -ChippyDePlofkip, -plofkip69, -plofkip1993, -PLOFkipje, -Plofkipper, -Mister_Plofkip, -plofkip074, -iPlofkip, -recept, -koken, -bereiden, -oven, -bakken, -braden, -gerecht

Search query mega-stable:

megastal OR varkensflat OR knorhof OR agropark OR agroproductiepark OR veefabriek OR gigastal OR OR megaveehoud* OR “nieuw gemengd bedrijf” OR deltapark OR “pig city” (stal OR boerderij OR megabedrijf OR deltapark + duurzaam OR schaal OR groot* OR grote OR milieu OR *welzijn OR gezondheid OR uitbreid* OR reconstructie OR LOG -kinder*, -zorg*)



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5.

Using Emotions to Frame Issues and Identities in Conflict: Farmer Movements on Social Media

Abstract

Polarization and group formation processes on social media networks have received ample academic attention, but few studies have looked into the discursive interactions on social media through which intergroup conflicts develop. In this comparative case study, we analysed two social media conflicts between farmers and animal right advocates to understand how conflicts establish, escalate and return dormant through issue- and identity-framing and the discursive use of emotions. The results show that the two groups used the same set of frames throughout the three phases. We identify this as a symmetric conflict framing repertoire. The groups both use a dominant moral frame (animal welfare is of absolute value), but express distinct views on policy solutions. This triggers a contestation of credibility (who knows best and who cares most for animals) in which the two groups use the same set of issue- and identity-frames to directly oppose each other. The binary opposition is initially established through issue-framing but escalates into an identity-conflict that involves group-labelling and -blaming. The discursive use of emotion reinforces this escalation in two ways. First, it reinforces a vicious cycle in the contestation of credibility: while emotions are implicitly used to frame oneself as caring and trustworthy, emotion is explicitly used to frame the other party as deceptive and irrational. Second, disputants use collective emotions as a response to the other group's offensive actions (blaming) and as a justification of one's own collective actions. We discuss how this conflict differs from previously studied conflicts to provide plausible explanations for these findings..

5.1 Introduction

Research has extensively investigated the role of social media networks in group formation and polarization. Social media users tend to interact with like-minded people through which group formation takes shape (W. L. Bennett & Segerberg, 2011b), but social media platforms also provide a space for people from different backgrounds to encounter one another (Del Vicario, Bessi, et al., 2016). In cases of contentious political issues, such encounters can lead to intergroup conflict: an antagonistic pattern of interaction between online communities (Halevy & Cohen, 2019).

Farmers and critical citizen-consumers for example, rarely meet in everyday life. Yet these groups, which tend to have distinct views on animal livestock farming (Kendall, Lobao, & Sharp, 2006; Laine & Vinnari, 2017; Owen, Howard, & Waldron, 2000; Te Velde, Aarts, & Van Woerkum, 2002), do meet online. The online debate about intensive animal farming in The Netherlands shows frequent clashes between farmers and animal right advocates (Stevens et al., 2018). Dutch animal right organisations strategically build communities, and continuously trigger, convene and curate the social media conversation about industrial animal farming and food production. Generally they address corporations or politicians for problems related to industrial livestock farming, leading to one-directional, uniform attention in which the masses blame the few powerful institutions (Stevens, Aarts, & Dewulf, 2019). However, if animal rights activists address politicians about issues that relate to farming practices, farmers tend to collectively respond, which can trigger a conflict between these two groups. These conflicts seem to have a unique pattern of activity, framing, interaction and media interplay reflected in three phases (Stevens et al., 2018). However, it is unclear exactly how such online conflicts establish, escalate and return dormant through the discursive interactions between the two parties.

Conflict research has demonstrated the important role of framing (Brummans et al., 2008; Dewulf et al., 2009; Fuller & Putnam, 2018; Hurt & Welbourne, 2018; Idrissou, Paassen, Aarts, & Leeuwis, 2011; Paul, Geddes, Jones, & Donohue, 2016) and emotions (Bar-Tal, Halperin, & de Rivera, 2007; Bramsen & Poder, 2014; Guerrero & La Valley, 2006; Halperin, Sharvit, & Gross, 2010; Hurt & Welbourne, 2018; Iyer & Leach, 2008; C. Jennings, 2011; Pluut & Curşeu, 2013; Solak, Reifen Tagar, Cohen-Chen, Saguy, & Halperin, 2017) in conflict dynamics. The interactional-constructionist stance on framing, has proved to be particularly relevant in understanding the dynamic of conflicts, including conflict transformation, negotiation and mediation (Brummans et al., 2008; Dewulf et al., 2009; Fuller & Putnam, 2018; Hurt & Welbourne, 2018; Idrissou et al., 2011; Paul et al., 2016). However, this field of research tends to focus on intragroup conflicts, e.g. within teams in the field

of organizational communication (Coleman, 2006; Hurt & Welbourne, 2018; Pluut & Curşeu, 2013) and multiparty conflicts that generally include negotiation between multiple parties in decision-making processes, e.g. in environmental governance (Brummans et al., 2008; Davis & Lewicki, 2003; Lewicki et al., 2003), and has not yet looked into online, public conflicts between two groups. Yet online, public, intergroup conflicts play a big role in today's network society and are an 'understudied area that would benefit greatly from future investigations' (Halevy & Cohen, 2019).

Moreover, conflict research has shown that conflicts are fundamentally emotionally created and driven processes (Bodtker & Katz Jameson, 2001), but has barely looked at the discursive use of emotion in intergroup conflicts (T. Jones, 2001); how emotions are constructed, attended to, and understood in interaction, how they shape the course of the conversation, and how this may influence conflict dynamics. This is a significant deficit because it is the expression of emotions that ultimately influences conflict dynamics (T. Jones, 2001; Potter & Hepburn, 2007), and because emotional communication seems to shape online interactions (Brady, Wills, Jost, Tucker, & van Bavel, 2017). This study thus aims to investigate how intergroup conflicts establish, escalate and return dormant through issue- and identity-framing and the *discursive* use of emotions. More specifically, we will perform a comparative case study of two online conflicts between animal right advocates and farmers to investigate 1) what issue- and identity-frames are being used and how these develop in interaction, and 2) how emotions are used discursively to frame issues and identities and how this shapes the interaction and the course of the conversation.

5.2 Theoretical framework

Conflicting opinions or interests, are prerequisites for conflict, but do not necessarily result in conflict. In a conflict, disputants consider their goals to be incompatible and their actions to be directed against the other, co-constructing a zero-sum situation ('goal incompatibility') in which the gain of one party means the loss of another. We thus conceptualise a conflict not as a state of the world or a state of mind, but a phenomenon that resides in the social interaction among disputants. This interactive process is a fundamental dynamic through which social organisation takes shape; conflict is not just an encounter of extant differences (opinions, interests, values, identities), but also a process through which disputants 'make differences' and shape group identities (Herzele, Aarts, & Casaer, 2015).

Framing has proved to be a valuable approach in understanding conflict – including conflict transformation, negotiation and mediation (Brummans et al., 2008; Dewulf et al., 2009; Fuller

& Putnam, 2018; Hurt & Welbourne, 2018; Idrissou et al., 2011; Paul et al., 2016). Framing is the discerning selective activity in interpretation and (re)presentation to make sense of reality (Dewulf et al., 2009), and frames form the lenses or filtering frameworks that provide a specific perspective on the issue at stake and the role of actors therein. The interactional-constructionist stance on framing, is particularly relevant in understanding the dynamic of conflicts through changes of interactions (Dewulf et al., 2009; Putnam & Holmer, 1992). From this perspective, conflict ensues because of the way people co-construct issues, identities and interactions.

When it comes to issue frames in conflicts, literature suggests that if disputants cast the issues in incompatible ways and fail to create an acceptable joint framing, conflict is perpetuated (Dewulf et al., 2009). In particular, differences in moral or value frames – which capture a disputant’s concern about issues of right and wrong, good and bad, and moral integrity (Rogan, 2006) – can make conflicts hard to resolve or transform (Pearce & Littlejohn, 1997). Moral frames are resistant to change in part because morality tends to define identity and trigger emotional arousal (T. Jones, 2001).

Identity frames refer to the meanings about oneself and others, and are inherently relational in intergroup conflicts. According to social identity theory (Tajfel & Turner, 1979), intergroup conflict or ‘identity conflict’ starts with a process of comparison between individuals in one group (the ingroup) to those of another group (the outgroup). Identity frames capture how individuals conceive themselves and their membership in social groups (Lewicki et al., 2003). Challenges to one’s identity frame generally produce vigorous defences (Rothman, 1997; Tetlock, Kristel, Elson, Green, & Lerner, 2000) and contribute to the perpetuation of conflicts (Gray, 2004). Common frames about others take the form of stereotypes or characterization frames (Davis & Lewicki, 2003). Characterisation frames often undermine the others’ legitimacy, cast doubt on their motivations, or exploit their sensitivity (Kaufman & Michael, 2003).

Issue and identity frames generally hang together as coherent frames to make sense of the situation; situations are labelled as problems (named), their causes are discussed (blamed) and those responsible are confronted (claimed). In conflict framing research, the concept of ‘conflict framing repertoire’ captures such coherent frame constellations. A conflict framing repertoire defines what a conflict is about and what the role is of disputants, such as the role of oneself vis-a`-vis the roles of others (Putnam & Holmer, 1992). Since the frames of disputants interact in ways that tend to reinforce their stability (Putnam & Holmer, 1992), a repertoire can become salient and even stable; which is referred to as an intractable conflict.

Although the frames in intractable conflicts tend to be resilient, conflicts are typically associated with cycles of high and low intensity (Coleman, Vallacher, Nowak, & Bue Ngoc, 2005). This forms the basic paradox of intractable conflicts: they are essentially stable despite volatility and change (Coleman et al., 2005). Conflicts can go through various phases of escalation or de-escalation (Putnam & Shoemaker, 2007) and emerge, evolve and end (Idrissou et al., 2011). Most protracted conflicts do not begin as intractable, but become so as escalation, hostile interactions, and sentiment change the quality of the conflict (Coleman et al., 2005). This can be triggered by moral and identity differences and/or struggles for power and self-determination (Coleman et al., 2005; Kriesberg, 1993).

To understand these conflict dynamics, research has looked into discursive interactions or 'communication sequences' (Paul et al., 2016). This approach can help to 1) uncover the micro-processes that escalate and de-escalate a conflict, and 2) show how communication patterns develop into phases that define the rhythm and flow of conflict (Paul et al., 2016). In conflict situations, parties tend to portray their actions as responses provoked by the other party, which involves blaming through discursive punctuation (Dewulf et al., 2009). For example, one party might construct a sequence of messages as nagging criticism in reaction to the other's withdrawal, while the other sees a different start and end point of the sequence and depicts it as defensive withdrawal in response to the other's nagging criticism. Such recriminations can contribute to escalatory conflict spirals – an infinite series of oscillating cause–effect patterns (Gunkle, Watzlawick, Beavin, & Jackson, 2006). Hence, to understand how conflicts evolve, we need to study frame-interactions and specific discursive processes through which these develop. Dewulf et al. (2009) have called for integrating the discursive psychology tradition in conflict framing research for understanding how, through linguistic choices in describing situations, frames are shaped.

In particular, the discursive use of emotion seems to play a crucial role in conflict dynamics (T. Jones, 2001; Paul et al., 2016; Weatherall & Stubbe, 2015). Conflict is an emotionally created and driven process (Bodtker & Katz Jameson, 2001). As summarized by Jones (2000); conflict is emotionally defined and valenced, and emotional communication morally frames conflict and identities. In general, value-differences can lead to emotional communication that drives conflicts. From a discursive perspective, emotional communication does not reflect a cognition or a state of the world, but rather a social practice with a function in social interaction. In the foundational work *Emotion Discourse*, Edwards (1999) uses a variety of empirical materials such as transcripts of relation counselling sessions and media reports to list various 'rhetorical affordances' that indicate how emotion is used discursively. For example, emotions can be treated either as involuntary

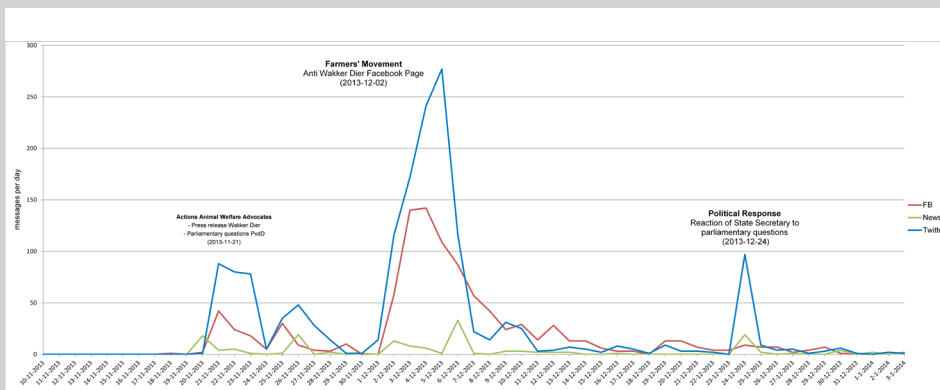
reactions or as under agentive control, as internal states or public displays, and as reactions or dispositions. Through these rhetorical contrasts emotions can be used to construct the nature and cause of events, to build and undermine the sensibility of a person's actions, and thus to manage rational accountability or credibility. In group conflicts, collective emotions play a pivotal role in shaping societal responses to conflicting events, and in contributing to the evolvement of a social context that maintains the emotional climate and collective emotional orientation (Bodtker & Katz Jameson, 2001). When it comes to the use of emotions in group conflicts it is important to consider the attribution of emotions to both individual and collective agents (as dispositional characteristics) and their actions in the process (as cause or consequence). In sum, to understand the role of emotional communication in conflict framing, this study aims to analyse the ways emotion is explicitly and implicitly employed (as discursive device) to frame issues and identities during intergroup conflicts (as discursive function). We distinguish between the explicit use of 'emotion*' as discursive category and various emotion words (psychological thesaurus) that refer to or imply specific emotions as distinct discursive devices (e.g. anger, love, sadness), and analyse their function in issue-framing and identity-framing (differentiating self and other, as individual or group).

5.3 Methodology: a Comparative Case Study of the Calf Puller and Calf Separation Case

We performed a comparative case study of two online conflicts between animal right advocates and farmers in The Netherlands. This comparison involved the analysis and synthesis of similarities and differences for theoretical generalisation; to determine the influence of framing processes and the discursive use of emotions in conflict dynamics. The social media analysis software *Coosto* was used to select cases based on typicality (Seawright & Gerring, 2008) of the conflict dynamic. The conflict dynamic in this context is a pattern of activity, framing, and media interplay that reflects three phases: 1) Animal welfare advocates problematize farming practices and address politicians to take action; 2) Farmers mobilize a counter movement using identity frames and social media venues, which generates peak news media attention; 3) the State secretary announces a policy decision on the matter, the attention for the issue diminishes and the conflict returns dormant (Stevens et al., 2018). From 2012-2018, the discussion about the calf puller for labouring the calf (in 2013) and the discussion about the separation of the calf from the cow right after birth (in 2015) best reflect this conflict dynamic. The cases are described according to the three phases in textbox 5.1.

Box 5.1 Description of cases with graphs that show the three phases of the conflict based on the number of messages on Facebook, Twitter and News media (vertical axis) per day (horizontal axis).

The Calf Puller Issue and the Anti Wakker Dier Movement (2013)



Phase 1 (11-20 till 11-30) : Animal Welfare Activism and Parliamentary Questions

On 21-11-2013 Wakker Dier (animal welfare organisation) sent out an open letter to the state secretary stating that farmers massively use an illegal tool and asking her to enforce the law that prohibits the use of the calf puller. At the same time the PvdD (Political Party for Animals) announced to pose parliamentary questions. This generated a first wave of activity.

Phase 2 (12-1 till 12-23): Farmers' Movement: Anti Wakker Dier Facebook page

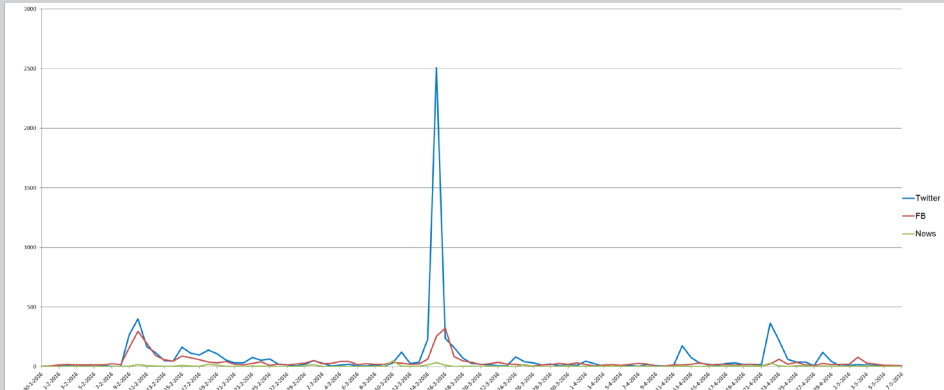
Activity gradually diminished, but ten days later a 23-year old farmer launched the *Anti Wakker Dier* Facebook page, which generated the second and biggest wave. Farmers stated to be 'fed up' with Wakker Dier's misleading negative portrayal of livestock farming. Within 3 days, the page was liked 10.000 times. News media messages peaked only after social media attention, which indicates that the media reported mostly about the conflict, rather than the calf puller issue.

Phase 3 (12-24 till-): Policy Decision and Aftermath

In the last phase, about a month after the press release of Wakker Dier, the state secretary declared not to enforce the law, but to allow the use of the birth tool by farmers under certain conditions. Both sides of the conflict celebrated this as a victory. The message that generated most discussion was of a communication and PR manager working for the sector, Caroline van der Plas: *"The fact that Dijkma finds calf puller OK, is thanks to all farmers that told their honest and real story on (social) media"*. The attention for the issue diminished, but The Facebook page continued to function as an important platform for farmers to critique Wakker Dier.

Box 5.1 (continued)

The Calf Separation Issue and the #CalfLove Movement (2015)

**Phase 1 (1-19 till 3-11): Animal Welfare Activism and Parliamentary Questions**

The consequences of the increased milk production after the end of the milk quota in April 2015 was a topic of public debate, which led to an investigatory documentary “top- sport in the milk industry” (Zembla, 2015) and led to a parliamentary debate on January 27 2016 (dertig-leden debate). Both in the documentary and the debate, one of the issues brought forward was the separation of the calf and cow right after birth. The motion of the Political Party for Animals to make a plan for keeping the calf with the cow after birth was accepted by the majority of the parliament on February 9.

Phase 2 (3-11 till 4-22): Farmers’ Movement: #CalfLove

In response to the accepted motion, a closed Facebook community for dairy farm women (*koeienboerinnen*) started a movement with the collective action frame #CalfLove. According to one of the leaders: “*politicians were already responding too much out of emotions, but this was the last straw that made us decide to take action*” (Karin van der Toorn). To counter this movement, animal right advocates also began to use #CalfLove. The hashtag became number 1 trending topic on Twitter in the Netherlands, and led to peak Facebook and news media attention. The farm women started a petition and presented this at the parliament in Den Haag on March 15.

Phase 3 (4-22 till -): Policy Decision and Aftermath

State secretary Van Dam did not accept the motion to make a plan, and instead waited for a research report. He positively evaluated the fact that all parties had a common interest: the care for animals. In his reflection on the public turmoil he stated: “*while some react out of emotion, others emphasize the facts*”. He concluded that “*the separation of calves from cows is up to the farmer*”. The decision was celebrated by farmers, and Wakker Dier and Political Party for Animals remained silent.

5.4 Methods and Data

Data collection

For both cases a search query was developed to collect all messages about the issue and identities (search query in appendix 5.1). Coosto was used to collect social media messages (Twitter, Facebook, Youtube, Instagram, Blogs, Fora). Twitter and Facebook were identified as the most relevant social media networks for the data analysis (most used and most inclusive platforms in terms of actors and embedded links to other media). For a comprehensive understanding of the cases, political documents and debates (source: <https://zoek.officielebekendmakingen.nl>) and the media messages most referred to on Facebook and Twitter were collected (source: LexisNexis).

Based on our interest in the online discursive interactions in this intergroup conflict, the data sampling method focussed on key players in the conflict and the influence of messages on the online conversation. Table 5.1 shows the data sampling process for each of the four datasets.

On Twitter, we selected tweets of key players (1) and tweets with high influence (2).

1) The selection of key players was based on the number of messages posted, the number of reactions, their influence (which includes second-level reactions to posts of the account), and the description of the account (e.g. important actors such as the initiators of the farmer movements were included).

Table 5.1: Data sampling process for each of the four datasets

	Twitter	Facebook
Calf Puller Case	Messages in data set: 1682 Sample: 221 (13%) - messages with influence >10: 104 - key accounts: 18 phase 1: 48 tweets phase 2: 158 tweets phase 3: 15 tweets	Messages in data set: 1397 Sample: 258 (98 posts / 160 comments) = 18% 2 key pages: Wakker Dier + Anti Wakker Dier phase 1: 73 (5 posts / 68 comments) phase 2: 150 (69 posts / 81 comments) phase 3: 35 (24 posts / 11 comments)
Calf Separation Case	Messages in data set: 8032 Sample: 322 (4%) - messages with influence >30: 208 - key accounts: 12 phase 1: 89 tweets phase 2: 171 tweets phase 3: 62 tweets	Messages data set: 4279 (1331 posts, 2948 comments) Sample: 134 (32 posts, 102 comments) = 3.1 % - key posts: 32 - comments on key posts: 881 - comments of key players, on key posts: 102 phase 1: 42 (14 posts / 28 comments) phase 2: 58 (9 posts / 49 comments) phase 3: 34 (9 posts / 25 comments)

2) The influence of a message is a measure of the amount of discussion a message triggers, which includes first-level reactions and second-level reactions.

On Facebook, we considered key pages (amount of posts and comments on a page), key accounts (based on number messages (including both posts and comments), and the number of received reactions), and the discussion length of posts. In order to account for the differences between the cases, we used different selection schemes for each case in order to collect relevant data.

- Calf Puller case; we included all posts of the two key players (Wakker Dier and Anti Wakker Dier), and then included all comments to the 5 to 7 most relevant posts in each of the three phases based on discussion length and diversity.

- Calf Separation case; for each of the three phases, we selected 9 to 14 posts with more than 20 comments on diverse key Facebook pages (news pages, farmer pages and animal right advocate pages), and then also included the comments of key players to these posts.

Data Analysis

The selected Twitter and Facebook messages do not form a single conversation with a fixed number of interlocutors and turn-taking structure, but rather form an open online conversation in which the sequence of messages and the textual references, hyperlinks, replies, comments, hashtags and address signs in messages were used for studying interaction patterns in framing and emotion discourse. The text, time, author, and media source of messages were imported as columns in Excel and additional columns were created as code-categories for; issue-frames, identity-frames and characterisation frames (including labels and dispositional attributes), the discursive device and function of 'emotion*', the use of emotion lexicon (various emotion words, e.g. anger, love and sadness) that refer to or imply specific emotions as distinct discursive categories, the attribution of emotions to individual or collective agents or actions, interaction indicators (mentioned above) and other significant patterns that emerged from the data such as popular rhetorical devices (hashtags and action-frames) and the strategic use of or references to social media.

We then first reconstructed the sequence of events for each case (supplemented as appendix 5.2) and determined the key interactions or 'discursive shifts' in the conversations (presented in figure 5.1) based on significant changes in the above mentioned categories. We then analysed the structural role of frame-interactions and the discursive use of emotions in the course of the interactions (presented as the results of this study): For the framing analysis we identified the main issue and identity frames in each phase of each case based on synthesising the codes of step 1. We then studied

how these frames interact across the cases and phases (how disputants respond to each frame), which resulted in the conflict framing repertoire presented in figure 5.2. For the analysis of emotion discourse we identified key discursive strategies across the cases and phases (based on the synthesis of codes), to discern how emotion is explicitly and implicitly employed (as discursive device) to frame issues and identities (as discursive function), of which the results are presented in figure 5.3.

5.5 Results

The cases show similarities in issue- and identity-framing and the discursive use of emotions over the course of the conversation. Figure 5.1 synthesises the key discursive interactions between animal rights advocates and farmers in the calf puller (CP) and calf separation (CS) case in 6 steps or 'discursive shifts'. To understand these dynamics the succeeding analysis focusses on the structural role of framing and the discursive use of emotion throughout the conversation.

The main issue- and identity-frames that we identified in these two cases and throughout the phases are similar. Moreover, each of the issue-frames that is pushed forward in these cases implicate a corresponding identity-frame. Hence, we identify a conflict framing repertoire (figure 5.2) that disputants use to make sense of the situation (understood as conflict) in which both issue- and identity-frames are based on a binary opposition. The binary opposition is initially established through issue-framing (through which the opposition between the groups is implied), but in the second phase escalates into an identity-conflict that involves blaming and labelling in characterization and collective identity framing.

Animal welfare as common value-frame

Both parties consider the two policy issues to be a matter of taking care for animals (figure 5.1, step 1 and 2: '*animals are/will be hurt*'). In the debate, animal welfare is considered to be of absolute, not relative, importance; it is unacceptable to weigh animal welfare against other values or interests, such as economic value. Disputants thus share a moral or value-frame that is dominant in both debates (reflected by the overarching frame *animal welfare* in figure 5.2); decisions and (discursive) actions should be morally right, based on what is best for the cows and calves. However, farmers and animal right advocates have different opinions about the policy solution and responsibilities concerning the calf puller and calf separation; animal right advocates call for governmental intervention, while farmers want to maintain their autonomy. The common care for animals (common value) does not result in a dialogue in search for the best policy solution, but in a conflict in which frames are

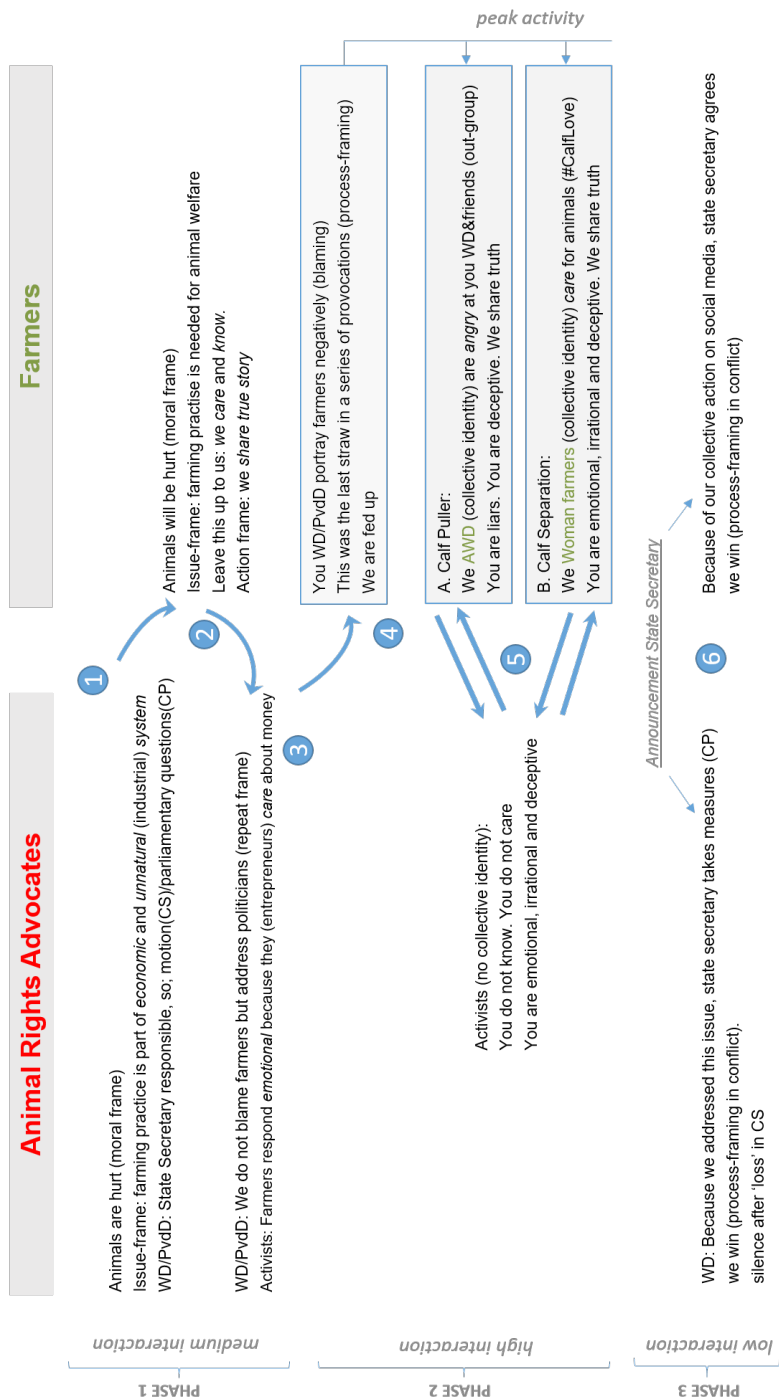


Figure 5.1 Synthesis of the discursive interactions between animal rights advocates and farmers in the calf puller (CP) and calf separation (CS) case. Legend: WD (Wakker Dier); PvdD (Political Party for Animals); AWD (Anti Wakker Dier)

used to create a difference between the groups. Since both parties claim to know what is best for animal welfare but have distinct opinions about the policy solution, the discussion gets focussed on who knows best (expertise/knowledge), and who cares most for these animals (trustworthiness and moral superiority). Hence, the parties agree about the generic issue at stake, but argue that their group is more knowledgeable and trustworthy to judge about what is good for the animals. In order to build credibility of the in-group and/or to undermine the credibility of the out-group, each of the issue-frames that is used by the parties implicates a corresponding identity-frame, and thus establishes the binary opposition of the conflict framing repertoire.

Issue- and Identity-frames

We identified four frames that create a difference out of the common care for animals: the economic-frame, the natural-frame, the emotion-frame and the truth-frame, each implicating specific identity-frames. These four frames constitute moral-, issue- and identity-frame components and reflect a similar line of reasoning: 1) Animal welfare is opposed to economic interest, and because you are an entrepreneur, you are wrong; 2) Animal welfare is opposed to emotion, and because you are emotional, you are wrong; 3) Animal welfare is about what is true, and because we are farmers and see our animals every day, we know and we are right; 4) Animal welfare is about what is natural, and because we are nature-lovers, we know and we are right. Each of these lines of reasoning has a binary opposite expressed by the other party.

As one cannot be against animal welfare, animal welfare is contrasted with other categories as the negative side of a binary opposition (signified by the red lines from animal welfare to *economic* and *emotion* in figure 5.2), which is linked to the out-group (signified by the identity-frames in the same vertical line). Animal welfare is frequently contrasted with economic interest throughout both cases. Farmers are portrayed as entrepreneurs (stereotype), primarily interested in money (attribute) to undermine their credibility. On the other hand, farmers counter-argue that animal welfare does not conflict but corresponds with economic interest, and that they thus do care for their animals. Moreover, they counter the policy solution of Wakker Dier/Party for the Animals which bypasses farmers, by presenting themselves as independent, knowledgeable and caring (attributes) entrepreneurs (identity) that do not need governmental interference.

Animal welfare is also contrasted with emotion. In the calf-separation case, animal welfare is explicitly opposed to emotions (*'it is about animal welfare or emotions, we go for the first'*), and emotions are explicitly opposed to facts (*'this is about emotions versus facts'*). In both cases, this frame is mostly used by farmers in phase 2 and is part of a larger frame in which animal welfare

advocates are portrayed as emotional and sentimental. Emotions are explicitly used to frame the other as deceptive (*'you make use of emotions'*) and irrational (*'you react out of emotion'*), and to stereotype the out-group: *'Political Party of Emotions'*. In addition, in both cases, but more prominent in the calf puller case, farmers *'share the true story'* and blame animal welfare advocates for telling lies, framing the issue as a matter of truth. In this line, farmers present themselves as experienced and empirical experts. Hence, more generally, truth, facts, and objectivity are contrasted with emotion, sentiment, and subjectivity (indicated by the dotted red line between the issue-frames in figure 5.2). The emotion and truth frames are introduced by farmers in response to the frames of animal right advocates (economic- and natural-frame) but gets employed on both sides, particularly in phase 2.

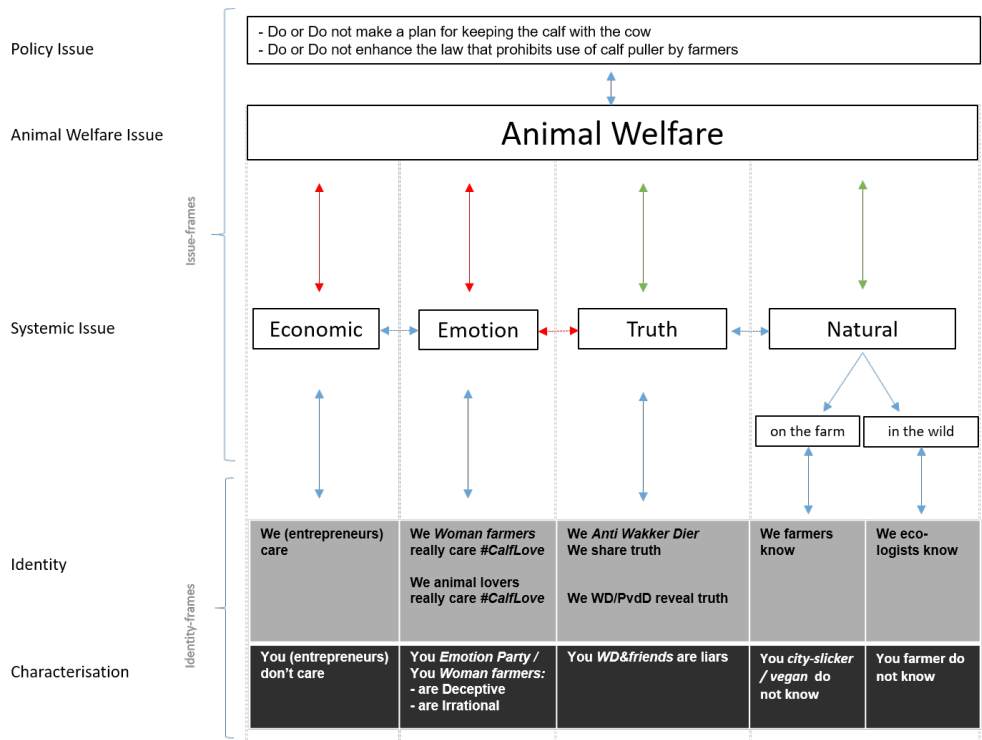


Figure 5.2 Conflict framing repertoire.

The two parties have different ideas about the policy solution (top layer), but both parties frame this as a moral matter concerning animal welfare; policy measures should be based on what is good for animals (second layer). To evaluate what is good for animal welfare both parties make use of four frames, with issue- and identity-frame components. The colour of arrows reflect the type of relation as contrasting (red) or corresponding (green), or more neutrally as extending (blue). Italicized words are frequently used labels of disputants to identify/characterise a group.

The natural-frame functions as a heuristic that articulates opposed worldviews. To evaluate what is good for the animal in regards to the use of the calf puller and the separation of calves, discussants evaluate what is ‘natural’: what’s natural is good for the animal. Naturalness seems to own the two important features that can make an argument hard to challenge: it is rather vague and it appeals to a kind of common-sense logic shared by members of the culture. The parties have two contrasting notions about what is natural: farmers look at nature on the farm (the domesticated animal within the current farming system), while animal right advocates and ecologists look at animals in wildlife or on ecological farms (alternative systems) and make comparisons with humans. This frame is mostly used by animal right advocates but farmers also use this frame and characterise the out-group as ‘city-slickers’ and ‘vegans’, who logically do not know anything about animals on the farm. Moreover, they refer to these statements as sentimental and irrational, and stress their knowledge and access to an objective truth (employing the emotion-truth frame in response).

Although animal right advocates mainly use the economic- and natural-frame and farmers respond with the emotion- and truth-frame, each issue-frame is ultimately used by both sides as disputants counter each other through reciprocated accusations (using similar frames, but opposing positions) – reflecting an antagonistic interaction. Hence, although the two groups frame farmers and animal rights advocates differently, they frame themselves and the others (the ingroup and outgroup) similarly. What is unity or frame similarity at a generic level (e.g. both employ the emotion frame) is polarity at a specific level (e.g. Woman Farmers as emotional vs. the PvdD as ‘emotion party’). We refer to this as symmetric frames. Hence, the issue- and identity-frames comprise a system of interaction that constitutes the symmetric conflict framing repertoire.

The discursive use of emotion in issue- and identity-framing

We identified four key discursive strategies in which emotion is explicitly/implicitly employed to frame issues/identities:

1. Emotion is *explicitly* used as an *issue-frame* (*‘it is a choice between emotion or animal welfare’*)
2. Emotion is *explicitly* used; (a) to frame the *other* (group) as deceptive (*you make use of emotion*) and irrational (*you react out of emotion*), and; (b) to stereotype/characterise the *out-group* (*‘Political Party of Emotions’* / *‘Emotion Party’*)
3. Emotions are *implicitly* used; (a) to frame *oneself* as loving/caring (*I/We care for animals*), and; (b) to frame the *in-group* as caring (We *‘Woman Farmers’* care for/love our calves).

4. Emotions are *implicitly* used to frame (binary) relationships through punctuation in process-framing:

- a) the actions of the out-group have emotional impact on, and justify the actions of the *in-group* (because you did this, we are *angry* and attack you) – blaming and justification
- b) the emotions expressed by the *out-group* are framed as a result of hidden interests/values (you are *sad/angry* because you care about money) – framing the other as deceptive
- c) the reactions of the out-group are framed as outrageous and out-of-place (we are surprised about your *outrageous* reaction) – framing the other as irrational

These discursive strategies are used by both parties throughout the different phases, but some strategies become frequently employed by one of the parties at a particular moment, after which the conversation takes a turn (see discursive steps in figure 5.1). In the first phase, farmers stress their care and love for animals in response to the critique on their farming practice, to defend their credibility (which is supportive to their main frame: leave this up to us, because we care and know) (step 2, discursive strategy 3). Animal right advocates frame this response of farmers as emotional and unreasonable (step 3, discursive strategy 2a). Moreover, these emotions are said to result from their interest in money, not their care for animals (step 3, discursive strategy 4b + 4c), implying that farmers are deceptive and thus not trustworthy, which again triggers a defensive response of farmers. In the calf separation case, we found a more offensive response of farmers right from the start, in which they also undermined the credibility of the Party for the Animals and animal rights advocates, by accusing them for being emotional (irrational) and for making use of emotion (being deceptive) (discursive strategy 2a). However, in both cases there is little blaming and justification (4a), characterisation (2b) and collective identity framing (3b) in this first phase.

In the second phase, emotion discourse is employed for blaming, characterization and collective identity-framing: Farmers stress that they are fed up by the actions of animal rights advocates (*their use of emotions / their lies*); that these actions affect them emotionally (*we are hurt / we are angry*), and; that these emotions justify and explain their collective action (*Woman Farmers Love/ Anti Wakker Dier attacks*). Hence, animal right advocates are blamed for making use of emotions and for telling lies (step 4+5, discursive strategy 2a), and are accused to have caused emotions among farmers, which justifies and casts their collective emotive action (step 4+5, discursive strategy 4a). Moreover, while farmers implicitly use emotion to frame and justify their collective action, animal right advocates, in turn, explicitly use emotion to frame their reaction as irrational

and deceptive. These self-reinforcing patterns of emotional communication also increase the affordance of emotion as explicit issue- and identity-frame (discursive strategy 1 and 2). Although emotion is used as a framing device by both parties throughout the conflict, farmers increasingly use emotion discourse for collective identity-framing in this phase: framing the in-group as loving/caring (*Woman farmers as caring and loving*), and framing the outgroup explicitly in terms of emotions (*The Emotion party; Political Party of Emotions*). In the third phase, when the state secretary announced his/her decision, farmers and animal right advocates barely interact, as they do not respond to each other but to the policy statement; framing the decision as a victory/success for their in-group or the general public. Hence, after the political announcement the emotional recriminations between the groups dissolve and the conflict returns dormant.

Discursive interactions

Taken together, the discursive uses of emotion reinforce each other and shape conflict dynamics in two ways: First, the implicit use of emotional language and the explicit condemnation supports a cyclical contestation of credibility (left side of figure 5.3). On the one hand, emotions are *implicitly* used to frame oneself as caring, loving and sensitive (*we love/care for animals*) – to build credibility. On the other hand, emotion is *explicitly* used to frame the other as deceptive (*you make use of emotion*) and irrational (*you react out of emotion*) – to undermine their credibility. These discursive acts reinforce each other: As credibility is at stake, emotions are implicitly used to frame oneself as caring and trustworthy, but as these emotions are explicated and condemned by the other party, credibility is again contested.

Second, disputants express collective emotions as a response to the other group's offensive actions (blaming) and as a justification of one's own actions directed against the other party, which drives recriminations (right side of figure 5.3). Besides the general emotional aggravation that tends to go with reciprocal accusations, blaming plays a crucial role in the discursive shifts in these conflicts. In both cases, the conflict escalates when an action that is directed to politicians (the public campaign *#CalfLove* of farmers, and the open letter of Wakker Dier to the state secretary), is responded to and condemned by the other group. Hence, blaming shifts the attention from the issue to the other group and sets in motion the recriminations. Moreover, when the state secretary makes a public announcement about the policy decision at the start of phase 3, the groups respond to this statement instead of each other, which ends the antagonistic intergroup interactions (de-escalation; the conflict returns dormant).

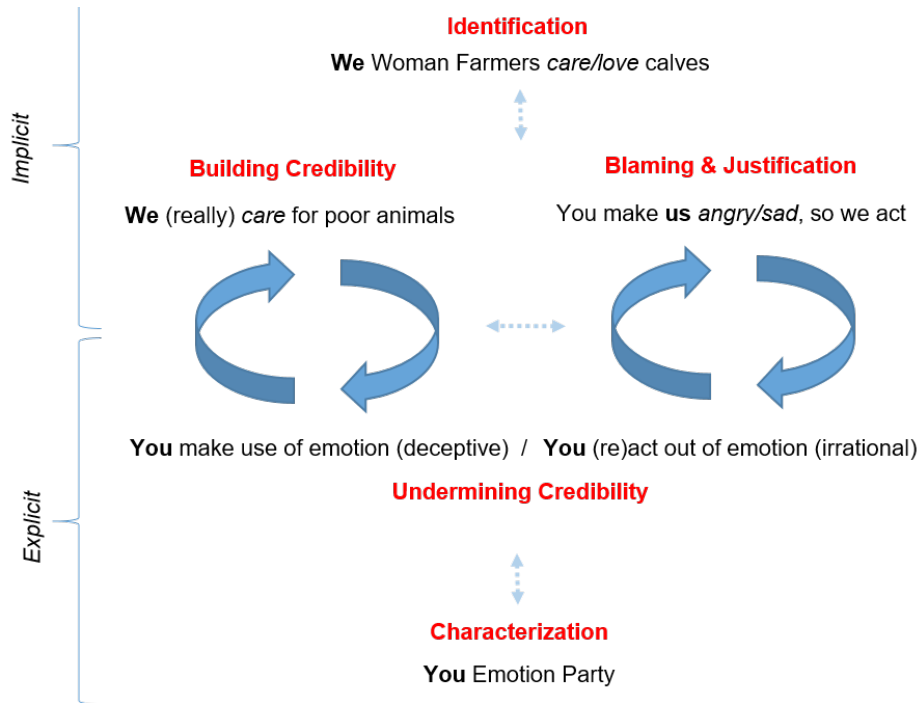


Figure 5.3. The discursive use of emotions in interactions.

It shows 1) the use of emotion in the cyclical contestation of credibility (left side), 2) how emotion is used in process-framing; blaming and justification (right side) 3) how emotion is implicitly used to build credibility and frame one's own identity (upper), and how emotions are explicitly condemned and used to characterise the out-group (lower)

5.6 Discussion

In contrast to previous studies that have pointed out that conflicts ensue from differences between disputant's framings (e.g., De Dreu & McCusker, 1997; Pinkley & Northcraft, 2018; Vaughan & Seifert, 1992) this study found that two groups used the same set of issue- and identity-frames to directly oppose each other. Many researchers have pointed out the binary opposition at the root of conflicts in terms of a polarization along fault lines (Herzele et al., 2015), contradiction in communication systems (Bösch, 2017), a dance of opposites (Cloeke, 2013) or a dialectic that holds opposite poles together (Putnam, 2005). However, in framing literature this has not yet been acknowledged in terms of a direct opposition within a shared set of frames. Although frames come in hierarchies (unity at the generic level can be contrasted at the specific level) we assert that our findings reflect an empirical – not an analytical – difference in comparison with other studies: the groups not only presented a similar view on the generic issue at stake (viz. animal welfare) but also used the same set of issue-frames to make sense of animal welfare (i.e. to make a difference out of the common generic moral frame).

Moreover, except for the increased use of labels for collective identity-framing and characterisation in phase 2, the frames were relatively stable throughout the conflict. Although disputants frequently shifted frames in response to each other, the issue-frames and identity-frames interacted in ways that reinforced their stability. This resulted in a constant set of frames throughout the three conflict phases. Since the two groups used similar frames in the two cases and throughout the three phases, we identify this as a symmetric conflict framing repertoire. This repertoire is a cohesive system of interaction that can become activated when these two groups discuss the issue of animal welfare in industrial livestock farming, and is thus case-specific.

However, we assert that a symmetric framing repertoire among opposing groups could be present in other conflicts. Most framing studies in conflict research have looked at interpersonal or intragroup conflicts in organisations (Coleman, 2006; Hurt & Welbourne, 2018; Pluut & Cârșeu, 2013), and at multiparty conflicts in environmental governance that involve more than two parties in a professional setting and require negotiation to come to solutions (Brummans et al., 2008; Davis & Lewicki, 2003; Lewicki et al., 2003). In an identity-conflict between two parties however, opponents assign an identity to themselves and their adversaries, each side believing the fight is between “us” and “them” (Wondolleck, Gray, & Bryan, 2003), which is more likely to generate the binary opposition at the root of the symmetric conflict framing repertoire. Moreover, if these groups are not involved in a negotiation as part of a decision-making process, they are more likely to promote and strengthen their position in public rather than to engage in constructive interactions (Beierle, 2005). In these situations, social media provide a public platform for identity-based interactions, such as the use of community platforms as battlegrounds of the conflict (e.g. *Anti Wakker Dier* and *Wakker Dier* Facebook pages), competition over collective action frames (e.g. *#CalfLove*) and the use of various interactive functions such as addressing, replying, retweeting, commenting and sharing for ingroup and intergroup communication. Hence, to determine if, and if so under what circumstances, groups use the same set of issue- and identity-frames, future studies could analyse other online conflicts between two groups that recurrently clash over policy issues.

Looking more closely at the basic elements of the repertoire, we can identify different opinions about a contingent policy issue (that can make a conflict salient if the policy issue is on the agenda, or latent when the policy issue is off the agenda), an overarching shared dominant moral frame and a set of issue-frames and identity-frames that correspond, extend or contrast each other and together comprise a self-reinforcing system of interactions. This study indicates that a shared dominant moral frame combined with opposed ideas about the solutions can generate interactions that revolve around the contestation of credibility, particularly when the proposed policy solution

limits the autonomy of one of the parties. Credibility is the perceived expertise and trustworthiness of an actor in a specific context, usually as the source of a message (Rieh & Danielson, 2007). Credibility is sought not so much by the other party in the conflict, but by ‘the audience’ as a third party in this public intergroup conflict. After all, the parties do not consider themselves to be a part of negotiation or deliberative process that asks for an agreement, but consider themselves to be part of a zero-sum game with the decision-makers as final adjudicators. The assumption that underlies the contestation of credibility is that only one of the parties can be right (which reflects the perceived ‘goal incompatibility’ and zero-sum situation at the root of a conflict-frame), and that considering the fact that the two parties express the same moral perspective, the one who is most knowledgeable and trustworthy must be right. This line of reasoning is reflected in the four frames of the repertoire that constitute moral-, issue- and identity-frame components. Hence, in order to build credibility of the in-group and/or undermine the credibility of the out-group, each of the issue-frames employed by the parties implicates a corresponding identity-frame. In contrast to credibility, identity refers to the inherent, more dispositional, characteristics that mark a person or group (Fiol, Pratt, & O’Connor, 2009; Tajfel & Turner, 1979). If disputants strongly identify with a social group that is made salient in the context, such as the Dutch farmers in this case (Klandermans, Sabucedo, & Rodriguez, 2002; Weerd & Klandermans, 1999), the contestation of credibility is more likely to generate an identity-conflict (Tajfel & Turner, 1979). We speak of an identity-conflict when the attention for the issue (in this case the calf puller and calf separation) moves to the background, and identity itself becomes at stake (Bösch, 2017; Wondolleck et al., 2003). Although we did find an increase of characterization- and collective identity framing in the second phase, we do not claim that the contestation of credibility or the use of specific issue-frames led to an identity-conflict. Instead, we consider the symmetric conflict framing repertoire to be a system of interaction (Bösch, 2017; Coleman, 2006; Coleman et al., 2005) constituted by binary opposites at the heart of an identity-conflict. This opposition is reflected in the symmetric issue-frames and identity-frames of the repertoire.

To understand the conflict dynamics we looked more specifically at the discursive shifts in these cases and the way emotion discourse was used in interaction. We found that the conflict escalated through the use of emotion discourse in labelling and blaming groups. Emotions comprise a wide range of sentiments from positive to negative, each with unique characteristics and discursive affordances (Edwards, 1999; Potter & Hepburn, 2007). The emotions most referred to in these cases are *anger*, *sadness*, and *love*. Moreover, disputants used a range of discursive devices to imply specific emotions, such as emphasising their *care* for animals and caring character (e.g. as *mother*, or *farmer woman*), to imply their altruistic or emphatic affection for animals (Taggart, 2011;

Weicht, 2008) in combination with expressions of love (e.g. *CalfLove*). In our analysis however, we simply distinguished the explicit use of emotion as discursive category, and various emotion words (psychological thesaurus) that refer to or imply specific emotions as the implicit use of emotion discourse. Based on this rudimentary distinction we found that disputants generally imply emotions to build credibility, and that disputants tended to respond to and define this discourse explicitly in terms of *emotion* - not in terms of the *anger*, *sadness*, *love* or *care* expressed by the other party – to undermine their credibility. The use of emotion discourse for building credibility has been reported in earlier research (Edwards, 1999; Locke & Edwards, 2003; Van der Meer & Verhoeven, 2014) as well as the use of emotion as a negative frame in conflicts (T. Jones, 2001). However, to our knowledge this is the first study to indicate that these two form an interactive mechanism in conflict escalation. Second, the role of blaming and justification in conflict is reported in other studies (Fuller & Putnam, 2018; Idrissou et al., 2011), as well as the use of emotion discourse in blaming and justification (Buijs & Lawrence, 2013; Ransan-Cooper, A. Ercan, & Duus, 2018). However, to our knowledge this study is the first to indicate that the discursive use of collective emotions in blaming and justification can both trigger and aggravate an intergroup conflict.

This study inferred the discursive interactions based on the sequence of messages and interaction indicators (replies, comments, address signs, textual references, etc.) in messages on an open online platform. Moreover, we focussed on interactions on group-level, between farmers on the one hand and animal welfare advocates on the other. This enabled us to study discursive shifts in conflict dynamics at a generic level. However, discursive interactions in conflicts can be studied in much greater detail through conversational analysis (Potter & Hepburn, 2007) and if the fluid and permeable boundaries of groups and group membership are taken into account (Halevy & Cohen, 2019; Paul et al., 2016).

5.7 Conclusion

In this comparative case-study, we analysed two social media conflicts between farmers and animal right advocates to understand how conflicts establish, escalate and return dormant through issue- and identity-framing and the discursive use of emotions. In contrast to previous framing studies in conflict research, we found that the two groups used the same set of frames and did so consistently throughout the three phases of both cases. We identify this as a symmetric conflict framing repertoire. The groups share a dominant moral frame (animal welfare is of absolute value), but have distinct views on policy solutions. The common value does not result in a dialogue in search for the best policy solution, but in a conflict in which disputant use the same set of issue-

and identity-frames ‘to make a difference’ between the groups, in which each of the issue-frames implies a corresponding identity-frame. We thus consider the conflict framing repertoire to be a system of interaction constituted by binary opposites at the heart of an identity-conflict that is reflected in the issue-frames and identity-frames. Based on a comparison with other conflict studies, we hypothesize that a symmetric conflict framing repertoire is more likely to be present 1) if conflicts involve only two groups, 2) if the groups are not involved in a decision making process, 3) if the decision has implications for the autonomy for at least one of these groups, 4) if disputants strongly identify with a social group that is made salient in the context, 5) if the groups can engage in identity-based interactions on a public platform, such as on social media.

To understand the conflict dynamics we looked specifically at the discursive shifts in these cases and the way emotion discourse was used in interaction. The binary opposition is initially established through issue-framing but escalates into an identity-conflict that involves group-labelling and -blaming. The discursive use of emotion reinforces this escalation in two ways. First, it reinforces a vicious cycle in the contestation of credibility: while emotions are implicitly used to frame oneself as caring and trustworthy, emotion is explicitly used to frame the other party as deceptive and irrational. Second, disputants express collective emotions as a response to the other group’s offensive actions (blaming) and as a justification of one’s own collective actions directed against them.

The frame-interactions and the discursive use of emotion shape the three conflict phases that we identified in these cases. First, the conflict framing repertoire becomes activated when farmers frame a public statement of animal right advocates directed at politicians (a third party outside the conflict) as an offensive act that contests their credibility. The issue- and identity-frames that disputants use tend to reinforce each other and establish the conflict framing repertoire as a system of interaction. Second, the conflict escalates through blaming and labelling in characterization and collective identity framing. Emotions discourse is used to label collective agents (characterization) and their actions (blaming) which triggers recriminations and shifts attention from the policy issue to the identity conflict. Third, the announcement on the policy decision by the state secretary, shifts the attention away from the identity conflict and takes the issue off the policy agenda. This ends the use of emotion discourse in recriminations and the conflict framing repertoire returns dormant.

Appendices Chapter 5

Appendix 5.1: Search queries

Calf Separation Case

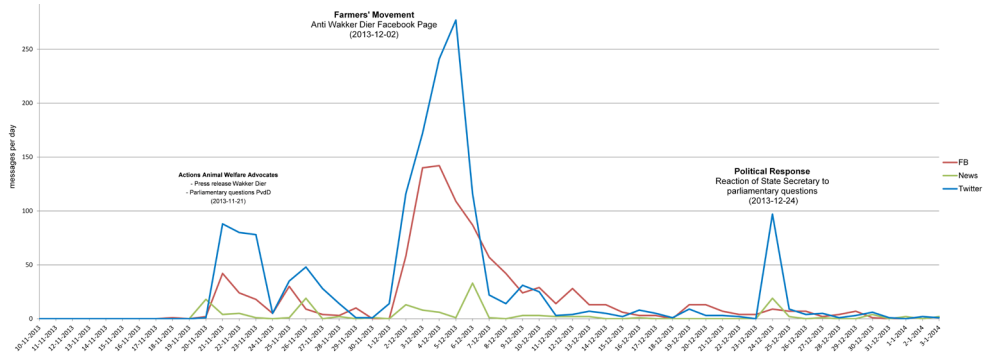
boerinnen OR kalverliefde OR “wakkere boerin” OR eenlingbox OR eenlinghok OR kalverhok OR kalverbox OR boerinnenprotest OR boerinnenactie OR “boerin agnes” OR kalfbijkoe OR kalfbijdekoe OR koekalf OR kalfenkoe OR “liefde voor kalf” OR (koe OR koeien OR moederkoe OR melkkoe) (kalf OR kalfjes OR kalveren OR vaarskalf OR vaarskalveren) -kalender

Calf Puller Case

“anti wakker dier” OR author: “Anti Wakker Dier” OR “anti wakkerdier” OR “anti-wakkerdier” OR antiwakkerdier OR geboortekrik OR veeverlosser OR (geboortehulp + kalf OR koe)

Appendix 5.2: Reconstruction of cases

1. The Calf Puller Issue and the Anti Wakker Dier Movement



Phase 1 (11-20 till 11-30): Animal Rights Activism and Parliamentary Questions

On 21-11-2013 Wakker Dier sent out an open letter to the state secretary stating that farmers massively use an illegal tool that harms animals and asking her to enforce the law that prohibits the use of the calf puller by farmers. At the same time the PvdD (Political Party for Animals) announced to post parliamentary questions. This generated a first wave of media activity.

Although farmers are not directly addressed, they respond on the Wakker Dier Facebook Page *‘Wakker Dier says they help farmers, you would not say so’* – framing this as an action against them. In general, the farmers claim that they can be trusted and that the use of this tool should be up to the farmer, not the state secretary. They stress the care for their cows and describe the value of the calf puller in daily practice, frequently using a common catchphrase: *‘The calf puller saves lives’*. On Twitter, most tweets refer to the message of a *‘woman farmer’* who shares her *‘true story’* about how this *‘helping tool’* (*veeverlosser*) has saved the calf and cow in situations of labor difficulties. Besides these issue-frames, Wakker Dier is blamed for not considering animal welfare: *‘Wakker Dier finds it more important to be morally right than to actually consider the impact on animal welfare’*. In response to the tumult on their Facebook page, Wakker Dier responds: *‘farmers are shocked because we point at illegal practice #world-upside-down’*. Wakker Dier continues to refer to the illegal status and portrays the calf puller as (a symbolic) part of an immoral industrial farming system, which is at the expense of animal welfare. The calf puller is seen as *‘unnatural’* and thus wrong (e.g. by making comparisons with human labor and wildlife). Moreover, they frame economic interests to be in direct contrast with animal welfare, implicitly portraying farmers as people interested in money, not animals. When farmers point out that the care for their cows corresponds with their economic interest, this is used by animal right advocates to attest that

farmers are indeed entrepreneurs who are mainly interested in money. The discussion about the calf puller thus turns into a debate about livestock farming in which identity-frames are implied. Farmers present themselves as knowledgeable and caring, and Wakker Dier (and their advocates) as dishonest and ignorant. Despite the intense upheaval, social media activity almost completely wears off at the end of November.

In sum, in this phase Wakker Dier frames the calf puller as a legal issue and addresses the State Secretary. However, farmers respond by emphasising their care for their cows, stressing their responsibility and credibility, and blame Wakker Dier for not considering the consequences for animal welfare. While farmers stress they need the tool to save lives in daily practice, animal right advocates portray the calf puller as part of an immoral industrial farming system; framing economic interest and unnatural labor practices as binary opposites of animal welfare.

Phase 2 (12-1 till 12-23): Farmers' Movement: Anti Wakker Dier Facebook page

On December 2nd the State Secretary announced that the calf puller remains prohibited until further notice. Farmers blame Wakker Dier for cows that might die in the meantime. The same day, a young farmer launches the Facebook page *Anti Wakker Dier*. Within three days the page is liked over 10.000 times and receives wide media attention, causing the second and biggest wave of media activity. The first post states *'We farmers are fed up with Wakker Dier and their misleading negative portrayal of livestock farming'*. Hence, the open letter of Wakker Dier is framed as the last straw in a series provocations by Wakker Dier. The many messages of farmers that follow contain frequent references to their anger caused by the misleading stories and lies of Wakker Dier. Using first person plurals, farmers explicitly frame themselves as a collective in response to Wakker Dier. Although they claim to be a page *'for animal welfare, for farmers'*, most of the content is directed at condemning Wakker Dier and *'similar parties'*, sometimes including a personal address: *'Dear Marianne Thieme, your party, Wakker Dier and others [...] stop with the Political Party for Emotion'*.

The Facebook page receives news media attention, which focusses on the counter-movement and the conflict – rather than the calf puller issue – reflected in the title of the most shared news article: *'Farmers attack Wakker Dier'* (Telegraaf). More people get involved in the debate. While Wakker Dier sticks to their issue-frame, animal right advocates respond with identity-frames and attack farmers. The political party CDA says to support the AWD page, and they present a parliamentary motion to make the use of the calf puller by farmers legitimate. Animal right advocates respond; *'the CDA takes every opportunity to torture animals for a couple of pennies'*. Politicians, political parties, and other stakeholders get involved and the characterization frames on the AWD page

extend beyond Wakker Dier to ‘vegans’, ‘city slickers’, ‘animal lobby’ and ‘sect’.

The Anti Wakker Dier and Wakker Dier Facebook pages are used for in-group communication but are also frequently attacked by the other side. The sites thus become the main venues of the conflict, protected and managed by their moderators. The competition between the two pages (in number of followers), the influence of the moderators (such as by blocking accounts or messages based on violent communication), other social media strategies (placing accounts in conflicting threads), and the overall violent nature of the discussion become the centre of attention. On Twitter, messages are more moderate and reflective on the conflict, and includes critique of other farmers on the movement. After a week, the initiator of AWD posts a ‘clarification’, saying that he started the Facebook page as a playful stunt, but now wants to have a serious, moderated discussion on the issue. However, the page eventually turns into a platform to criticize WD in relation to various issues and events, but also to nourish the farmers’ identity (e.g. by posting farmer songs).

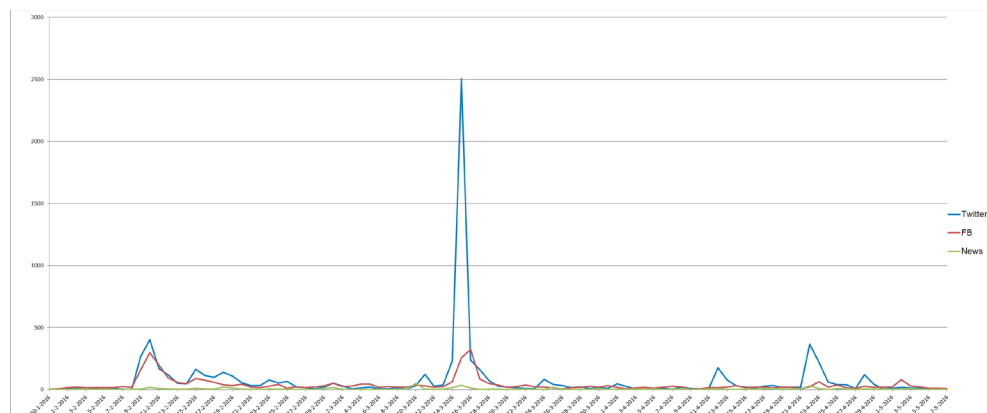
In sum, in this phase farmers frame the open letter of Wakker Dier as the last straw in a series of misleading and false statements about livestock farming that make them angry: shifting from issue-frames to collective identity frames and stereotypes. News media messages report about the conflict and more actors become involved. The two pages are seen as battlefields in a cyberwar, and a discussion opens up about the violent communication of the conflict.

Phase 3 (from 12-24 onwards): Policy Decision

In the last phase, about a month after the press release of Wakker Dier, the state secretary declares that the use of the calf puller is allowed under restrictions. In her argumentation she points out the calf puller is supportive for both the cow and the farmers. Both groups celebrate this decision as a victory, and as a consequence of their efforts. Wakker Dier stresses the restrictions to the use of the calf puller: ‘*State Secretary Dijksma demands restrictions for the use of the calf puller; now the tool is used illicitly and without control*’. The sector on the other hand stresses that the use of the calf puller by farmers is finally legalized. The most influential tweet comes from a PR professional: ‘*The fact that Dijksma finds calf puller OK, is thanks to all farmers that told their honest and real story on (social) media*’. The attention for the issue fades out, but The Facebook page continues to function as an important platform for farmers to critique Wakker Dier.

In this phase, disputant on both sides frame their own group as winner and recapture their main frame: farmers stress their collective action on social media and their honest and true stories, while Wakker Dier stresses the illegal use and the policy decision as a result of their action. There is almost no interaction between the groups.

2. The Calf Separation Issue and the #CalfLove Movement



Phase 1 (1-19 till 3-11): Animal Rights Activism and Parliamentary Questions

The consequences of the increased milk production after the end of the milk quota in April 2015 was a topic of public debate, which led to an investigatory documentary “top-sport in the milk industry” (Zembla, 2015) and a parliamentary debate on January 27, 2016 (dertig-leden debate). Both in the documentary and the debate, one of the issues brought forward was the separation of the calf and cow right after birth. The motion of the Political Party for Animals to make a plan for keeping the calf with the cow after birth was accepted by the majority of the parliament on 9 February.

The accepted motion is celebrated by animal right advocates on Twitter and Facebook. There is little response from the agrarian community, but the next day LTO (Dutch Federation of Agriculture and Horticulture) post a messages stressing that ‘*farmers want the best for their calves*’, which is shared among farmers and professionals in the agricultural sector. The second day after the accepted motion both groups ask their adherents for support, mobilization and action: animal right advocates are asked to let a national newspaper know that ‘*calves should stay with their mother cow*’ and farmers are asked to share their ‘*honest and true story*’ on social media. Up until this moment, there is little interaction between the two groups, and they do not name or blame each other. However, on the evening of February 11, a woman farmer sends an open letter to Marianne Thieme, the leader of the Party for Animals, which gets widely shared. In this letter, she writes how Thieme’s action affects her emotionally because of the negative portrayal of farmers (‘*you made me angry and sad*’), emphasizes that farmers can be trusted (‘*we care for our cows with love, knowledge and skills*’) and makes a normative appeal (‘*I would like to see the government decide on this issue based on facts, not emotions*’).

This triggers a dispute between farmers and animal rights advocates. Both claim that animal welfare is their central concern, but they frame animal welfare in different ways. Similar to the calf puller case, animal right advocates portray the farming practice as part of an immoral industrial farming system; framing economic interest and unnatural labor practices as binary opposites of animal welfare. The natural-frame is mostly used as a heuristic device to make sense of animal welfare (*'is the calf with cow a mistake of mother nature?'*) and to stress the shortcomings of opponents (*'farmers do not understand a thing about the nature of cow and calf'*). In this frame, disputant make comparisons with humans, and their personal experience (e.g. their care for their child). Ecologists get involved as experts about nature (in the wild), while farmers present themselves as experts on the farm. Disputants on both sides invite opponents to come and have a look at a farm that practices what they preach (that does or does not separate calves), implying their access to an objective truth for the out-group to see for themselves. Moreover, farmers establish a frame in which emotion is directly opposed to animal welfare. This is constructed by a widely used phrase on Twitter *"it is a choice between animal welfare or emotion - we go for the first"*. In parallel, emotions are literally opposed to facts: *"this is about emotion vs. facts"*. Taken together, emotion – as a discursive category – is considered to be in contrast with animal welfare and facts.

In sum, although the parties express distinct opinions about the policy solution and responsibilities, there is no interaction initially. An open letter of a woman farmer triggers the dispute between farmers and animal right advocates. Both parties claim that animal welfare is their central concern, but use issue-frames to 'make a difference' by implicating identity-frames (e.g. this is a matter of nature, and I am an ecologist, so I am right). However, there is little blaming and labelling in this phase and social media activity gradually declines. State Secretary Van Dam announced to wait for a research report before his decision.

Phase 2 (3-11 till 4-22): Farmers' Movement: #CalfLove

About a month after the accepted motion, a group of dairy women farmers who frequently interact on closed Facebook communities (*'koeienboerinnen'*) organise a collective action and petition. They present themselves as 'Women farmers' and use the collective action frame *'#kalverliefde'* (literally: Calf-Love), which is a common Dutch expression used to refer to juvenile love. According to one of the leaders: *'politicians were already responding too much out of emotions, but this was the last straw that made us decide to take action'* (Karin van der Toorn). They use a common catchphrase *'we give our calves the best start, this motion hits us within our heart'*. The political party CDA express their moral support and sectoral and private organisations (NMV, LTO) provide strategic and financial support. On March 15 the woman farmers present their petition at the parliament in

Den Haag. #CalfLove becomes number 1 trending topic on Twitter in the Netherlands and triggers peak Facebook and news media attention. Their speech in Den Hague receives news media attention and is widely shared and commented on social media. In this speech they stress their identity (*'you will understand that we, woman farmers, mothers, modern woman, came here today'*), how they care for their animals (*'it would hurt us deeply to take away the calf from its mother only after some time'*) and make an appeal to politicians (*'listen to experts-by-experience before you decide based on emotional and political appealing grounds'*).

Although the movement targets politicians, animal right advocates massively respond on social media, contesting the sincerity of the emotions that the farmers express (*'woman farmers heart or hard for cows?' and 'so-called love'*). In return, woman farmers blame animal right advocates for being irrational (handling out of emotions) and deceptive (making use of emotions in communication strategies), and generally condemn the *'emo-debate'*. Moreover, they again stress that they share the *real, honest and true* story, and that *vegans* do not know. Animal right advocates directly oppose this by calling their companions to also use #CalfLove and reveal the *'real TRUTH'*. The parties thus make use of similar frames and contest who is most credible.

Phase 3 (from 4-22 till onwards): Policy Decision

On the 22nd of April, State Secretary van Dam makes a final statement about his decision. In this statement he reflects upon the public turmoil and starts by positively evaluating the fact that all parties had a common interest: the care for animals. He also reflects on the role of emotion, but in two distinct ways; *'while some react out of emotion, others emphasize the facts'* and *'the discussion was both based on facts and emotions'*. In the first statement he distinguishes two groups of people, and attributes facts and emotions to these two categories - in line with the frame of the woman farmers, who also explicitly stated that farmers are for facts, and animal right advocates for emotions. Finally, he concludes that *'the separation of calves from cows is up to the farmer'*. The decision is celebrated by farmers on social media, in which the decision is framed as a success of the woman farmers (*'nice result of woman farmers as a result of their action #CalfLove'*). Wakker Dier and Political Party for Animals do not respond to these statements.

6. General Discussion

6.1 Summary of Conclusions

6.1.1 Issues, Events and Actors that gain Peak Selective Attention

6.1.2 Emergent Dynamics

6.1.3 Influence on Public Debates and Policy Practices

6.2 Discussion

6.2.1 Framing: master terms and conflict repertoires

6.2.2 Social Media Dynamics

6.2.3 Social Media as a Playing Field for Governance

6.3 Limitations & Suggestions for Future Research

6.4 Implications for practice

6.1 Summary of Conclusions

This final chapter includes; the summary of conclusions, in which the three research questions are addressed (6.1); a discussion of the theoretical and methodological contributions (6.2); limitations and suggestions for future research (6.3); and implications for practice (6.4). In the conclusion and discussion paragraphs key statements are emboldened.

6.1.1 *Issues, Events and Actors that gain Peak Selective Attention*

Research question 1: *What type of issues, events, and actors in agro-food governance gain peak selective attention on social media?*

Attention for Animal Farming and Food

For the first empirical study an extensive search query was developed to explore and analyze public debates about agro-food issues over a four-year period. The results show that **in the Dutch agro-food domain, issues related to animal farming and animal food production generate the highest levels of social media activity**, such as animal welfare in farming practices, the environmental impact of meat production, food safety in meat processing industries and the ethics of meat consumption more generally. To enable the interpretation in a particular governance context, the subsequent case studies focused on debates related to animal husbandry systems in The Netherlands.

Actors and Interactions: A Widespread Controversy about Industrial Animal Husbandry

If we consider all the cases of peak selective social media activity from 2011-2015, we can conclude that **all types of stakeholders are involved**, both as top senders and top receivers: political, public, and various private actors throughout the production chain (farmers, meat processing companies, retailers) are active as well as addressed, mentioned or talked about on social media. Some of these stakeholders are key actors on social media in multiple cases. Moreover, these actors used similar frames and interacted in similar ways with other actors across the cases. Generally, activist organizations criticize industrial farming, which is followed by wide public support. This can trigger a response of representatives of the sector, which in turn receives support from farmers and other professionals. **These interactions of actors across cases, reflect a widespread controversy about industrial animal farming and food production**, with leaders and followers on both sides.

Trigger Events: Social Media Actors instigate peak attention

A main quest that emerged from the literature review (chapter 2) was whether social media activity just follows waves of news media reports about events in the sector (such as crises or scandals) or whether actors on social media also create, generate or reinforce peak public attention for particular issues, events and actors. Based on an analysis of the descriptions of what happened (the event that receives attention) and the source or instigator of that event, I differentiated between **genuine events, media-generated events, and actor-generated events that trigger activity**. The results show that only two cases of peak selective activity started with a disclosure about an event in the news media. The other peaks were triggered by actor-generated events in which the communicative acts of stakeholders instigated peak activity (e.g. campaigns, demonstrations, online accusations). **Hence, stakeholders play an important role in creating, curating and defining events that instigate peak attention.**

The Roles of Actors: The Instigators, the Crowds and the Culprits

Although social media actors have multiple identities and frequently change their role in discussions, **I identified relatively stable functions in social media interactions that reflect dependency relations; instigators that create events (social media accounts that start peak selective activity), crowds that generate momentum (the masses) and culprits that reinforce or reduce public attention (generally the most mentioned social actors in a case)**. When we overlook the role of actors across the cases, civil society organizations, political parties and individual accounts tend to strategically create occasions or venues that receive attention and trigger social media activity. They can be considered as the instigators of peak social media activity. Farmers, consumers and citizens can be defined as the crowds; the masses that respond to instigators and generate peak activity. These are individual accounts (rather than organizational) and tend to have a personal profile (rather than a professional profile). On social media they are framed as change makers, who can protest against companies and politicians. More specifically, meat processing companies, meat retailers, politicians, political parties and government officials are addressed and accused on social media. Some companies and politicians portrayed as culprit were active players on social media and responded to allegations, and thereby reinforced or reduced activity.

Hashtags for making sense of Issues, Events and Actors

Based on the measurements of the increase-rate of Twitter and Facebook messages on various time scales, I found that although social media activity fluctuates strongly per day, peaks of a week have a higher increase rate and volume per day and are thus more significant. These findings suggest that

although social media activity seems ephemeral, it is important to study peaks in a larger context; in relation to broader discussions and over a longer period of time. In fact, issues that gain peak attention do so repeatedly. Instead of solitary peaks about distinct events, I identified peaks with similar frequently-used key-terms.

Each of these terms, such as *booster-broiler* (*plofkip*), *mega-stable* (*megastal*) and *food scandal* (*voedselschandaal*), was used as a rhetorical device that contained and signified the story, was applicable to many situations as an organizing concept, and implied a strong moral evaluation. Moreover, these evaluative and negative keywords were often used with hashtag. More neutral frequent terms, such as ‘livestock’, ‘chicken’, ‘animal friendly’ were not used with hashtag and displayed a smoother pattern of activity. Moreover, policy events as such (e.g. ‘milk quota’) did not generate hypes because they were discussed more broadly and lengthy. Hence, hashtags are used as organizing concepts to make sense of policies, events, issues and actors.

Overall, I conclude that the issues, events, and actors that gain peak selective attention are not discussed in isolation and at random, but are selected and connected through frame interactions in public conversations to make sense of agro-food governance. An analysis of the interrelations across cases of peak selective activity in the Dutch animal husbandry system from 2011 to 2015 showed that social media hypes revolve around scandals, activism and conflicts. These social media hypes are not so much activities that *gain* peak attention on social media, but rather they reflect the actions of actors that *generate peak social media activity*. Hence, the second research question was formulated to better understand exactly how the interactions of actors generate emergent dynamics.

6.1.2 Emergent Dynamics

This section answers research question 2: *What emergent dynamics are apparent on social media and how are these generated by the online interactions of actors in the public debate about agro-food governance?*

All empirical studies in this thesis analysed the evolution of interactions over time to provide insights into emergent dynamics. Peak selective activity was taken as a starting point. Based on the findings of the first empirical analysis, two in-depth comparative case studies were conducted to better understand 1) the role of keywords as dominant framing devices in the public debate, and 2) the role of emotions in discursive interactions in online intergroup conflicts.

Three Types of Social Media Hypes:

the online dynamics of activism, scandals and conflicts

By grouping peaks with similar frequent used keywords, I identified five cases of peak selective activity from 2011-2015. These cases were analysed along four dimensions: (1) peak patterns of activity, (2) issues and frames, (3) interaction of actors, and (4) media interplay. An analysis of the dimensions and the interrelations across cases shows that **social media hypes revolve around scandals, activism and conflicts** – each with characteristic patterns of activity, framing, interaction and media interplay, i.e.; each with their own dynamics.

First, scandals are triggered by an external event (an event in the sector that is reported in news media) that generates a relatively high and long peak of social media activity. Social media activity follows news media reports, and on Twitter news media accounts are most productive and instigate activity. There is little variety in framing. Most attention is directed towards the cause (naming and blaming meat processing companies as culprits), rather than the consequence of the event (food safety and public health). Of the various events from 2011 to 2015 (such as antibiotics found in cattle-fodder, the Schmallenbergvirus and cases of bird flu on Dutch farms), only food scandals (the horsemeat and poo-meat scandal) generated peak selective activity on social media. The co-word analysis pointed out that these events were linked to create a news theme: both cases refer to each other and to other food scandals, which led to peak selective activity.

Second, activism was characterized by recurring waves of activity in which a single term was used as a rhetorical device to problematize industrial agriculture: *megastal* (mega-stable) and *plofkip* (booster-broiler). Both are popular hashtag terms used in multiple campaigns and demonstrations, as well as in public debates about various issues and events. I consider this to reflect a form of activism because civil society organisations tend to propel this frame and online publics and news media reiterate. The rhetorical function of these terms, together with the popularity, the recurring peaks, and the use by activist organisations and followers, reflects features of a master frame. Master frames are inclusive and flexible frames, *‘functioning as a kind of master algorithm that colours and constrains interpretations of movements’* (Benford and Snow, 2000 p. 618). The emergence and evolution of these terms was studied in greater detail through an in-depth comparative case study.

Third, conflicts are characterised by a pattern of activity, framing, and media interplay that reflects three phases: 1) Animal right advocates problematize farming practices and address politicians to take action; 2) Farmers mobilize a counter movement using identity frames and social media venues, which generates an online conflict between animal right advocates and farmers that

receives peak news media attention; 3) the Secretary of State announces a policy decision on the matter, the attention for the issue diminishes and the conflict returns dormant. Discussions about farming practices thus seem to generate peak selective activity only when farmers feel offended and collectively respond. The strategic use of social media, emotional language and identity-framing seemed to play a key role in the two conflicts that I identified (of which the calf separation case occurred in 2016, after the first empirical analysis on social media hypes). The use of emotion discourse and identity framing on social media in conflict dynamics was studied in greater detail through an in-depth comparative case study.

The analysis of peak selective activity over a four year period shows that hypes do not just result from important events in the sector, but are generated through the use of organizing concepts with a hashtag to evaluate and establish occasions. **Peak activity thus revolves around a few themes and is recurrent and judgmental.** Moreover, stakeholders play an active role in instigating and framing social media hypes.

To better understand how actors employ language in discursive practices, and how discourse affects actors' practices, I conducted two in-depth comparative case studies, focussing on 1) dynamics in the emergence and evolution of master terms, and 2) the role of emotion discourse in conflict dynamics.

Dynamics in the emergence and evolution of master terms

The two most frequent used hashtag terms on social media from 2011-2015 – *megastal* (mega-stable) and *plofkip* (booster-broiler) – were also used in parliamentary debates, external organisational communication and news media (the other spaces of public debate as defined in the theoretical framework in chapter 1). The terms have a similar connotative use, but refer to different objects, are used in distinct policy contexts and have different functions in the attribution of responsibilities in agro-food governance. In order to understand how these terms obtained and maintained a framing function in changing policy contexts and public conversations, I conducted a longitudinal comparative case study. A multi-level analysis of discourse was taken to understand the role of keywords in semantic fields (in relation to similar frequent used words in news media and on social media), communication strategies and policy practices. I identified four dynamics through which keywords become dominant framing devices:

1. Using loaded and flexible keywords for frame articulation

Loaded keywords for contested politicized objects are powerful framing devices because they carry normative meaning and yet are open enough to be applied widely, such as for addressing multiple problems, for blaming various actors and for making sense of various events in livestock farming and food production. Mega-stable implies a cause or issue (namely: scale increase), which was attributed to an increasing variety of problems and events in practice (animal diseases, public health, social inequality). Booster-broiler defines the issue (namely: animal welfare) and this problem was attributed to an increasing variety of actors in practice (supermarkets, restaurants and other retailers). As the terms were explicitly and consistently related to realities (problems or events) and responsibilities in the sector, the terms came to designate a frame: mentioning the term evoked a frame in which events, issues and responsible actors are interlinked. This process of ascribing implied meaning to keywords to create a coherent frame can be seen as part of the process of frame articulation (Snow, 2004).

2. Frame alignment through amplification and bridging

In both cases, alternative loaded terms were used. With the rise of booster-broiler and mega-stable, the most frequently used alternative term decreased (*cheap-meat* and *pig-flat* respectively). Booster-broiler narrowed the conversation about cheap-meat production to the issue of animal welfare in the broiler industry, while mega-stable widened the conversation about pig flats to intensive livestock farming in general. Hence, the rise of the keyword and the decline of the most frequently used alternative term reflects a shift of attention, but in opposing directions on the dimension of generality. Wakker Dier defined booster-broiler as a meat chicken without an animal welfare label, and blamed retailers for selling the meat of this chicken, which explicated and invigorated beliefs, values and emotions. Mega-stable on the other hand became a common activist frame for people protesting against different types of mega-stables in different provinces. Hence, the co-word dynamics and discursive (inter-)actions in each case reflect two types of frame alignment as part of the mobilization process: frame amplification and frame bridging (Snow et al., 1986).

3. Counter terms and counter frames reinforce the master term

In the year after the popularization by activists (booster-broiler in 2013, mega-stable in 2008) there is peak attention in news media and the political arena, primarily because of stakeholders' responses. In the booster-broiler case, alternative keywords for *plofkip* (booster-broiler) emerged, such as *bofkip* (lucky-chicken), *Hollandse kip* (Dutch-chicken) and *flopkip* (failed-chicken). The co-word analysis shows that these terms had a high co-occurrence with *plofkip*, a rather short life-span

and that they increased the number of messages about the issue. The terms thus did not establish alternative meanings but reinforced the existing frame set by booster-broiler. In the mega-stable case the introduction of new positive concepts for large scale farms stopped, and the meaning or definition of mega-stable itself became contested. Overall, I identify two different responses with similar effects on the public debate. First, stakeholders developed alternative concepts for the contested object, in the form of real alternatives or new labels. Second, stakeholders contested the definition or meaning of the dominant term: literally by definitions, or implicitly by creating or linking the term to new contexts. Both trajectories increased attention to the contested object, broadened the involvement of actors, and deepened the conversation to a fundamental debate about industrial farming in which discussants took a position and expressed underlying values. As various parties expressed their position in relation to this dominant frame, the terms can be considered to structure or 'master' the public debate beyond the movement.

4. Master terms shape policy practices, which reinforces the affordance of these terms

Both booster-broiler and mega-stable were politically contested and defined. They were defined in more objective terms for policy purposes (a particular chicken breed and a farm of particular size), which turned booster-broilers and mega-stables into real commonly acknowledged problems. The dual function of these terms (normative and neutral) required continuous negotiation and frequently turned specific policy debates into a moral dispute about intensive livestock farming. The politicized objects stimulated the development of alternative objects or concepts (new chicken breed and farms), which functioned as boundary objects to generate communication between opposing groups. However, movement organisations continued to curate the normative debate by redefining the master term to raise the normative standards. Since the concepts remain contested and are related to multiple problems and stakeholders, the 'issues' that these master terms bring on the agenda may never be solved definitely.

I propose the concept of **master term** as a keyword that not only reflects, but activates and establishes a master frame around which conversations and practices (i.e. discourse) revolve. Master terms generate and direct attention of a movement; evoke responses of 'culprits' in the form of communication strategies (e.g. counter terms and counter frames) and policy practices (new types of chickens and farms); and these responses reinforce the affordance of the master term. In these cases, social media played an important role in the emergence and evolution of master terms: besides the relative high frequency of master terms on social media channels, social media were actively employed for mobilizing activists, for curating conversations about events and issues around these hashtag terms, and for addressing and engaging opponents in this public debate.

Emotion discourse and frame interactions in online conflict dynamics

The study on peak selective attention indicated that conflicts are characterised by a pattern of activity, framing, and media interplay that reflects three phases, and that the strategic use of social media, emotional language and identity-framing seem to play a key role in conflict dynamics. Hence, in a subsequent comparative case study I analysed two social media conflicts between farmers and animal right advocates to better understand how conflicts establish, escalate and return dormant through issue- and identity-framing and the discursive use of emotions. In contrast to previous framing studies in conflict research, the results showed that the two groups used the same set of frames and did so consistently throughout the three phases of both cases. I identify this as a **symmetric conflict framing repertoire**. The groups both use a dominant moral frame (animal welfare is of absolute value), but express distinct views on policy solutions. This triggers a contestation of credibility (who knows best and who cares most for animals) in which the two groups use the same set of issue- and identity-frames to directly oppose each other. The binary opposition is initially established through issue-framing but escalates into an identity-conflict that involves group-labelling and -blaming. **The discursive use of emotion reinforces this escalation in two ways.** First, it reinforces a vicious cycle in the contestation of credibility: while emotions are implicitly used to frame oneself as caring and trustworthy, emotion is explicitly used to frame the other party as deceptive and irrational. Second, disputants use collective emotions as a response to the other group's offensive actions (blaming) and as a justification of one's own collective actions.

The frame interactions and the discursive use of emotion thus shape the three conflict phases. First, the conflict framing repertoire becomes activated when farmers frame a public statement of animal right advocates directed at politicians (a third party outside the conflict) as an offensive act that contests their credibility. The issue- and identity-frames that disputants use tend to reinforce each other and establish the conflict framing repertoire as a system of interaction. Second, the conflict escalates through blaming and labelling in characterization and collective identity framing. Emotion discourse is used to label collective agents (characterization) and their actions (blaming) which triggers recriminations and shifts attention from the policy issue to the identity conflict. Third, the announcement on the policy decision by the state secretary, shifts the attention away from the identity conflict and takes the issue off the policy agenda. This ends the use of emotion discourse in recriminations and the conflict framing repertoire returns dormant.

I argue that if groups are not involved in a negotiation as part of a decision-making process, they are more likely to promote and strengthen their position in public rather than to engage in constructive interactions. In these situations, social media provide a public platform for identity-based interactions, such as the use of community platforms as battlegrounds of the conflict (e.g.

Anti Wakker Dier and Wakker Dier Facebook pages), competition over collective action frames (e.g. #CalfLove) and the use of various interactive functions, such as addressing, replying, retweeting, commenting and sharing, to establish ingroup and intergroup communication. Based on a comparison with other conflict studies, I claim that a symmetric conflict framing repertoire is more likely to be present 1) if conflicts involve only two groups, 2) if the groups are not involved in a decision making process, 3) if the decision has implications for the autonomy for at least one of these groups, 4) if disputants strongly identify with a social group that is made salient in the context, 5) if the groups can engage in identity-based interactions on a public platform, such as on social media.

6.1.3 Influence on Public Debates and Policy Practices

This section answers research question 3: *How do social media dynamics influence public debates and policy practices of governments and businesses in agro-food governance?*

Social media dynamics result from all the public interactions by accounts on social media platforms, including the accounts of journalists, news media accounts, politicians and organisations, and includes the sharing of news media messages, policy announcements and messages of organisations. The empirical findings of this thesis show that social media activity, news media reports, and the communication and policy practices of stakeholders are intertwined and often overlap (e.g. stakeholders use social media to communicate about their policy practices). **Most evidently, I found that the amount of messages over time in news media, social media, and policy debates are highly correlated, but that the interrelations between these spaces of communication differed per case and per phase.** In this research, my main quest was to discover if, and if so how (the ways in which), social media dynamics influence public debates and policy practices. This means 1) that I did not study social media, news media and the political arena as separate factors or variables, but took an idiographic approach by conducting case-studies to understand the role of social media platforms in a larger interactive online environment comprised of news, organisational communication and political communication, and 2) that I focussed on the influence of social media and selected cases and phases based on this rationale. In accordance, with my conceptual framework in chapter 1 (figure 1.2), this section will discuss the influence of social media dynamics on 1) news media 2) communication strategies (or ‘external organisational communication’), 3) parliamentary debates, and 4) policy practices. In the discussion (6.2.3 governance), I will further discuss how these results lead to the notion that social media is not an additional arena in governance where the same games are being played, but that social media interlink public spaces to form a new playing field of which the dynamics influence governance processes.

Social media and news media in mass communication

In the literature review (chapter 2), I studied the implications of social media for agro-food governance from three perspectives, one of which focussing on social media as a space for public information dissemination in the form of networked mass communication; i.e. as a mass media that facilitates the large scale public communication to a wide range of people. Based on this review, I argued that **social media can influence phases of peak public attention for particular issues (hypes)**. The empirical studies were thus directed at cases of peak public activity and analysed the role of Facebook, Twitter and online news media platforms (national, regional and sectoral news) in the dynamics of mass communication. More particularly, I analysed the proportion of each media platform in total activity, the synchronicity of activity between media platforms, and the information flows within, across and outside media platforms in five cases.

The correlation between the number of Twitter and news messages per day was high in all cases, mainly due to retweets of news media messages. Facebook activity also correlated strongly with news media but showed a more independent pattern of activity than Twitter. The most shared hyperlinks on all platforms (news media, Twitter and Facebook) were directing to news media sources. News media messages thus play an important role in the online mass communication about animal husbandry systems. However, **media interplay differed strongly per case and is thus context-dependent**.

News media generated extensive uniform attention on social media, reflected by a high level of retweets, a wide variety of accounts and little variety in framing. National news media reported mostly about issues related to food consumption, such as scandals in meat processing companies and the retail of meat products (e.g. booster-broiler or horsemeat by supermarkets), which are likely to be of interest to a wide audience. Other animal husbandry issues related to farming practices (mega-stable, booster-broiler, calf puller, calf separation) were mostly reported in regional and sectoral news media. However, when organisations, politicians or farmers responded to activists, this triggered national news media reports, which defined the situation in terms of conflict. These news media messages had a relatively high impact on social media activity as they were shared and commented on by activists and farmers. In the cases of conflict, the use of social media by farmers was reported about by national news media, which then triggered responses of politicians and responses on social media, creating **a self-reinforcing process in public attention between social media activity, news media reports and external communication of organisations and politicians**. In the cases of activism, I also found an intricate interplay between news media and social media dynamics: **the terms booster-broiler and mega-stable were first mentioned in news media (and thus**

'invented' by journalists), then defined and propagated by movement organisations, and these new meanings in turn got adopted by news media in reports about news events. In all cases social media was used to link the repository of information on the world wide web (websites, announcements, videos, documents, old news media articles, etc.) to the news theme.

Social media strategies

Social media are employed for communication strategies and these strategies can trigger discursive responses of politicians, governments and corporations, online and offline.

Social media are strategically employed by activists, such as by directly and publicly addressing culprits on their online account, attacking and sabotaging Facebook pages, using powerful framing devices as hashtags, creating venues for new communities and conversations (such as Facebook groups for ingroup communication), and coordinating and organizing offline actions (such as demonstrations of farmers). In the literature review I postulated that social media can also be used to 'leak' sensitive (visual) information about farming practices, livestock transport and abattoirs to call attention to scandals. I did not find empirical evidence for such cases, but instead found that farmers employ social media to show pictures and videos of farming practices in response to public critique. In general, Twitter was mostly used for professional (political and sectoral) and interpersonal (horizontal) communication, while Facebook was mostly used for the vertical exchange between citizen-consumers and organizations, for ingroup communication and as battlefields for the conflict between Wakker Dier and Anti Wakker Dier.

Social media strategies of activists trigger communicative responses of politicians, governments and corporations, online and offline. Meat processing companies and supermarkets used social media for PR and issue-management, in direct reply to social media messages or more generally in response to the public tumult. I also found more anticipatory forms of strategic communication, such as the introduction of new chicken concepts by supermarkets in response to the critique on booster-broilers, and subsequently the online contest to dub this 'new booster broiler' by an activist organisation right before the launch of the new chicken concept. Similarly, in response to the critique on mega-stables the government initiated the national dialogue (partly online), which got hijacked by an activist organisation that created their own online survey to overrule the results of the government. Hence, besides the use of social media for regular public conversations about agro-food issues, social media are employed for online surveys, contests, and debates to create occasions that shift the public debate. Moreover, the rapid and networked interactions on social media provide an important platform for public framing contests.

Parliamentary debates and policy announcements

As pointed out in chapter 1, I consider the parliamentary debates and documents that are published online by governments to be part of the public space. However, the analysis points out that these debates and documents rarely become part of the public debate; they are rarely mentioned and connected to events, issues and actors through frame interactions in public conversations. There are almost no links to online governmental documents and debates on social media, and vice versa; I found no explicit references in parliamentary debates to social media messages. However, I did find that some policy announcements and quotes from debates were mentioned by secondary sources, such as in sectoral news media or by popular social media accounts, and influenced social media dynamics (i.e. triggered, shifted or ended social media activity). **Moreover, in all cases the issues that generated peak public attention in the media (social media and/or news media) subsequently received attention in parliamentary debates.** Although in general the issues that I studied moved from the media agenda to the political agenda, the in-depth comparative case studies show that there is an intricate interplay between the media and the political arena that shapes social media dynamics.

The political party *PvdD* and activist organisation *Wakker Dier* in particular formed important bridges between social media and parliamentary debates: raising public awareness for issues on social media to influence the agenda of parliamentary debates, as well as selecting and framing information from parliamentary debates and documents for their adherents in social media networks. In a couple of instances, *Wakker Dier* brought forward an issue in the media and the *PvdD* in the political arena (by announcing parliamentary questions) almost simultaneously, which indicates strategic cooperation. Sectoral news media on the other hand, framed parliamentary debates and documents for their adherents – professionals in the sector, such as farmers – but did not raise issues that generated media attention and influenced the agenda of parliamentary debates.

Policy practices

Besides studying the interplay between social media, and parliamentary debates and documents, I considered the influence of social media dynamics on policy practices more widely. Policy practices include the communication of stakeholders in the public space, such as in the form of external organisational communication or parliamentary debates, but also include other practices with symbolic meaning such as the enactment of decisions and policies.

Both in the booster-broiler and mega-stable case, attention in news media preceded attention in policy. Upon closer look however, political practices (parliamentary questions, motions), political events (elections), policy and legislative definitions and policy decisions (by governments and

businesses) also influenced the public conversation (social and news media messages). The interplay of events, policy practices and communication strategies ultimately influenced policy decisions in both cases, but the pathways differed substantially.

Booster-broiler was framed as a specific issue with a specific solution (sell only meat with an animal welfare label). Moreover, there was little space for negotiating or refuting responsibilities. Wakker Dier dominated the debate, propelled media attention and triggered policy responses in the private sector. These policy responses (introduction of alternative chickens) were either reframed by Wakker Dier (causing negative publicity) or fanned (after which assaults would stop). By alternating campaigns (addressing different retailers intermittently) and by altering definitions (raising the bar), Wakker Dier steered an incremental process towards better animal welfare standards. The sector developed the chicken of tomorrow covenant, to collectively make a transition to a more sustainable chicken breed. Eventually, the three biggest supermarkets, which together sell half of the consumed chicken in The Netherlands, fully replaced the booster-broiler with their intermediary chicken. The sales of booster-broiler dropped from more than half of the total chicken consumption in 2012, to less than 10% in 2016, but because about 70% of the Dutch chicken meat is exported to other countries, still more than half of the chicken production in The Netherlands is regular broiler chicken.

In contrast, mega-stable was related to multiple issues and events, and had no clear solution or alternative. In addition, multiple sectors and layers of public governance were involved and responsibilities were continuously contested. Policies shaped the context in which conversations about mega-farms flourished (e.g. the reallocation project in response to swine fever), but also affected the course of the conversation more directly. For example, the failure of the reallocation project in provinces that resulted from NIMBY-protests, put the issue back on the national agenda and widened the debate (reflected by the project 'dialogue mega-stable'). Hence, diffuse responsibilities, contestation and worsening situations, reinforced public attention and political activity. Moreover, provincial elections (2007, 2011, 2015) correlated with increased public attention in news media and social media. Elections formed a window of opportunity for policy decisions, political changes and the influence of public opinion. Peak social media activity was partly in anticipation of political events (provincial elections, political debates), but public attention also generated increased political activity. Just as issues, responsibilities and solutions were ambiguous, so too was the impact on policy practices. In the first phase from 2007 till 2011, the local resistance to particular mega-stables was successful: none of the Agro Parks got implemented and just a few of the intended 250 reallocations were realized. In the second phase, from 2011 onwards, mega-stable

was increasingly used to frame other policy issues related to scale-increase (such as land based growth, pasturing, milk quota and phosphate limits). However, scale-increase did not stop and the total number of mega-stables gradually grew from 2005 to 2013.

Overall, we can conclude that in cases of peak social media activity, attention in the media precedes attention in policy debates and documents, but that parliamentary activities, political events, and policy decisions also influence the public conversation. In general, social media seem to interlink public spaces to form a new playing field of which the dynamics influence governance processes. Each case however shows a specific interplay of events, policy practices and communication strategies. In the discussion about governance (6.2.3), I will further theorize how specific sets of interactions can be conceived of as game types in governance interactions.

6.2 Discussion

In this section, I will discuss the main methodological and theoretical contributions of this thesis. First, I will highlight the contribution of this research to the framing literature by discussing two new concepts. Second, I will discuss how this thesis fits in and contributes to the literature about social media dynamics by focussing on my conceptualization of social media dynamics and social media hypes. Third, I relate the results and concepts about social media dynamics to the governance literature, using the concept of governance arena and game types.

6.2.1 *Framing: master terms and conflict repertoires*

In this section, I will highlight the contribution of this research to the framing literature. It is through frame interactions that specific events, issues and actors are selected and connected in public conversations. Frames are devices that work on the basis of selection and salience and can thus help to understand peak selective attention. In this section, I present and discuss two concepts that help to understand how peak selective attention results from frame interactions; master terms and symmetric conflict framing repertoires. These phenomena are particularly prevalent and effective on social media, but also part of frame interactions in the public debate more widely.

Master terms

Since the concept of master term results from a unique combination of methods, I will first briefly describe the contribution of the methodological approach in framing research. I will then describe

the theoretical contribution of the concept to the framing literature by 1) explaining how this concept is distinct from and contributes to the concept of master frame as part of the collective action framing literature, and 2) how master terms have characteristics similar to metaphors, memes and boundary objects, but cannot be reduced to any of these concepts.

To study the evolution of keywords as dominant framing devices across different discursive contexts (social media, news media, policy debates and documents) in chapter 3, I built on the literature on collective action frames (Benford & Snow, 2000) and on an emerging area of research that investigates the evolution of single signifiers such as keywords, hashtags, memes and metaphors on online media (Lehmann, Gonçalves, & Ramasco, 2012; Lin, Margolin, Keegan, Baronchelli, & Lazer, 2013; Norton, 2010; Spitzberg, 2014; Nerlich, 2010). These two fields of literature have different perspectives on discourse in regards to the semiotic focus (signs as carriers of meaning vs. implicit schemata as sense making devices in the construction of meaning), the conceptualization of actors (active agents vs. passive hosts), the definition of context (political opportunity structures and frame resonance, vs. environmental fit or exogenous factors), and the definition of impact (frame alignment, -adoption, vs. propagation, virality, etc.). **Yet I argue that in order to understand the function and evolution of keywords as framing devices, one needs to consider both the interrelation of language and actors, and the interrelation of explicit words and implicit structures in framing practices.** Hence, I developed a research design that incorporated these perspectives and combined quantitative and qualitative methods. More specifically, to study the evolution of keywords both longitudinally and in detail, I developed an iterative three-staged research design, in which each stage informed the next stage. This design involved an increasingly detailed analysis in terms of the time-period under study and the level of analysis – from keyword frequencies over the years across discursive contexts, to the use of keywords by specific actors in specific contexts during critical moments. Most importantly, text was analysed on two levels (explicit word choice and implicit structures of co-occurring words), and I conducted an interpretive analysis to understand the discursive use of keywords as framing devices. This combination enabled us to study the evolution of keywords as framing devices: the interrelation of explicit words and implicit structures in framing practices over time.

Based on the results of this study, I introduced the concept of master term. **A master term is a keyword that not only reflects, but activates and establishes a master frame around which conversations and practices (i.e. discourse) revolve.** A master frame is defined by Benford and Snow as a generic type of collective action frame (Benford, 2013; Benford & Snow, 2000). Collective action frames vary in the degree to which they are relatively exclusive, rigid, inelastic, and restricted or relatively

inclusive, open, elastic, and elaborated in terms of the number of issues or events they incorporate and articulate (Benford & Snow, 2000). According to Benford and Snow (2000), *‘the more inclusive and flexible collective action frames are, the more likely they are to function as or evolve into master frames’* (p.618). More specifically, they point out that those frames that emerge early in a cycle of protest come to function like master algorithms in the sense that they color and constrain the orientations and activities of other movements within the cycle, such that subsequent collective action frames within the cycle are derivative (Benford & Snow, 2000; Snow, Vliegenthart, and Ketelaars 2018, p.395). In sum, master frames are seen as generic and dominant collective action frames that can be applied in multiple situations and are used in multiple cycles of protest.

As pointed out in the summary of conclusions, the frames and interactions of actors across cases reflect a widespread controversy about intensive animal farming and food production. In this controversy, the two most frequent used keywords on social media, *booster-broiler* and *mega-stable*, functioned as rhetorical devices to problematize ‘industrial’ food and farming. In fact, *industrial* was the third most frequent used keyword (see appendix 4.2) and was often used in combination with the first two terms. Previous experimental research has demonstrated that the word ‘industrial’ has a negative connotation and produces frame effects in messages about animal food production (Jin & Han, 2014). Likewise, in the social media debate ‘industrial’ was used to morally evaluate intensive livestock farming. I thus postulate that the collective action frame against industrial food and farming is a master-frame that dominates the social media conversation. Moreover, as demonstrated in chapter 3, this master frame is reflected, activated and established by the two keywords *booster-broiler* and *mega-stable*. These terms refer to familiar objects in livestock farming (the chicken and the stable) that are widely applicable, but the attribute of scale (mega and boost) links these objects to industrialisation and implies a moral evaluation (immoral or negative valence). These words could thus be used to evaluate multiple situations and events. Moreover, I found that the terms triggered the introduction of derivative concepts for chickens and farms and a contestation of definitions. The wide applicability of these terms and the frame interactions between movement adherents and adversaries generated recurrent peak selective activity over a long period of time. **The findings thus correspond to the conceptualisation of master frames as ‘flexible and inclusive collective action frames’ that function ‘like a master-algorithm’, trigger ‘derivative frames’ and colour and constrain interpretations throughout ‘multiple cycles of protest’** (Benford & Snow, 2000. p. 618). However, master frames are generally understood as implicit structures used by distinct social movements, such as the equal rights frame used by various movements throughout history (Benford, 2013). Moreover, master frames are seen as products of social movements; as ‘alternative frames’ that counter dominant discourse, and are analysed in light of their mobilizing

function for linking and bridging distinct movements (Snow, 2007). Although booster-broiler and mega-stable are domain specific terms and do not bridge distinct social movements across time and space, they do function as collective action frames that mobilize activists through frame bridging and amplification. **Moreover, this study points out that these specific and subjective terms not just mobilize movement adherents but also trigger counter terms and frames of adversaries and thereby come to ‘master’ the public debate more widely.**

This phenomenon of keywords as collective action frames that master the public debate, has received little attention in social movement literature. An exception is the work of Mooney and Hunt (Mooney & Hunt, 2010). They consider single words as master frames and consider the framing process as part of a struggle between institutionalized power and challenging ‘outsiders’, but they do not make an analytical distinction between words and frames and do not look into the counter terms or frames of those in power. They describe master frames as ‘*certain words or phrases that become vogue*’ because ‘*they can be used effectively in a wide variety of discursive contexts*’. In their case study, they conceptualise ‘food security’ as an elaborate master frame (Mooney & Hunt, 2010). More particularly, they demonstrate the process of frame elaboration behind the apparent consensus on food security, arguing that ‘food security’ functions as an elaborate master frame that encompasses at least three collective action frames. I argue that a consensus frame, like a master frame, may be widely applied, but **whereas consensus frames tend to become void of meaning and avoid contestation, master frames are evaluative and controversial**, which can trigger contestation when they are ‘elaborated’. Master terms play an important role in the frame elaboration process of master frames (by attributing responsibility in different policy contexts) and can trigger contestation, such as when adversaries introduce competing concepts for the contested object (in the form of real alternatives or new labels) or contest the definition or meaning of the master term (literally by definitions, or implicitly by creating or linking the term to new contexts). Hence, while generic frames as implicit structures are indeed more easily adopted by other movements when they are inclusive and flexible as proposed by Snow and Benford, I propose that specific and normative collective action terms for objects are more likely to generate contestation and ‘master’ a public conversation beyond the movement.

I claim that master terms are defined by their function in frame interactions, and not by their semantic properties. However, there are a couple of characteristics that make some terms more likely than others to become master terms. **I postulate that the master terms that I identified have characteristics similar to metaphors, memes and boundary objects, but can not be reduced to any of these concepts.**

Like metaphors, master-terms are rhetorical figures that function as effective framing devices. Hellsten (2006) studied the use of '*Frankenfood*' as a metaphor in different discourses on the Internet and found dynamics that are similar to the evolution of master terms, such as the use of the term by NGO's as action term, the adoption by news media to make sense of the issue, the efforts by companies to rephrase the metaphor and variation in formulations of the metaphor. Moreover, the metaphor offered continuity over time by representing the new GM products in a familiar context, but was also flexible enough to allow for several interpretations and further formulations of the myth. The metaphor of *Frankenfood* linked the popular Frankenstein myth (source) to concrete 'GM foods' (target) that consumers can buy and eat. In our case, the attribute of scale (*mega* and *boost*) was linked to concrete objects in farming (the farm and the chicken) to emphasize industrialisation and imply a moral evaluation. Hence, although these master-terms are not metaphors based on *transposition* (like *Frankenfood*), but hyperboles based on *addition*, they also are compound words comprised of a politicized object and a rhetorical attribute. This combination makes these terms effective framing devices in a variety of discursive contexts; for addressing multiple problems, for blaming various actors and for making sense of various events. Moreover, the loose meaning of the rhetorical attribute creates a semantic field for variations and derivate terms. Just as metaphors often come in clusters and networks (Nerlich, 2010), master terms are part of a semantic field comprised of alternative terms for the object.

However, in the framing literature rhetorical figures such as metaphors and keywords are considered framing devices, as distinct from reasoning devices (Joris, d'Haenens, & Van Gorp, 2014, p. 609). In this divide, 'framing device' refers to the linguistic packaging of a frame, while 'reasoning device' refers to the frame's conceptual content (Burgers, Konijn, & Steen, 2016). I contend that master terms are not just rhetorical cues or 'indicators', but come to function as reasoning devices as they imply conceptual content about causation and responsibility. As pointed out in the study on figurative framing (Burgers et al., 2016), rhetorical framing devices can entail conceptual content. Moreover, as demonstrated in chapter 3, the implied normative and semantic meanings of these terms are explicitly and consistently related to realities and responsibilities in the sector up to the point that mentioning the term evokes a frame in which events, issues and responsible actors are interwoven. In addition, these master terms trigger alternative terms that are both semantically related to the master term as the source object of meaning and discursively related to the master term in practice, which suggests that the meaning of alternative terms partly derives from the master term. Hence, whereas metaphors are considered rhetorical devices that attribute extant cultural meaning of the source object (from a different discursive context) to the target object, master terms generate meaning and become the source object for alternative terms.

They thus function as a dominant ‘unit of meaning’, similar to memes (Kilpinen, 2007; Lissack, 2004; Norton, 2010; Spitzberg, 2014). Moreover, whereas metaphors are considered to function at the level of sentences and take multiple syntactic forms that reflect the same frame (Nerlich, 2010), the master terms that I studied are single keywords that compete with alternative terms, similar to the competition and evolution of memes (Kilpinen, 2007; Lissack, 2004; Norton, 2010; Spitzberg, 2014). Like a meme, a master term is a dominant sign (a unit of meaning) that evolves and competes at multiple levels of signification in discursive environments. As we have seen, the master term competes with alternative terms on the same (negative) side of the valence dimension of the semantic field for frame alignment dynamics (e.g. bridging or amplification), and with counter terms on the opposite (positive) dimension of the valence dimension of the semantic field as part of counter framing dynamics (Benford & Snow, 2000). In accordance with memetic theory, the evolution of signs is multi-layered: a master term shapes its discursive environment, but is also dependent on this wider discursive environment of which it is a part. For example, within group competition (between terms) can strengthen the cluster or frame in its competition with other frames (between group competition).

However, studies on memes tend to neglect the agency of actors and employ a partial perspective of the sign: actors are mere ‘hosts’ of memes and memes signify beliefs (‘signifieds’) and are thus not considered to represent objects in the world (Kilpinen, 2007; Spitzberg, 2014). This is particularly problematic when it comes to framing contests of politicized objects, such as booster-broilers and mega-stables. As shown in chapter 3, only when collective action terms trigger counter responses and are politically contested and defined (by adversaries of the movement) they come to ‘master’ the public debate more widely. Since master terms trigger a debate between parties, they can be regarded as boundary objects. A boundary object is multi-interpretable concept or object that is both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites (Star & Griesemer, 1989). Boundary objects incorporate ambiguity (J. M. Bos et al., 2015). The different interpretations, uses and views of the object are valid in different contexts (J. M. Bos et al., 2015; Klerkx et al., 2012; Star & Griesemer, 1989). In the cases that I studied, the master terms (which served as collective action terms) were also defined in more objective terms (a particular chicken breed and a farm of a particular size) for policy purposes. The dual function of these terms required continuous negotiation and frequently turned specific policy debates into a moral dispute about intensive livestock farming, in which parties expressed their position in relation to this dominant frame. This stimulated the development of alternative objects or concepts (such as the *intermediary chicken* and *agroparks*), which could function as boundary objects to generate deliberative communication

between opposing groups. Hence, I contend that master terms are collective action terms for objects that trigger a fundamental moral debate and have an agenda-setting function, and that alternative concepts for the politicised object function more as boundary objects that facilitate deliberation between parties (Metze & Van Zuydam, 2018). In fact, *intermediary chickens* as an alternative for booster-broilers, and *agroparks* as an alternative to mega-stables have both been studied as boundary objects (J. M. Bos et al., 2015; Metze & Van Zuydam, 2018).

Symmetric Conflict Framing Repertoires

In chapter 5, I introduce the symmetric conflict framing repertoire. The concept of ‘conflict framing repertoire’ is not new, but a symmetric conflict framing repertoire used by two opposing groups has not been reported earlier and thus requires a more in depth discussion. In this section I will 1) clarify my analytical approach, 2) discuss the empirical implications, and 3) highlight the relevance of the conflict framing repertoire to understand how issue-, identity- and moral-frames interact and create a self-reinforcing dynamic that drives peak selective activity.

Conflict research has indicated that conflicts ensue from differences between disputant’s issue-, value- and identity-frames (Dewulf et al., 2009; Gray, 2004; Rogan, 2006; Rothman, 1997), and that the frame interactions between disputants move conflicts through various stages (Idrissou & Aarts, 2018; Putnam & Shoemaker, 2007). When it comes to issue-frames in conflicts, literature suggests that if disputants cast the issues in incompatible ways and fail to create an acceptable joint framing, conflict is perpetuated (Dewulf et al., 2009). In particular, differences in moral or value frames – which capture a disputant’s concern about issues of right and wrong, good and bad, and moral integrity (Rogan, 2006) – can make conflicts hard to resolve or transform (Pearce & Littlejohn, 1997). Moral frames are resistant to change in part because morality tends to define identity and trigger emotional arousal (Jones, 2001). Identity frames refer to the meanings about oneself and others. Differences in identity frames generally produce vigorous reactions (Rothman, 1997; Tetlock, Kristel, Elson, Green, & Lerner, 2000) and contribute to the perpetuation of conflicts (Gray, 2004). Issues frames, value frames and identity frames are often interlinked and make up a coherent frame constellation to make sense of the situation. In conflict framing research, the concept of ‘conflict framing repertoire’ captures such coherent frame constellations (Brummans et al., 2008; Putnam & Holmer, 1992). A conflict framing repertoire is a coherent constellation of frames that is established when disputants develop a similar definition of the situation; what a conflict is about, how it should be managed, and what their role in the conflict is vis-a-vis the roles of others (Putnam & Holmer, 1992). Although disputants generally agree that they are in a conflict, they use framing repertoires that are dissimilar to each other (Brummans et al., 2008).

In contrast to the studies described above that point out that conflicts arise from differences between disputant's frames, this study found that two groups used the same set of issue- and identity-frames to directly oppose each other, and did so throughout the three phases. Although many researchers have pointed out a binary opposition in conflicts in terms of a polarization along fault lines (Herzele et al., 2015), contradiction in communication systems (Bösch, 2017), a dance of opposites (Cloeke, 2013) or a dialectic that holds opposite poles together (Putnam, 2005), in the framing literature this has not yet been acknowledged in terms of a direct opposition within a shared set of frames. This raises the question whether my findings reflect an empirical difference, or a difference in the analytical and theoretical approach. To provide an answer to this question I will first highlight that framing studies differ in the magnitude of analysis and that unity at the generic level can mean polarity at a more specific level. Based on this understanding I will explain my approach and the results, and discuss the symmetric conflict framing repertoire.

Frames are conceptualized, operationalised and analysed in different ways (Cacciatore, Scheufele, & Iyengar, 2016; de Vreese, 2005; Termeer, Dewulf, et al., 2010). As pointed out in the previous section, a frame can be a single word or an implicit structure of co-occurring words. Moreover, while some researchers conduct inductive framing analyses to discover issue specific frames that relate to one topic or case, other researchers take a deductive approach and look for generic frames that are prevalent in multiple cases. Likewise, while some researchers first differentiate actors to identify actor-specific frames, other researchers conduct automated content analysis to discover and differentiate frames in an entire discursive domain, such as news media frames. **Since the level of magnitude in framing analysis differs, the 'frames' that researchers find also range from generic themes to actor-specific perspectives on a particular topic.** Yet, these studies presumably have a similar theoretical approach: they are not interested in 'what' is communicated, but 'how' a given piece of information is being presented (i.e. 'framed') in public discourse (Cacciatore et al., 2016). **We should acknowledge however, that what one sees depends on how one looks and that the researcher is the first to take a perspective** and define the object, situation or topic that is being framed, and thereby decides on the level of magnitude for his or her analysis.

In this study, I considered the interrelations of frames on multiple levels. As described in the introduction, frames are the lenses or filters that help people to make sense of a complex reality. Through selection and salience – drawing attention to some aspects and thereby diverting attention from other aspects – frames provide a particular perspective on the situation, the issue at stake and the role of actors therein. This perspective on the situation results in particular picture. The frame however, can be used in other situations to generate pictures that are different in form, but have an equal structure, tell a similar story or portray the situation in a similar way. Based on this

notion, I propose that the two groups in my study use the same frames, but from opposite sites, both seeing the other as *deceptive*, *liar*, *emotional* and *unknowledgeable*. Hence, **although the two groups frame ‘farmers’ and ‘animal rights activists’ differently, they frame themselves and the others (the ingroup and outgroup) similarly**. What is unity at a generic level (emotion frame) is polarity at a specific level (woman farmers vs. emotion party). Or in other words, what is frame similarity at the generic level, can be seen as frame symmetry at the more specific and explicit level. When it comes to issue-framing, the groups presented a similar view on the generic issue at stake (viz. animal welfare) and used the same set of specific issue-frames to make sense of animal welfare (i.e. to make a difference out of the common generic moral frame). In fact, when we look at the dominant keywords as the most explicit form of framing we also find evidence for the binary opposition. In one case, both groups used the same hashtag *#CalfLove* to stress that they love the calves more than the other party, which reflects the competition for moral superiority that includes issue, moral and identity frames. In the other case, the use of *Wakker Dier* and *Anti Wakker Dier* reflect the symmetrically opposed frames of the identity conflict.

Although this repertoire is a cohesive system of interactions that is case-specific – specific to these two groups and dependent on various contextual factors – I propose that the concept of the symmetric conflict framing repertoire can apply more widely. I will thus reflect on my findings based on extant literature to describe what I see as the basic elements, the mechanisms and contextual factors. The symmetric conflict framing repertoire is comprised of 1) different opinions about the policy issue (the problem and solution), 2) an overarching shared dominant moral frame, and 3) a set of issue-frames and identity-frames that correspond, extend or contrast each other and together comprise a system of self-reinforcing interactions. I will first describe, what I call the ‘vertical interactions’ between these three layers, and then explain what I call the ‘horizontal interactions’ between the four issue and identity frames.

First, I found that the conflict farming repertoire gets activated when animal rights activists address politicians to take action on farming practices, and farmers in response defend their credibility. This first stage includes **two ingredients that activate the repertoire**; issue salience (the conflict is activated if the policy issue is on the agenda, or latent when the policy issue is off the agenda) and identity salience (the conflict is activated if disputants strongly identify with the social group that is made salient in the context) (Bodtker, Katz Jameson, Bar-Tal, Halperin, & de Rivera, 2001; Klandermans et al., 2002; Weerd & Klandermans, 1999). Moreover, there are two important contributory factors; disputants are more likely to defend their credibility in public if they are ‘talked about’ and not part of the deliberation, and if the policy issue has implications for their autonomy (Beierle, 2005).

Second, in both cases, the two parties consider the policy issue to be a matter of taking care for animals. Disputants thus share a dominant moral or value-frame; decisions and (discursive) actions should be morally right, based on what is best for the cows and calves. Here it is important to stress that these value-frames are discursive constructs and do not necessarily reflect cognitive frames (what the parties really find important). In fact, the sincerity and the morals of both parties are questioned, which is why the moral frame becomes dominant in the public debate. Since both parties claim to know what is best for animal welfare but have distinct opinions about the policy solution, the discussion gets focussed on who knows best (expertise/knowledge), and who cares most for these animals (trustworthiness and moral superiority); i.e. on credibility. The assumption that underlies the contestation of credibility is that only one of the parties can be right (which reflects the perceived ‘goal incompatibility’ and zero-sum situation at the root of a conflict-frame), and that considering the fact that the two parties express the same moral perspective, the one who is most knowledgeable and trustworthy must be right. Hence, **the combination of opposing policy issue frames and a shared dominant moral frame can generate interactions that revolve around the contestation of credibility.** Here it is important to stress that credibility is sought not so much by the other party in the conflict, but by ‘the audience’ as a third party in this public intergroup conflict. After all, the parties do not consider themselves to be a part of negotiation or deliberative process that asks for an agreement, but consider themselves to be part of a zero-sum game with the decision-makers as final adjudicators.

Third, in order to build credibility of the in-group and/or to undermine the credibility of the out-group, each of the issue-frames that is used by the parties implicates a corresponding identity-frame, and establishes the binary opposition of the conflict framing repertoire. **The vertical linkages (see figure 5.2) are reflected in the four frames of the repertoire that constitute moral-, issue- and identity-frame components.** These linkages can bring the debate about the policy issue (level 1) to collective identity framing and recriminations (level 3), and thus ‘deepen’ the identity conflict. An example of this vertical line of reasoning; ‘the policy issue is predominantly about animal welfare’ (1), ‘animal welfare is about what is natural’ (2), ‘because we are nature-lovers/farmers, we know and we are right’ (3). There are two type of relations between the dominant moral frame (2) and the issue and identity frames (3); contrasts (negative relation) and correspondence (positive relations). First, as one cannot be against animal welfare, animal welfare is contrasted with other categories as the negative side of a binary opposition (animal welfare is contrasted with economic values and emotions), which is linked to the out-group (signified by the identity-frames in the same vertical line). Second, disputants use the corresponding natural frame and the truth frame to make sense of animal welfare: ‘animal welfare is about what is true/natural, and because we are farmers/nature lovers, we know and we are right’.

Moreover, each of the frames are horizontally linked to each other and reinforce the system of interaction; 1) truth, facts, and objectivity are contrasted with emotion, sentiment, and subjectivity, 2) economic selfish incentives are contrasted with emotional altruistic care, and 3) what is ‘natural’ corresponds to what is truly good for the animals. A complete overview is presented in chapter 5 but the key point is that the frames include binary opposites and that each frame can trigger another frame in the repertoire, creating a system of interactions. It is beyond the scope of this thesis to discuss each of these frames in further detail, but I would like to point out that these frames and frame interactions are not issue or case specific: similar mechanisms have been identified in previous studies, such as the truth-emotion binary opposition (Locke & Edwards, 2003; Potter & Hepburn, 2007), and the natural frame as heuristic to make sense of life science issues (Lakoff, 2010; Lockie, 2006).

To recap, in essence the symmetric conflict framing repertoire is a set of frames used by two opposing groups that is relatively stable over time. I argue that this phenomenon can be explained by symmetrically opposed issue-frames and identity-frames that reinforce each other and thus form a system of interaction. Although disputants shift frames in response to each other, the issue-frames and identity-frames interact in ways that reinforce their stability, which results in a constant set of frames throughout conflict phases. This does not mean that the conflict is static. First, the system of interaction can be active or dormant, depending on issue and identity salience. I propose three conditional factors for the activation of the symmetric conflict framing repertoire; the groups are not involved in a decision making process; the decision has implications for the autonomy for at least one of these groups; the groups can engage in identity-based interactions on a public platform, such as on social media. Second, if the system is active, the identity conflict can become aggravated or ‘deepened’ through various discursive actions that involves group-labelling and blaming (such as the discursive use of emotion described in chapter 5), but these mechanisms are not an elementary part of the conflict or the repertoire. Overall, **the conflict framing repertoire helps to understand how frame interactions can create a self-reinforcing dynamic that sustains peak selective activity**, but conflict activation, aggravation and de-escalation are triggered by factors outside this system. This conceptualisation of the model is of course hypothetical. Further research is needed to verify and specify contextual, conditional, and contributory factors.

6.2.2 Social Media Dynamics

In this section I will discuss the results of this thesis in relation to the literature on social media dynamics, by focussing on 1) the conceptualization of social media dynamics, and 2) social media hypes as a specific self-reinforcing dynamic that generates peak selective activity.

A framework for studying social media dynamics

The term ‘social media dynamics’ is used in variety of ways in academic literature, but there is no theoretical or operational definition (Kietzmann, Silvestre, McCarthy, & Pitt, 2012; Nguyen, Wu, Chan, Peng, & Zhang, 2012; Pang, 2013; Porter & Hellsten, 2014; Vasterman, 2018; Zaharna & Uysal, 2016). The term is used to refer to the observed information processes on social media platforms that derive from empirical analyses, such as changes in collective sentiment (Nguyen et al., 2012), but also to refer to hypothetical underlying mechanisms on social media that shape these processes, such as self-reinforcing mechanisms (Pang, 2013; Pfeffer et al., 2014; van Dijk & Poell, 2013; Vasterman, 2018). What I loosely refer to as ‘processes’ here, is defined more explicitly by these authors – e.g. in terms of issue-attention dynamics, word-of-mouth propagation, or participatory dynamics – depending on their lens and focus. Hence, the term is casually used in a variety of disciplines and there seems little uniformity in its conceptual content. Yet, there is also overlap in the way the term is used. **Most studies in the social sciences use the concept to capture a generic pattern in social media interactions as part of a social phenomenon.** For example, Hellsten and Porter (2014) see social media dynamics as part of a larger social phenomenon (i.e. participatory dynamics) and combine theoretical perspectives (i.e. instrumental, technological and social) in a multidimensional framework (grounded in framing theory). They contend that scholars tend to assume that features of social media such as user-generated content and two-way exchanges facilitate ‘bottom up’ or ‘informal’ engagement at a new scale and speed, but that research needs to critically assess *‘if these social media dynamics actually make a difference in people’s ability to participate and organize’* (p. 1026). In order to take a more ‘contextualized account’ and assess the relative value of social media in response to specific social problems, they apply a multidimensional framework grounded in framing theory for analysing ‘participatory dynamics’ on Youtube. Similarly, Pfeffer et al. (Pfeffer et al., 2014) grouped observations from recent online firestorms (waves of online negative attention) and identified corresponding social theories to define seven factors that describe social media dynamics in word-of-mouth propagation, such as ‘speed and volume’, ‘unrestrained information flow’ and ‘lack of diversity’. Since they view these factors as *‘the result of technical artifacts created by social media platforms and of dynamics that are similar in offline interpersonal communication networks, but that are amplified online’* (p.120), they use a variety of social science theories to define the social media dynamics. Taken together, I conclude that social media dynamics are generally understood as; coherent or emergent patterns in online activity; shaped by the interactions of people in a social context beyond social media, and thus; part of a social phenomenon that can be analyzed or interpreted with support of social theories.

In this thesis, this implicit notion of social media dynamics in extant literature is elaborated and explicated in the conceptual framework, operationalized in the methodology, and applied and exemplified in three comparative case studies. More specifically; social media dynamics are conceptualized as the emergent processes generated by online interactions as part of a public debate; operationalized as patterns in the interrelations between the four dimensions of online activity, and; applied and exemplified by using framing theory to analyse and interpret these patterns in three comparative case studies. This conceptualization of social media dynamics on three levels of abstraction provides a framework for interrelating academic work; for identifying commonalities and differences in social media research in order to relate theories, methods and findings. This addresses the concern that the emerging field of social media research is scattered and in need for frameworks that allow for the exchange among scholars from different disciplines (Kapoor et al., 2018; Ngai, Moon, Lam, Chin, & Tao, 2015; Ngai, Tao, & Moon, 2015).

On the first, most generic, conceptual level, the framework provides a common conceptualisation of social media as a social dynamic system. From this perspective, the interactions among actors generate emergent processes, but actors also continuously adapt to the environment that they co-create, thereby generating mechanisms that evolve overtime, i.e. ‘dynamics’. This perspective thus does not differentiate atemporal factors on the one hand that cause social media activity on the other, but defines relations in terms of triggers, transitions, feedback mechanisms or reflexivity, depending on the theoretical outlook. This enables researchers to analyse or interpret the ‘mechanisms’ of emergent patterns on social media from different theoretical perspectives. **Most importantly, this conceptualisation can include both the individual and the systemic level and does not decouple structure from agency** – which are important requirements for a coherent theoretical framework on social dynamic systems (Ericson & Lundin, 2013). For example, the ‘lack of diversity’ that Pfeffer et al. (2014) identify as a factor of social media dynamics in their literature review, is based on theories with different perspectives on agency; the theory of homophily in social networks (McPherson, Smith-Lovin, & Cook, 2001) and theories of bounded rationality (Simon, 1991). Likewise, as I point out in chapter 2, the dynamics of information flows and the self-organization of networks can be considered two sides of the same process; networks form the structure through which information travels and transforms, but it is through the active communication between actors that networks take shape. The conceptualisation that I suggest based on social dynamic systems can include both perspectives.

Second, the operationalisation of social media dynamics as the interrelations between the four basic dimensions of communication (content; time; actors (author + addressee/audience); place (media/discursive space)), **provides a common framework for interrelating methodologies from different**

disciplines. This is particularly relevant in the context of the recent plethora of new computational methods (Boumans & Trilling, 2016; Grimmer & Stewart, 2013; Van der Meer, 2016). Since interrelations evolve over time, the dimension of time forms the baseline to investigate dynamics. A wide variety of methods can be applied to analyse relations over time. In this research, I applied a form of time-series analysis based on message frequency, a correspondence analysis based on categorical time data, but also applied process tracing as an interpretive method to reconstruct the sequence of events within a case and make plausible causal inferences about transitions based on qualitative data. Besides an investigation of the interrelations of dimensions over time I argue that, in order to analyse social media dynamics comprehensively, both macro- and micro-level analyses are needed. In this research, I therefore applied an iterative research design from macro- to micro-level analysis in which each stage informed the next stage; from keyword frequencies over the years across discursive contexts ('big data'), to the use of keywords by specific actors in specific contexts during critical moments ('small data').

Third, since social media dynamics are defined as contingent and part of a social phenomenon, **I encourage interpretive analysis for understanding social media dynamics in context.** I propose framing theory as a valuable framework for analysing and interpreting the actions of actors and their implications in context. As a theoretical and methodological framework, framing can integrate both inductive and deductive research approaches, to both interpret and analyse the multiple dimensions of online activity and their interactions over time. This is particularly valuable for a contextual approach, such as in case study research and explorative and iterative research designs. Hellsten and Porter (2014), have demonstrated how framing theory can be used to incorporate instrumental, technological and sociological perspectives to analyse social media dynamics. Likewise, in this thesis, I use framing theory as a theoretical and analytical framework (Benford & Snow, 2000; de Vreese, 2005; Dewulf et al., 2009) to analyse and interpret patterns of online activity to identify social media hypes, the dynamics of master terms and conflict dynamics.

Social Media Hypes

To understand and explore social media dynamics, I focussed on emergent patterns in peak selective activity. In this section, I will 1) briefly explain the academic and societal relevance of the focus on peak selective activity, 2) highlight how my methodological approach contributes to social media studies, and 3) further define and theorize social media hypes.

The literature review in chapter 2 revealed that the role of media in agro-food governance is mostly studied in cases of peak public attention, such as in the context of crisis events (Liu and Ma, 2016;

Rieger et al., 2016). Scandals, scares and controversies receive academic attention because these occasions can bring together policy issues and peak public, media and political attention, and can potentially create a window of opportunity for shifts in policy practices (B. D. Jones & Baumgartner, 2005). With the rise of social media the dynamics of public information flows have changed, as well as the relation between the media, stakeholders and the public. Accordingly, a main quest is to understand whether social media activity just follows waves of news media reports about events in the sector (such as crises or scandals), or whether actors on social media also create, generate or reinforce peak public attention for particular issues, events and actors. **The theory of media hypes provide a generic theoretical framework for analysing the ‘dynamics’ of different cases of peak media attention, such as scandals, crises and social problems** (Vasterman, 2018). In this thesis, I thus focussed on periods of peak selective activity and used the concept of hypes to understand the dynamics.

In chapter 3, I present an innovative case selection method in social media research, and propose a model for analysing social media hypes based on social media dynamics and media hype theory. Both represent significant methodological contributions to the field. First, to select cases I explored social media activity about the agro-food domain from 2011 to 2015 using applications for the analysis of historical data. In a cyclical process of adapting search queries and analysing the results, I was able to develop an extensive search query and to develop criteria for the case selection procedure. Such an explorative and inductive methodological approach is rarely taken in social media research. Most researchers use API's to harvest real-time data or a small sample of historical data based on pre-defined keywords (Pfeffer, Mayer, & Morstatter, 2018). This makes it difficult to acquire data that results from unexpected events, such as hypes. More importantly, it impairs to study social media messages as part of broader conversations and to study longitudinal changes in these conversations. **I thus suggest that this inductive and explorative approach can and should be applied more widely in social media research.** Second, as there is no established theory on social media hypes, I presented a model to analyse cases of peak selective activity based on social media dynamics and media hype theory. This model is based on a case-comparison along multiple dimensions and a contextual interpretation of results. This framework enabled us to analyze and interpret social media dynamics in cases of peak selective activity. However, I did not yet provide a definition or theory of social media hypes.

In this part I will provide a definition and theoretical framework based on a reflection on the results from relevant fields of literature. The concept of social media hype is based on two basic elements in media hype theory. A media hype is defined as *‘a special kind of news wave created by the self-*

reinforcing processes in the news production' (Vasterman, 2005, p.527), such as positive feedback loops within media systems (self-referentiality) and between media and social actors. Moreover, in media hype theory, amplification and magnification are seen as the two elementary patterns that result from such self-reinforcing processes (Vasterman, 2005). Based on these basic elements of the theory on media hypes, I define a **social media hype as peak selective activity on social media (heightened and focussed attention) generated by self-reinforcing processes.**

Self-reinforcing processes are 'action loops' signified by positive feedback mechanisms (Ericson & Lundin, 2013). Many studies have shown the explanatory power of self-reinforcing processes, such as self-referentiality of news media (Vasterman, 2018), herding behaviour in self-organisation (Scharfstein & Stein, 1990), the spiral of silence (Noelle-Neumann, 1974), the bandwagon effect (Nadeau, Cloutier, & Guay, 1993), and network effects (Katz & Shapiro, 1994). These are all self-reinforcing processes, but what they reinforce differs. **Social media hypes are characterized by positive feedback mechanisms that drive the level and focus of attention (peak selective activity).** Negative-feedback loops that stabilize a system can be part of a hype, and in fact can prevent or end the hype (i.e. deescalating messages that lead to more balanced attention in terms of level and focus), but the peak selective activity itself is shaped by positive feedback loops. **In this thesis, I elucidate a range of self-reinforcing processes that drive peak selective activity, such as intermedia reinforcements, framing and counter framing in the reinforcement of master terms, the cycle between policy practices and public attention, group labelling and blaming in recriminations, the use of emotion discourse in the contestation of credibility, and symmetric frame interactions in intergroup conflicts.** These processes operate largely auto-dynamic, beyond the control of any single individual.

However, as we have seen, these processes do not arise spontaneously and do not continue steadily and indefinitely. Instead, they come and go, or transform into a new dynamic. A transition can result from a tipping-point, such as an event that is just newsworthy enough at a particular moment in time to pass news media thresholds (Vasterman, 2018), or similar thresholds on social media (Oka et al., 2014; Waldherr, 2018). Moreover, the actions of individual actors, such as the press release of an activist organisation, the start of a Facebook page by a farmer or the announcement of a policy decision, can trigger or transform these self-reinforcing processes. What I define as 'the crowds' in this thesis are the actors that are part of self-reinforcing mechanisms that sustain or drive peak selective activity, such as the disputants that are part of the symmetric conflict framing repertoire or the adherents that are part of the movement. On the other hand, 'instigators' and 'culprits' can trigger these mechanisms or transform the interactions into a new dynamic. This does not mean that the crowds are less powerful; the dynamics that they can generate can lead to a 'momentum'

that forces a response of organizations or politicians, which in turn can lead to a new dynamic. Hence, although social media hypes are characterized by positive feedback mechanisms that drive the level and focus of attention, individual actors adapt, anticipate or respond to these processes. **The interrelation between agency and emergence generates the dynamics of social media hypes.**

Some of the dynamics that I found are generic and apply to multiple cases, such as intermedia reinforcements. However, **the most determining dynamics, triggers and transitions, are case-specific or even phase-specific**, such as the type of policy issues that trigger the symmetric conflict framing repertoire and the use of emotion discourse in conflict escalation. Hence, although my findings largely correspond to generic dynamics found in social media studies, such as the inter-media dynamics (Roese, 2018), issue attention dynamics (Waldherr, 2018), social network dynamics (Huberman, Romero, & Wu, 2008) and hashtag evolutions (Lehmann et al., 2012; Oka et al., 2014); the social media hypes are not explained by them. Likewise, although some of the dynamics are similar to the self-reinforcing processes described in the literature on news media hypes, I did not find a single dynamic or ‘anatomy’ of hypes (Wien and Elmelund- Praestekaer, 2009) that explained cases of peak selective activity. Instead, I identified three emergent patterns that could be defined and explained by various social theories; activism, scandals and conflicts. These three types of hypes are not a fixed constellation of actors, issues and frames, but reflect three sets of dynamics in social media activity. The different sets of dynamics can involve similar actors or issues, and small changes - online or offline - can push social media activity into a new dynamic. For example, the dominance of a master frame actuated by animal welfare advocates can suddenly evoke a counter-movement of farmers and shift the online discussion into a conflict dynamic that revolves around identity. These findings thus correspond to the perspective on self-reinforcing processes as contextual and temporary (Ericson & Lundin, 2013). As pointed out by Sydow & Schreyögg (2013), a better understanding of the progressive logic of self-reinforcing dynamics, from agency to auto-dynamic systems, can be gained by looking at the phases of development (p.17). Moreover, since these developments do not occur by necessity (David, 1985) and are non-ergodic (they do not follow a predetermined course of action as it is the case with causal laws), it is *‘important to explore the conditions which foster or hinder such dynamics’* (Sydow & Schreyögg, 2013). For the symmetric framing repertoire for instance, I point out three conditional factors for the activation of this system of interaction related to issue and identity salience. **Hence, I suggest that to analyse self-reinforcing dynamics researchers need to consider the context of social media dynamics and differentiate phases of peak selective activity.** Moreover, an analysis of social media dynamics of peak selective activity needs to include both macro and micro analysis, to identify the self-reinforcing dynamics of emergent patterns and the actions that trigger or transform these dynamics.

6.2.3 Social Media as a Playing Field for Governance

This section discusses how this thesis fits in and contributes to extant theories about media and governance. In his book *Authoritative Governance: Policy Making in the Age of Mediatization*, Hajer states that ‘*the literature on governance and that on media and politics are really quite separate*’ (Hajer, 2010, p.13). He considers this ‘*a serious flaw*’, especially when it comes to understanding the role of new media in relation to new modes of governance. Nevertheless, based on a review across different branches of literature Klijn et al. (2016) are able to differentiate three main theoretical views on the relation between media and governance; 1) media as a strategic instrument, from a public relations perspective, 2) media as a domain that can influence the attention for issues on the public and political agenda, from an agenda-setting perspective, and 3) media as an institution with its own ‘logic’ or ‘rules’ that influences the strategies of politicians and governance actors, from a mediatization perspective (Klijn et al., 2016).

The perspective that is presented in this thesis integrates and moves beyond the notion of social media strategies, the social media agenda, and social media logic, by considering social media dynamics as part of governance processes. I will develop this theoretical perspective by reflecting on the results in two steps. First, I will conceptualize social media as a governance arena and apply the concept of game to understand how the roles, strategies, resources and dependencies on social media shape interactions, but are also being (re-)constructed as the game is being played. Second, I will take a dynamical approach on governance and relate the findings on social media dynamics to the concept of game types in the governance literature.

The Social Media Arena and Governance Games

As described in the theoretical framework, agro-food governance entails all the interactions among interdependent actors, and the institutions that shape these interactions, to manage the agro-food system and deal with societal issues or ‘wicked problems’. These interactions play out in multiple governance arenas. An arena is a specific place or institutional setting where a specific set of actors meets and interacts (Emerson, Nabatchi, & Balogh, 2012; Ostrom, 2009). Arenas may be formal decision-making bodies, like the national parliament, municipal or provincial councils, sectoral corporations, or boards of public or private organizations, but can also be informal or virtual such as news media or social media. Most actors participate only in some of these arenas, but the decisions and processes in one arena can affect governance more widely. In this section I will use the results of this thesis to indicate how the roles, strategies, resources and dependencies on social media shape the games being played and how these games influence governance processes and outcomes beyond the social media arena.

As pointed out in the summary of conclusions, all types of stakeholders are involved on social media: political, public, and various private actors (farmers, meat processing companies, retailers). Although individuals can take different roles on social media in relation to governance institutions, such as the role of a citizen, consumer, or supporter of a political party, I identified relatively stable functions in social media interactions that reflect dependency relations. The roles that I distinguish are the instigators that create events, the crowds that generate momentum, and the culprits that reinforce or reduce public attention (see 6.1). In the cases that I studied, animal rights organisations are most successful in creating occasions or venues that instigate social media activity; consumers, citizens and farmers make up the crowds, and; corporations and ruling politicians and governments are targeted as culprit. **The actions of instigators and crowds are generally directed towards bringing about change, as a form of activism and political opposition, while the actors that are targeted as culprit are held accountable, partly because they are considered to have power, such as influence on the production chain (e.g. supermarkets) or authority to make decisions (e.g. secretary of state).** As actors depend upon other parties for the realization of their objectives, such as Wakker Dier on supermarkets for the improvement of animal welfare standards in livestock farming, they develop strategies to influence other actors. As I have demonstrated, **the unique features of social media enable new strategies**, such as personally and publicly addressing a culprit on social media accounts, creating venues for new communities and conversations, coordinating and organizing offline actions, and attacking and sabotaging corporate Facebook pages.

However, governance is not the net outcome of actors' autonomous strategies. Actors collaborate, compete, negotiate or interact in other ways to achieve their objectives, and anticipate on and respond to others' strategies, similar to the interactions in a game. Actors interact because the resources to reach an objective or deal with wicked problems are divided among actors (Scharpf, 1987, 2018). Resources include the formal and informal means that parties possess in order to achieve their objectives (Ansell & Gash, 2008; Klijn & Koppenjan, 2015), such as money, relations, information or personnel, but also less tangible resources such as authority, legitimacy, expertise, and mobilization power. The importance and the substitutability of these resources determine dependency relations and strategies, but the interactions among actors can in turn also affect these resources and dependency relations.

Social media form an important arena to establish and utilize resources for the governance of wicked problems, such as networks, mobilization power, publicity, reputation, and information. The roles and resources on social media can enhance or alter the dependency relations between parties and governance outcomes. For example, to change animal welfare standards in the broiler sector (objective), Wakker Dier established and employed networks and mobilization power on social

media (resources), to name and blame supermarkets that have influence on the sector and depend on reputation (a strategy that targets the others' resource dependency), which in turn is likely to have stimulated the cooperation in the sector (other dependency relations) to improve animal welfare standards and the introduction of the intermediary chicken (outcomes). It is impossible to determine whether social media formed a sufficient or necessary factor for this outcome to occur, but considering the above, I postulate that social media did form a contributory factor for this particular process and outcome. In other cases, social media can play a very different role and result in different outcomes. **Hence, how social media influence governance is shaped by the way actors establish and utilize these game elements (the roles, strategies, resources and interdependencies) as the game is being played.**

In the literature on governance a wide range of games are mentioned, such as blame-games, argumentation games, policy games, decision-making games and negotiation-games (E. Anderson, 2010; Hood, 2010; Klijn & Koppenjan, 2015; Murphy, 1989; Perri, 2008; Scharpf, 2018), but without systematic theorization. Some of these games play out in only one arena, while other games play out in multiple arenas. Hence, to be able to study social media as a playing for governance more systematically, **I developed an integral model that describes three types of games that play out on social media (presented in chapter 2).** I present social media as an arena or 'playing field' for: 1) public mass communication to direct public attention, 2) interpersonal communication as the basis of group formation and social organisation, and 3) information sourcing to support decision-making and strategic communication. This model was applied to understand the role of social media in agro-food governance, but can also be applied in other contexts, such as nature management (Mattijssen, Breman, & Stevens, 2019).

In the empirical analysis of this thesis I focussed on the first game: frame interactions on social media as part of the public debate. Klijn & Koppenjan (Klijn & Koppenjan, 2015) define frame interactions and discourse practices as part of the 'argumentation game' (p.14). This argumentation game plays out in decision-making and political arenas as well as in the media arena. To my understanding however, argumentation has the connotation of a rational and deliberative process, which does not correspond to the frame interactions on social media. In the conceptual framework of this thesis I therefore differentiate between the decision-making and policy-making processes of stakeholders in the political space, and the communication or 'meaning-making processes' among all political and public actors for the social production of meaning in the public space. Hence, whereas Klijn & Koppenjan tend to focus on argumentation games as part of the decision-making process in policy arenas, **my focus is on the frame interactions as part of the meaning-making dynamics in the social media arena.**

Social Media Dynamics and Game Types

In the previous section I pointed out that in order to understand the influence of social media one needs to consider how actors establish and utilize the roles, strategies, resources and interdependencies as the game is being played. In this regard, I do not take an institutional or structural perspective on governance, but a symbolic interactional perspective in which I look at how institutions (roles, norms, resources, etc.) play a role in interactions. **As actors respond to each other and the environment, interactions can generate a temporal coherent pattern or system of interaction.** These patterns can be defined as a 'game type' (E. Anderson, 2010; Axelrod & Hamilton, 1981; Howard, 2006; Klijn & Koppenjan, 2015; Murphy, 1987; Scharpf, 2018). In formal game theory, specific categories of game types are distinguished, like the chicken game, the prisoners' dilemma, the zero-sum game or the one-shot game. In governance studies, the concept of these game types is used flexibly and metaphorically (E. Anderson, 2010; Howard, 2006; Klijn & Koppenjan, 2015; Murphy, 1987) but Klijn & Koppenjan provide some basic concepts to make sense of the dynamics of game types in network governance by differentiating rounds, impasses and breakthroughs (Klijn & Koppenjan, 2015). Their focus however is on policy games in decision-making arenas, and does not fully take into account the interplay between arenas and the role of 'external events'. They thus conclude their conceptual endeavor by pointing out that *'the next step is to analyze what happens within the rounds by describing and making sense of interactions of strategies among actors within the various arenas in the light of external events that may influence these'* (p.87). Here I would like to make that 'next step'. First, I will reflect on how social media dynamics can influence rounds, impasses and breakthroughs in policy games. Second, I will illustrate how the conceptual framework of game types can help to understand the relation between a specific system of interaction on social media and governance processes.

Klijn & Koppenjan postulate that a round opens with an initiative or policy intention of one of the parties, which serves as a trigger to the others (p.84). This corresponds to the notion of 'triggers' in dynamical system analysis, and my conceptualization of 'key events' that trigger social media hypes. As we have seen in this thesis, policy initiatives or intentions can be triggered by events and activities outside the policy arena, such the press release of a campaign or a crisis event that is reported in news media. Although social media activity influences policy practices, in none of the cases social media activity directly triggered a policy round. Other studies however have shown that user-generated content, such as a video, can go viral and trigger a crisis, which is particularly salient in cases of farming and food production (Guidry et al., 2015).

Impasses are understood as the result of interacting strategies that prevent the achievement of satisfactory solutions for all parties, such as a go-alone strategy that triggers conflictual strategies,

or a cooperative strategy that meets an avoidance strategy (p.84). In politics, this can be defined as gridlock, deadlock, stalemate, or – from a more longitudinal perspective – as stability in the ‘punctuated equilibrium’ model of policy change (Baumgartner & Jones, 2013). This thesis has demonstrated that policy impasses can lead to social media movements, and stable social media interactions can be activated or deactivated by changes in policy. The impasse in the reallocation of mega-stables that was caused by local NIMBY protests serves as a good example here. NIMBY is considered a game type that can cause and maintain an impasse (Klijn & Koppenjan, 2015). However, my study shows that the policy impasse led to worsening situations, national news media attention, and online collective activism with more generic anti-industrial objections towards mega-stables, which in turn triggered the secretary of state to organize a national debate about scale increase. Hence, what started as a spatial planning solution for the problem of zoonotic diseases (the reallocation project), became an increasingly wicked problem as mega-stables were linked to various events and policy issues. In contrast, the example of the symmetric conflict framing repertoire in this thesis reflects that a relatively stable system of interaction on social media can be triggered and ended by input outside of that system: a policy issue and a policy decision respectively.

Breakthroughs imply that differences are settled and strategies are changed, and actors find new ways to make further interaction worthwhile (p.84). According to Klijn & Koppenjan, the interaction and the coupling of arenas and games and mutual adjustment of strategies are factors that contribute to breakthroughs. In this thesis, I have demonstrated how the mutual adjustment of the public ‘naming and shaming’ campaign of Wakker Dier on social media and news media, and the private collaborations of the Animal Protection Society and private sector organisations to develop new chicken breeds led to incremental changes in policy.

According to Klijn and Koppenjan, *‘The evolution and outcomes of interaction processes within rounds are determined to a large degree by the mix of strategies brought into the arena(s). We call this mix of strategies game types’* (p.84). They make a basic distinction between collaborative and ‘hostile’ or oppositional game types and link these to processes and outcome characteristics of governance. If all actors use conflicting strategies, a controversy emerges and the process becomes blocked. If actors deploy collaborative strategies a joint outcome may emerge. They point out that in reality various mixes of strategies can be expected, with different effects on the course and outcome of the process, but they do not identify specific game types based on game theoretical concepts. In this section I will therefore further develop the concept of game types and illustrate how it can help to understand how social media dynamics are related to (influence, and are influenced by) governance processes.

Not all games play out in the social media arena, and not all games that do play out on social media generate peak selective activity. If we use the basic distinction of Klijn & Koppenjan (2015), **oppositional game types more than collaborative game types generate peak activity on social media**. I did find collaborative strategies, but only as part of the organization, mobilisation and coordination of movements, such as among animal rights activists and among farmers, to oppose other actors. Moreover, if we look at these patterns of opposition across the cases of peak selective activity, we can identify two patterns: **movements of crowds against a culprit ('all-against-one')** and **conflicts of crowds against crowds (many-against-many)**. Hence, frame strategies on social media tend to focus on defining and contesting the roles of actors (e.g. social identity, credibility, responsibility, legitimacy), and in cases of peak selective activity the roles and frames seem to sharpen into uniform blaming (all-against-one) or polarized blaming (many-against-many). The conflicts of crowds against crowds (many-against-many) can be characterized by symmetric framing and polarization in a zero-sum situation. The movement of crowds against a culprit ('all-against-one') is characterized by the dominance of one frame and seems to be predominantly shaped by the process of frame alignment in cases of activism and crises (Snow et al., 1986; Van der Meer, Verhoeven, Beentjes, & Vliegthart, 2014b). These pattern can result from various game types, such as naming and shaming games or 'collaborative brand attacks', in cases of activism (Rauschnabel, Kammerlander, & Ivens, 2016), crisis games (Murphy, 1987), or the buck-passing game in cases of dispersed responsibility in public governance (Hood, 2010). The concept of game type can help to understand such specific interaction patterns.

I define game types as models of interaction that reflect the relations between game elements, such as the number and type of players involved, their role in the interaction, the strategies that the players employ, the resources that are established or exchanged, and the outcomes or pay-offs. These models can be used as a heuristic device to understand how the roles, strategies and resources (as conceptualized in 6.3.1) are played out in a specific temporal interactive situation. Game types can be defined along various dimensions, such as cooperative/non-cooperative and zero-sum/non-zero-sum. In this last section I will apply this framework to characterize the 'public conflict game', discuss the limitations of this perspective and propose a direction for future research.

The 'public conflict game' is a two-player, zero-sum game, that is played out on a public stage. The various actors that are involved in this game tend to take a role by identifying with a larger group, in this case the animal welfare activists and farmers. These groups consider their goals to be incompatible and their actions to be directed against the other, co-constructing a zero-sum situation ('goal incompatibility') in which the gain of one party means the loss of another. In the

cases that I studied, the game starts with a policy issue and ends with a political decision. Hence, from a pure game theoretical point of view, which assumes rational players and decisions, the goal of the game is to influence the policy outcome. Since the players have different opinions about the policy solution and are not involved in the decision-making process, credibility becomes the main resource that the actors compete for (since only one can be 'right', they directly oppose each other). The competition for credibility plays out on a public stage with the general public as audience and decision makers as final adjudicators.

This model helps to specify and hypothesize how a patterns of social media interactions relate to governance processes. However, this perspective on the conflict is limited in several respects. First, in this model emotion discourse can be seen as one of the strategies that is performed to build credibility of the in-group and undermine the credibility of the out-group. However, the interactions are likely to be driven by players' attempts to guard their identity regardless of policy processes. Hence, the assumption of rational and goal-oriented decision-making in game theory is particularly problematic for studying these social media interactions. Second, in this model, the policy decision can be seen as the outcome of the game, and the effect on credibility as a byproduct. However, interactions can aggravate feelings of anger, deteriorate trust and have other effects that influence subsequent interactions. Lastly, the model represents the interactions as a stable set of relations and does not capture emergent processes, and how actors' responses to such processes can drive gradual changes in interaction. Although this game type model does not fully and accurately reflects the real situation, it also indicates that **a comparison between game type models and empirical findings can actually illuminate moments of non-linearity, changes in interactions, and effects beyond actors' intentions.** In order to further integrate such phenomena into models, evolutionary game theory may provide a promising framework. Evolutionary game theory (Cressman & Apaloo, 2018) differs from classical game theory in that it does not rely on rationality and linearity assumptions, and can take into account the dynamics of strategy changes.

6.3 Limitations and Suggestions for Future Research

In this part I will highlight the main limitations of this research, discuss the implications of these limitations for the interpretation of the results, and provide some suggestions for future research. I will first point out the three main limitations in regards to the scope of this research – both in regards to the theoretical lens and the empirical material – and then discuss the limitations and implications of the research design.

First, it is important to note that only *public* communication was analysed in this research. A large part of social media involves private communication, such as interpersonal communication in messaging and group communication on a secret or closed Facebook page. As described in chapter 2, this interpersonal communication plays an important role in the formation of online networks. Previous research has indicated that these hidden network structures can affect the dynamics of public debates (Barberá, 2014; Boyd & Crawford, 2012; Yuce, Agarwal, & Wigand, 2013). Information travels and transforms through these networks and occasionally pops up at certain moments and places in public communication. In this research I postulate that social media messages form part of a larger whole – the public debate about agro-food governance – and make the assumption that these messages are connected and through ‘interactions’ generate social media dynamics. These dynamics however, are largely shaped by the interactions in underlying structures that remain hidden. Furthermore, of the various social media channels, only Facebook and Twitter were analysed. This reflects the availability bias in social media research (Mahrt & Scharkow, 2013): by and large the most academic research focusses on Twitter, not because it is socially relevant, but because researchers have easy access to this data. Still, this thesis is relatively comprehensive in the field of social media research: I included the analysis of Facebook and news media, analysed the interrelations between these media platforms, and considered various ‘contextual factors’ such as events and policy practices. The results of this thesis show that Facebook and Twitter are quite distinct – e.g. in terms of actors, roles, relations, interactions and dynamics – but I generally aggregate the findings and simply talk about ‘social media’ in the results. This leaves many of the media specific dynamics concealed. Moreover, this additional step of inference makes it more difficult to verify how the results and conclusions are grounded in the findings that derived from the empirical analysis. I contend however, that these shortcomings stem from the research goal of this study (i.e. provide insights into social media dynamics in agro-food governance) and the explorative and iterative case study research design. To limit these shortcomings, I provided ‘thick’ descriptions and supplementary materials in each comparative case study, and shared data and intermediary results of the analysis in an open source data base (Stevens, 2019a, 2019b).

Second, throughout the research I made several choices that focussed on *peak selective* social media activity. The focus on the public debates concerning animal husbandry systems as a case was already based the high numbers of social media messages in the explorative analysis. More importantly, in the first empirical study cases were selected based on peak selective activity and these results formed the foundation for the selection of the two succeeding studies. The first study explicitly focussed on social media hypes to understand peak selective activity, but the other two comparative case studies had different research aims. The answers to the three research questions in this thesis should thus all be interpreted in this light. For example, the social media dynamics identified in this

thesis – such as framing and counter framing in the reinforcement of master terms, and symmetric frame interactions in intergroup conflicts – are predominantly self-reinforcing dynamics; positive feedback mechanism that drive the level and focus of attention. Moreover, this study highlights the controversy about industrial animal farming and food, but there are probably more nuanced, deliberative and collaborative interactions, such as about specific policies. This also has implications for the interpretation of my findings about the relation between social media dynamics and agro-food governance. Social media dictated the definition of cases, but also the selection of other data (based on keywords on social media, such as mega-stable, I selected news media messages and policy debates and documents), and the theoretical perspective (e.g. primarily focussing on the influence of social media on policy practices, rather than the reverse). Hence, we do not know how peak selective activity on social media may ‘distract’ attention from other issues, in public debates or policy arenas. In this regard, I encourage scholars to integrate issue-attention cycle research (which tends to focus on a specific arenas (Downs, 1972; W. Jennings & John, 2009; Waldherr, 2018), and agenda-setting research (which focuses on relations between arenas (McCombs, 2004; Parmelee, 2014), to investigate the dynamics of attraction and distraction in the new public space (see e.g. Russell Neuman, Guggenheim, Mo Jang, & Bae, 2014).

Third, the data collection method was based on *keyword-based* search queries. This means that the cases that were studied are a collection of social media messages with similar words – not a complete conversation about a specific topic. Just as search bias of internet users can have an impact on the information that is retrieved and the opinion that is formed, so do search queries in scientific research generate bias (Olteanu, Castillo, Diaz, & Kiciman, 2019). This is particularly relevant in light of the finding that hypes are generated through the use of keywords and revolve around a few themes, and subsequently, the focus on master terms in chapter 3. Nevertheless, I contend that the findings and research approach are sound: As pointed out in the methodology, I did not rely on predefined keywords and API's to harvest real-time data, but iteratively developed extensive search queries to limit this bias. All search queries are included in the appendices to clarify the scope of the analysis and for other researchers to verify my findings or conduct research on the same cases. In the appendix of chapter 4 the initial Boolean search query is included that was used to explore the agro-food debate from which all the cases derived (167 terms) and the search queries to collect messages about booster-broilers and mega-stables (63 terms and 29 terms respectively). In the appendix of chapter 5 the search query for the calf separation and calf puller case are included (31 terms and 23 terms respectively). More generally, the focus on text and not images or other forms of symbolic interaction is often taken for granted in academic research, but forms a serious limitation to the understanding of communication processes, especially on social

media. In the booster-broiler case for instance, images played a crucial role in transforming the meaning of the keyword *kiloknaller*, from ‘cheap meat’ that can be seen in the supermarket, to ‘poor animals’ in mega stables. Especially in the case of master terms, there is an interplay between these keywords and clear-cut images that requires attention in future research.

Besides these limitations in scope, let me point out the basic limitations of the research design. Case studies and qualitative comparative studies share a common explanatory limitation – they suggest reasonable explanations without being able to prove analytic assertions with scientific certainty (A. Bennett & Elman, 2009; Esser & Vliegenthart, 2017). Hence, the main limitation of this research is that explanatory relations were inferred through interpretation. Hypothetico-deductive research can help to verify specific relations. In this regard, I call for research to further disentangle contextual, conditional and contributory factors in the dynamics that are presented in this thesis – most importantly; framing and counter framing in the reinforcement of master terms, symmetric frame interactions in intergroup conflicts, and the discursive use of emotions in the contestation of credibility. In regards to the symmetric framing repertoire; I postulate three conditional factors related to issue and identity salience that requires further research for validation. In regards to master terms; future research could investigate the semantic properties of keywords that have similar functions in frame interactions. In regards to the discursive use of emotion in the contestation of credibility; the use of implicit and explicit collective emotions in blaming and justification can be studied in much greater detail through conversational analysis.

In this research I provided rich and detailed descriptions of the context, or ‘thick descriptions’ (Bartlett & Vavrus, 2017; Seawright & Gerring, 2008). This helps to interpret the implications of the results in relation to the context, but also improves the ‘transferability’ of the case study findings. Thick descriptions enable other researchers to assess whether and to what extent the reported findings are transferable to other settings (situations, times, and populations) that they are knowledgeable of, such as other governance contexts. As pointed out in chapter 1, this case study on social media conversations about animal farming and food production in The Netherlands, provides insights into the role of social media dynamics in agro-food governance, and the governance of wicked problems more generally. In the next section, I will discuss what I see as the key implications for agro-food governance, the governance of wicked problems and social media practices. However, I encourage other researchers and practitioners to interpret the findings and implications of this study in relation to the domain that they are knowledgeable of. Moreover, I encourage comparisons with other cases, such as agro-food governance in other countries, both through reasoned inferences and empirical comparative analyses. Let me point out two considerations for comparability and transferability in this regard. First, in comparison with the governance of other wicked problems,

such as climate change and other environmental issues, agro-food governance is predominantly shaped by the private sector and related to private matters, and is expected to show a relatively high involvement of consumers (everyone needs to eat) and producers (diverse farmers). Second, in comparison with agro-food governance in other developed countries, the animal rights movement in The Netherlands is relatively strong (evinced by the Political Party for the Animals that has five seats in The House of Representatives), and may also partly explain the strong countermovement of farmers that I reported in this thesis.

6.4 Implications for practice

This section discusses the implications for the practice of 1) agro-food governance, 2) the governance of wicked problems, and 3) social media mining, monitoring and engagement.

Implications for Agro-Food Governance

The widespread controversy and polarized debate about intensive agro-food systems that I found in this study corresponds to many studies that have investigated public discourse about agriculture and food production (see e.g. Fuchs & Kalfagianni, 2009; Liu & Ma, 2016; Randall, 2009; Rieger, Kuhlitz, & Anders, 2016). In this thesis I have shown that in social media conversations in The Netherlands, this controversy is dominated by an anti-industrial master frame. This has not been reported earlier. In fact, many authors point out the lack of, and the need for, collective action frames among dispersed alternative food movements (Goodman, 2000; Holt Giménez & Shattuck, 2011; Murdoch & Miele, 2004; Stevenson, Ruhf, Lezberg, & Clancy, 2008). Stevenson, Ruhf, Lezberg, & Clancy (2008) explicitly stress that *'It is of strategic importance whether those seeking change in the modern agrifood system can forge a master frame...'* (p.37), but conclude that *'no coherent master frames for change initiatives in the modern agrifood system presently exist'* (p.53) (Stevenson et al., 2008). Moreover, they envision that such a master frame should create linkages between organic, local and other alternative agro-food systems, or create linkages with movements that focus on other potentially synergistic issues, e.g. environmental, labor, anti-globalization, social justice, or public health. The anti-industrial frame identified in this study is specific to the agro-food domain, but has the potential to be linked to and become part of broader movements. Previous research has indicated that the industrial frame produces frame effects in messages about animal food production (Jin & Han, 2014), but the anti-industrial frame also reflects elements of more generic frames in environmental, sustainability, and science and technology discourse, such as the corporate power frame (Dorfman, Wallack, & Woodruff, 2005; Marks, Kalaitzandonakes, Wilkins, & Zakharova, 2007; Perbix, 2014).

The breadth or ‘inclusiveness’ of the anti-industrial master frame reflects an opportunity as well as an important limitation for collective action. Whereas collective action frames are considered to fulfill diagnostic, prognostic and motivational framing tasks (Benford & Snow, 2000), the anti-industrial frame that I identified merely functions as a generic moral evaluation frame to critique large scale intensive agri-food production. The frame was used to blame various culprits in the current system (not just ‘industries’ but also politicians and governments), in relation to various issues and events (without consistent causal attributions) and did not present a common alternative (as a reflection of prognostic framing). As I point out in chapter 4, although the booster-broiler and mega-stable case show some overlap in actors (similar activists) and frames (link to ‘industrialization’), the cases show different patterns of frame interactions and there is no bridging trend (simultaneous or overlapping use of terms) between the movements. In this regard, the master frame, as it is used in the public debate in the Netherlands, does not reflect collective activism of a social movement (Snow et al., 2018).

However, as we point out in chapter 2, a generic and flexible frame can also provide an opportunity for ‘connective action’ on social media (W. L. Bennett & Segerberg, 2011b). The ‘new movements’ that make use of social media are characterized by ‘connective action’ based on flexible and personalized action frames which often assign to lifestyle elements, such as food. These movements are instantly created to fight for a specific case but with a general undertone of opposition against dominance. Hence, individuals with dispersed interests, identities, ideologies and values (social, environmental, public health, animal welfare or gastronomic values) that do not accord in many situations, can still join for a specific common cause on social media, such as in a campaign against booster broilers in supermarkets. Social media thus enable dispersed alternative food movements, either in space, time or ideology, to connect on virtual networks and join for a common cause in opposition against industrial food production. This corresponds to the finding that the anti-industrial frame was particularly prevalent on social media (chapter 4): ‘industrial’ and the two master terms showed a relatively high frequency on social media channels. Future research could investigate further whether, and if so how, this generic anti-industrial frame links issues, actors and events across sectors, countries, and spaces for public debate.

To some extent, the opposition against ‘industrial’ systems and the lack of a coherent well-defined alternative reflects the dominant interdependency relations in the current agro-food system (D. Fuchs et al., 2014; D. Fuchs, Meyer-Eppler, & Hamenstädt, 2013; D. Fuchs & Kalfagianni, 2009). On the one hand, the various dimensions of wicked problems in agro-food governance are framed in terms of environmental and economic inefficiencies and are addressed by technological innovations, scale-increase and market concentration (vertical and horizontal integration) in global agro-food

chains (Clapp et al., 2009). On the other hand, this process of intensification or ‘industrialization’ is framed not as a solution but as the key problem: the race to the bottom. The various ‘alternatives’, such as local, organic, agro-ecological or fair trade networks, have in common that farmers play a greater role (i.e. contribute more value to the product and have a higher share in the market chain) and that the social and environmental origins of food products are emphasized (Clapp et al., 2009; D. Fuchs & Kalfagianni, 2009). In this regard, social media are particularly promising for farmers – who have little power in current food productions systems and little influence on the public discourse about food – to join forces and to engage in public debates. In chapter 2, I therefore postulate that social media provide an opportunity for farmers and consumers to connect and establish new horizontal networks around shared ideals that bypass institutional structures. Moreover, as explained by Hearn, Collie, Lyle, Choi, & Foth (2014) ‘*social media accentuate fundamental social interconnections normally effaced by conventional industrialised approaches to food production and consumption*’ (p. 202). This is important because social factors including community building and social connectivity are considered to play an important role in the development of alternative food systems (Pearson et al., 2010).

However, the empirical findings of this thesis suggest that farmers and consumers rarely join forces to oppose industrial food systems. Instead, they tend to oppose each other in public debates, at least in cases of peak activity that shape public perceptions. In light of the dependency relations and sustainability issues in today’s agro-food system, and the opportunities that social media provide for collective action as well as the organisation of alternative networks, I consider the online conflict between farmers and critical consumers to be an important challenge in agro-food governance.

Implications for the Governance of Wicked Problems

As described in chapter 1, the case of social media dynamics in agro-food governance reflects how social media play a role in the governance of wicked problems more widely. Let me briefly recap what I consider the two key characteristics of wicked problems, in order to reflect on the influence of social media on these two characteristics. First, wicked problems require some sort of collective action among stakeholders and societal group that have different and often conflicting values and ideologies. Second, complex interdependencies provide opportunities for these actors to frame problems, solutions, and responsibilities in flexible ways, which disrupts linear policy processes. The first characteristic is related to the actors and issues involved and reflects substantive complexity, and the second is related to interactive processes and reflects dynamic complexity (Klijn & Koppenjan, 2015). In this section, I will argue that social media tend to enhance both of these complexities, but also provide opportunities to deal with these complexities.

First, this thesis shows that social media form a public playing field in which all stakeholders and societal groups are involved, in one way or another. Hence, while the governance of wicked problems generally takes place in multiple arenas that are relatively exclusive and private, social media form a public arena where various games and actors converge. In this open and flexible public space individuals can take different roles and interact across institutional boundaries, such as organisations, nation states, and mass media channels. This is important because wicked problems are considered to require horizontal collaborative approaches that cut across traditional institutions (Dentoni et al., 2012). Most importantly, social media bring together dispersed societal groups that may not be able to encounter one another without social media, such as farmers and consumers. Hence, parties that are mutually dependent and part of an intractable or dysfunctional system, can share perspectives to establish mutual understanding and shared problem definitions, and exchange information and knowledge to develop innovative solutions. As pointed out in the previous section, new horizontal networks can lead to more diverse ‘alternative systems’ that are more resilient and sustainable.

However, as this thesis demonstrates, the encounter of dispersed parties can also take the form of a conflict, which can lead to polarization, enhance resistance and thus make wicked problems more intractable (Lewicki et al., 2003). Whether social media form an opportunity or challenge depends on the role that individuals take on social media; how they define themselves in relation to others and the problem in a specific context. If actors consider themselves to be part of a collaborative game with win-win and lose-lose outcomes they are more likely to find shared solutions. In this regard, new collective identities and problem definitions that transcend traditional boundaries can help to deal with wicked problems. Although social media form a space that enables the formation of new groups and collective identities, such as in the case of ‘we are the 99%’ (W. L. Bennett, 2012; Papacharissi, 2016), we should recognize that this happens only occasionally and that the prevalent historically grown place-based collective identities are more likely to be salient and shape social media interactions. In this thesis at least, farmers stressed their collective identity and the urban-rural divide in identity and characterization frames. In general, farmers have a strong collective identity that can play a role in various political issues (Brummans et al., 2008; Klandermans et al., 2002; Weerd & Klandermans, 1999) and social media seem to play an important role in political controversies that involve urban-rural polarization (Scala & Johnson, 2017; Van Latesteijn & Andeweg, 2011). This thesis suggests that controversial issues that are emotionally engaging (e.g. animal welfare) and prompt extant collective identities (e.g. farmers) generate most activity on social media. More generally, individuals that feel strongly engaged and have more extreme opinions tend to be more likely to engage in societal debates on social media (Del Vicario, Vivaldo,

et al., 2016; Gruzd & Roy, 2013). From this perspective, the bridging function of social media that interconnects physically and culturally dispersed groups is more likely to result in conflict than collaboration. Since conflicts can increase ideological differences and identity salience (Lim, 2004; Yardi & Boyd, 2010), this can complicate the governance of wicked problems.

Second, this thesis shows that social media influence the dynamics of public debates and policy making. On the one hand, social media discussions can simplify wicked problems and specify responsibilities. For example, we have seen how hashtags are used to select and connect issues, events and actors in order to make sense of complex issues, and how online collective activism targets specific issues and actors. Moreover, all actors can be addressed online and publicly held accountable. In the booster-broiler case for instance, one actor is held accountable and addressed online, to demand a specific change; stop selling booster broiler. In this way wicked problems can be broken down into manageable pieces, which can drive incremental change. Not just collective activism, but conflicts too can help to clarify issues, moralities and responsibilities: a fundamental debate about scale increase, such as in the online national dialogue about mega-stables, can help to illuminate underlying values that need to be taken into account in order to reach shared solutions.

On the other hand however, social media can disrupt policy processes and enhance governance complexities. A minor event can suddenly generate peak attention on social media, alter the meaning of a policy measure and trigger responses of policy-makers. This thesis has shown for example that NGO's use online surveys and biased research reports to 'make news' that receives attention on social media and provokes political reactions. The short attention cycles on social media and overresponsive actions of decision-makers creates the risk of moving from crisis to crisis, without developing structural long term policies that can prevent crises from happening in the first place. Although attention cycles are relatively short, minor events can also function as a vehicle to address more structural problems that recurrently generate attention. In such cases, each hype adds to the problem, and forms a new source to build the story and regenerate attention. The opposition against mega-stables for instance, is related to multiple issues and events (animal welfare, environmental sustainability, land use planning, economic dependencies) and may thus never be solved definitely. When it comes to the flexible framing of issues and responsibilities – either to raise attention for minor events that disrupt policy processes, or to link policy problems to much broader moral oppositions – the information repository of social media, which grows by the day, forms a rich resource to recast old information and change the meaning of the current situation. The volatile dynamics and frame flexibility on social media can thus make it more difficult to find common problem definitions and solutions.

Implications for Social Media Practices

The findings of this thesis have implications for two social media practices; 1) social media mining to inform policy-making, and 2) social media monitoring to inform communication strategies and social media engagement.

Social media mining is the process of obtaining data from social media in order to extract patterns that can inform decision making. This raises the question what social media data can tell, and how this should inform decision making. Various stakeholders use ‘opinion mining’ to inform policy making (Charalabidis, Maragoudakis, & Loukis, 2015; Kaschesky et al., 2013; Pandhare & Alvi, 2015). Opinion mining relies on automated text analysis to systematically study the sentiment or opinion about a topic, organisation, policy or brand. However, practitioners should be aware that social media messages do not reflect public opinion. Instead, social media form a space where opinions are being shaped. Social media messages are not isolated expressions of individual thoughts, but meaning-making constructs directed at a particular person or audience, in a particular discursive context, at a particular moment in time. Individuals that feel strongly engaged and have more extreme opinions in relation to a topic are more likely to engage in societal debates on social media. This thesis shows for example that animal welfare issues gain the most attention on social media, while results about public perceptions based on survey research indicate that this is only a minor public concern (Eurobarometer, 2010). Still, the social media activities of a small group of animal rights activists influence the public debate, trigger policy responses and thereby influence agro-food governance. Hence, I contend that social media mining is important, not because social media reflects public opinion and should be integrated into policy, but because it is a space of public debate that can influence public opinion and policy. Stakeholders should thus be cautious of the self-fulfilling prophecy: if they consider social media to be important, then social media becomes important.

In principal, public opinion, public debates and policy practices are mutually influential (see figure 6.4). An analysis of *how these are empirically interrelated* in a given situation (e.g. based on social media analysis and survey research) can serve as input for a normative debate among policy-makers to discuss *how they should be related*. This can help to define their role and determine how to deal with public debates and social media in particular. Depending on the situation, their role, and their normative perspective, governments and public organisations may for example want to facilitate, support and/or moderate a balanced debate to develop new ideas from a deliberative democratic ideal, use social media to improve transparency and accountability of the representative democracy, or stimulate online inclusiveness and use online poles to give people direct decision

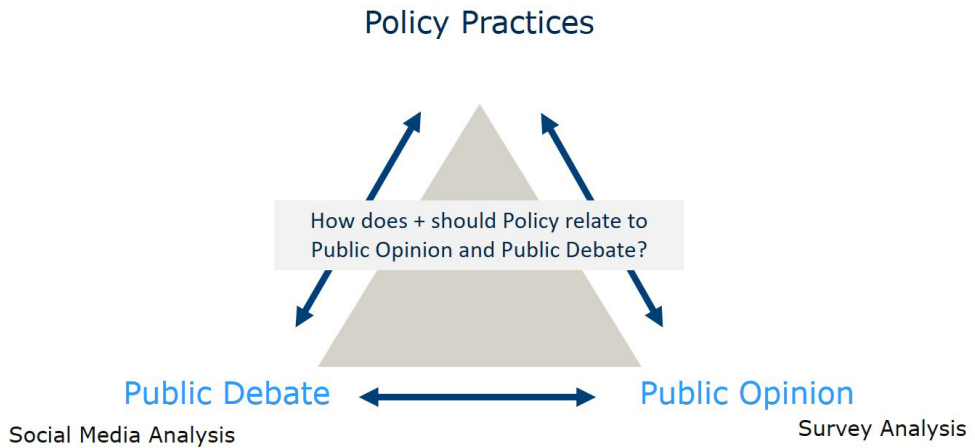


Figure 6.4 The triangular model that can be used in various governance context to identify empirical interrelations and to morally reflect on the interrelations between policy practices, public debates and public opinion

power. When it comes to the governance of wicked problems, stakeholders can use the results of social media mining as input for a dialogue about how to deal with an issue that generates peak social media activity. For example, in The Netherlands various stakeholders have come together to discuss how to deal with volatile debates on social media about nature policy based on the results of a social media analysis project (Breman, Mattijssen, & Stevens, 2018). In the case of livestock farming in The Netherlands, sector organisations, private companies, NGO's and governments can start a collaborative social media analysis project, and use the results to discuss roles, common goals and strategies. This enables stakeholders to mutually adjust their strategies, for example to build bridges between dispersed online communities, to increase attention for particular topics or events, or to invite specific online players for an offline dialogue or deliberative debate.

Social media monitoring is the continuous systematic observation and analysis of social media activity. Whereas opinion mining is used to gather data to inform managerial or governance decisions, social media monitoring is part of the routines of a communication department and informs PR practices. Monitoring is often employed from a rational-instrumental approach, and not from a political-strategic or communicative approach (Bekkers et al., 2013). Rational-instrumental actions are aimed at realizing pre-given organizational goals on the basis of information about the status-quo in the environment. This thesis shows that peak attention results from interactions and can take abrupt turns. For example, the press release of Wakker Dier about the calf puller that was addressed to the secretary of state suddenly triggered a massive response of farmers and shifted the public debate. On the other hand, the mutual adjustment of strategies, such as among animal

right advocates (*Wakker Dier* and *PvdD*), can bring about change. Hence, a strategic approach, in which actors acknowledge the goals and action plans of other actors, or a communicative approach, in which actors aim to coordinate their individual action plans on the basis of a shared definition of the situation, seems more valuable in the governance of wicked problems.

Moreover, within such an interactive approach, I plea to move from reactive to pro-active strategies. In agro-food governance social media monitoring is predominantly used for issue management and crisis communication (Mou and Lin, 2014; Rutsaert et al., 2014; Shan et al., 2014; Wu, 2015). This reactive approach ignores how specific issues generate peak social media activity in the first place and how this is shaped in interaction. Although organisations make use of early warning systems to anticipate peak activity about the brand or organisation, these systems are generally based on an automated analysis of endogenous factors in social media networks, such as the increase rate of messages with a new keyword. A crisis is then considered to result from the leakage and spread of new sensitive information. From this perspective stakeholders may tend to share information only sparsely and restrain from engaging in public debates. However, a long period of obscurity and lack of trust can actually shape the context in which new information becomes ‘sensitive’ and leads to a crisis. In fact, the results of this thesis show that social media activity is largely shaped by contextual factors (factors outside social media networks). A pro-active and anticipative approach can help to see social media as an opportunity to influence these ‘contextual factors’, such as by sharing information to improve transparency or by engaging in public debates to build trust.

Besides peak activity that results from events, stakeholders instigate social media activity through activism and intergroup conflicts. As we have seen, each of these hypes shows a characteristic pattern of social media activity. It is thus essential to know not just the social media accounts and networks in the organisations’ environment and the topics and events that generate attention, but also to understand how events, issues and actors are interrelated in the playing field. In this regard, correspondence analyses that provide insights into the interrelation between message content, authors, interactions and timing, can optimize monitoring practices and provide insights into social media dynamics. Such an understanding can help to communicate more effectively. After all, the effect of a social media message is determined not by the intention of the sender, but by the interpretations of the various parties and their role on the social media playing field.

References

A

Aarts, N. (2018). Dynamiek en Dependentie in Socio-Ecologische Interacties.

Adamoli, G. (2012). Social Media And Social Movements : A Critical Analysis Of Audience ' s Use Of Facebook To Advocate Food Activism Offline. Electronic Theses, Treatises and Dissertations, Paper5310.

Agrimatie. (2018). Agrimatie, broiler sector. Retrieved November 1, 2018, from <https://www.agrimatie.nl>

Alkon, A. H., & Agyeman, J. (2011). The Food Movement as Polyculture. Cultivating Food Justice: Race, Class, and Sustainability, 1–20.

Anderson, E. (2010). Social media marketing: Game theory and the emergence of collaboration. Social Media Marketing: Game Theory and the Emergence of Collaboration. <https://doi.org/10.1007/978-3-642-13299-5>

Anderson, W. a. (2000). The future relationship between the media, the food industry and the consumer. British Medical Bulletin, 56(1), 254–268. <https://doi.org/10.1258/0007142001902932>

Ang, L. (2011). Community relationship management and social media. Journal of Database Marketing & Customer Strategy Management, 18(1), 31–38. <https://doi.org/10.1057/dbm.2011.3>

Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. Journal of Public Administration Research and Theory. <https://doi.org/10.1093/jopart/mum032>

Asur, S., & Huberman, B. a. (2010). Predicting the Future with Social Media. Arxiv Preprint ArXiv10035699, abs/1003.5, 492–499. <https://doi.org/10.1109/WI-IAT.2010.63>

Axelrod, R., & Hamilton, W. D. (1981). The Evolution of Cooperation. Evolution. <https://doi.org/10.1086/383541>

B

Bakker, E. De, Bremmer, B., Commandeur, M. A. M., Lauwere, C. C. De, Os, J. Van, Beekman, V., ... Selnes, T. (2011). Maatschappelijke acceptatie van (grootschalige) veehouderij in LOG's.

Bandari, R., Asur, S., & Huberman, B. a. (2012). The Pulse of News in Social Media: Forecasting Popularity. In Proceedings of the Sixth International Conference on Weblogs and Social Media - ICWSM '12.

Bar-Tal, D., Halperin, E., & de Rivera, J. (2007). Collective Emotions in Conflict Situations: Societal Implications. *Journal of Social Issues*, 63(2), 441–460. <https://doi.org/10.1111/j.1540-4560.2007.00518.x>

Barberá, P. (2014). How Social Media Reduces Mass Political Polarization. Evidence from Germany, Spain, and the U.S. LXXIII Congress of the Midwest Political Science Association.

Bartlett, L., & Vavrus, F. (2017). Comparative Case Studies. *Educação & Realidade*, 42(3), 899–920. <https://doi.org/10.1590/2175-623668636>

Baumgartner, F. R., & Jones, B. D. (2013). *Agendas and Instability in American Politics* (second edi). <https://doi.org/10.7208/chicago/9780226039534.001.0001>

Becker, H. (2009). How to Find Out How to Do Qualitative Research. *International Journal of Communication*.

Beierle, T. C. (2005). Using social goals to evaluate public participation in environmental decisions. *Review of Policy Research*, 16(3–4), 75–103. <https://doi.org/10.1111/j.1541-1338.1999.tb00879.x>

Bekkers, V., Edwards, A., & de Kool, D. (2013). Social media monitoring: Responsive governance in the shadow of surveillance? *Government Information Quarterly*. <https://doi.org/10.1016/j.giq.2013.05.024>

Benford, R. (2013). Master Frame. In *The Wiley-Blackwell Encyclopedia of Social and Political Movements*. Oxford, UK: Blackwell Publishing Ltd. <https://doi.org/10.1002/9780470674871.wbespm126>

Benford, R., & Snow, D. (2000). Framing processes and social movements: an overview and assessment. *Annual Review of Sociology*, 26(2000), 611–639. <https://doi.org/10.1146/annurev.soc.26.1.611>

Bennett, A., & Elman, C. (2006). Qualitative research: Recent developments in case study methods. *Annual Review Political Science*, 9(2001), 455–476. <https://doi.org/10.1146/annurev.polisci.8.082103.104918>

- Bennett, A., & Elman, C. (2009). Case Study Methods. In *The Oxford Handbook of International Relations*. <https://doi.org/10.1093/oxfordhb/9780199219322.003.0029>
- Bennett, W. L. (2012). The Personalization of Politics: Political Identity, Social Media, and Changing Patterns of Participation. *The ANNALS of the American Academy of Political and Social Science*, 644(1), 20–39. <https://doi.org/10.1177/0002716212451428>
- Bennett, W. L., & Segerberg, A. (2011a). Digital Media and the Personalization of Collective Action. *Information, Communication & Society*, 14(6), 770–799. <https://doi.org/10.1080/1369118X.2011.579141>
- Bennett, W. L., & Segerberg, A. (2011b). The Logic of Connective Action: Digital Media and the Personalization of Contentious Politics. *Information, Communication & Society*. <https://doi.org/10.1080/1369118X.2012.670661>
- Bertot, J. C., Jaeger, P. T., & Grimes, J. M. (2010). Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. *Government Information Quarterly*, 27(3), 264–271. <https://doi.org/10.1016/j.giq.2010.03.001>
- Bertot, J. C., Jaeger, P. T., & Hansen, D. (2012). The impact of policies on government social media usage: Issues, challenges, and recommendations. *Government Information Quarterly*, 29(1), 30–40. <https://doi.org/10.1016/j.giq.2011.04.004>
- Bleker, H. (2011). *Maatschappelijk Dialoog Megastallen*. Ministerie van Economische Zaken, Landbouw en Innovatie.
- Blumler, J. G. (2015). Core Theories of Political Communication: Foundational and Freshly Minted. *Communication Theory*, 25(4), 426–438. <https://doi.org/10.1111/comt.12077>
- Bodtker, A. M., & Katz Jameson, J. (2001). Collective Emotions in Conflict Situations: Societal Implications. *International Journal of Conflict Management*, 12(3), 259–275. <https://doi.org/10.1108/eb022858>
- Bodtker, A. M., Katz Jameson, J., Bar-Tal, D., Halperin, E., & de Rivera, J. (2001). Collective Emotions in Conflict Situations: Societal Implications. *International Journal of Conflict Management*, 12(3), 259–275. <https://doi.org/10.1108/eb022858>

Boin, A., 't Hart, P., & McConnell, A. (2009). Crisis exploitation: political and policy impacts of framing contests. *Journal of European Public Policy*, 16(1), 81–106. <https://doi.org/10.1080/13501760802453221>

Boorstin, D. (1971). From news-gathering to news-making: A flood of pseudo-events. *The Process of Mass Communication*, (1961), 251–270. <https://doi.org/10.1306/74D70763-2B21-11D7-8648000102C1865D>

Bos, E., & Owen, L. (2016). Virtual reconnection: The online spaces of alternative food networks in England. *Journal of Rural Studies*, 45, 1–14. <https://doi.org/10.1016/j.jrurstud.2016.02.016>

Bos, J. M., Feindt, P. H., & Gremmen, B. (2015). Transforming a conflict into a market creation for Dutch chicken meat: Know your food. *Know Your Food*, 220–225. https://doi.org/10.3920/978-90-8686-813-1_32

Bösch, R. (2017). Conflict Escalation. *Oxford Research Encyclopedia of International Studies*, 1(April), 1–25. <https://doi.org/10.1093/acrefore/9780190846626.013.82>

Boumans, J. W., & Trilling, D. (2016). Taking stock of the toolkit: An overview of relevant automated content analysis approaches and techniques for digital journalism scholars. *Digital Journalism*, 4(1), 8–23. <https://doi.org/10.1080/21670811.2015.1096598>

Boyd, D., & Crawford, K. (2012). Critical Questions for Big Data. *Information, Communication & Society*, 15(5), 662–679. <https://doi.org/10.1080/1369118X.2012.678878>

Brady, W. J., Wills, J. A., Jost, J. T., Tucker, J. A., & van Bavel, J. J. (2017). Emotion shapes the diffusion of moralized content in social networks. *Proceedings of the National Academy of Sciences*, 114(28), 7313–7318. <https://doi.org/10.1073/pnas.1618923114>

Bramsen, I., & Poder, P. (2014). Theorizing Three Basic Emotional Dynamics of Conflicts : A Situational Research Agenda. *Peace Research*, 46(2), 51–86.

Breman, B. C., Mattijssen, T., & Stevens, T. M. (2018). Natuur 2.0: Het natuurdebat op social media. <https://doi.org/10.18174/465787>

Bruce, S., & Blumer, H. (1988). Symbolic Interactionism: Perspective and Method. *The British Journal of Sociology*. <https://doi.org/10.2307/590791>

Brummans, B. H. J. M., Putnam, L., Gray, B., Hanke, R., Lewicki, R. J., & Wiethoff, C. (2008). Making Sense of Intractable Multiparty Conflict: A Study of Framing in Four Environmental Disputes. *Communication Monographs*, 75(1), 25–51. <https://doi.org/10.1080/03637750801952735>

Buijs, A., & Lawrence, A. (2013). Emotional conflicts in rational forestry: Towards a research agenda for understanding emotions in environmental conflicts. *Forest Policy and Economics*, 33, 104–111. <https://doi.org/10.1016/j.forpol.2012.09.002>

Burgers, C., Konijn, E. A., & Steen, G. J. (2016). Figurative Framing: Shaping Public Discourse Through Metaphor, Hyperbole, and Irony. *Communication Theory*, 26(4), 410–430. <https://doi.org/10.1111/comt.12096>

C

Cacciatore, M. A., Scheufele, D. A., & Iyengar, S. (2016). The End of Framing as we Know it ... and the Future of Media Effects. *Mass Communication and Society*, 19(1), 7–23. <https://doi.org/10.1080/15205436.2015.1068811>

Cambria, E., Wang, H., & White, B. (2014). Guest Editorial: Big Social Data Analysis. *Knowledge-Based Systems*, 69, 1–2. <https://doi.org/10.1016/j.knosys.2014.07.002>

Castells, M. (2007). Communication, power and counter-power in the network society. *International Journal of Communication*, 1, 238–266. Retrieved from <http://ijoc.org/index.php/ijoc/article/viewArticle/46>

Castells, M. (2008). The new public sphere: Global civil society, communication networks, and global governance. *The ANNALS of the American Academy of Political ...*, 616(1), 78–93. <https://doi.org/10.1177/0002716207311877>

Castells, M. (2011). *The rise of the network society: The information age: Economy, society, and culture (volume 12,)*. John Wiley & Sons.

Castells, M. (2015). *Networks of outrage and hope: social movements in the Internet age (2nd ed.)*. Wiley.

Castronovo, C., & Huang, L. (2012). Social media in an alternative marketing communication model. *Journal of Marketing Development ...*, 6(1).

CBS. (2017). *Richting een toekomstbestendige agribusiness*, 1–31.

- Champoux, V., Durgee, J., & McGlynn, L. (2012). Corporate Facebook pages: when “fans” attack. *Journal of Business Strategy*, 33(2), 22–30. <https://doi.org/10.1108/02756661211206717>
- Charalabidis, Y., Maragoudakis, M., & Loukis, E. (2015). Opinion mining and sentiment analysis in policy formulation initiatives: The EU-community approach. In *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)* (Vol. 9249, pp. 147–160). Springer. https://doi.org/10.1007/978-3-319-22500-5_12
- Cheng, W., & Ho, J. (2017). A Corpus Study of Bank Financial Analyst Reports: Semantic Fields and Metaphors. *International Journal of Business Communication*, 54(3), 258–282. <https://doi.org/10.1177/2329488415572790>
- Choudhury, M. De, Lin, Y.-R., Sundaram, H., Candan, K. S., Xie, L., & Kelliher, A. (2010). How does the data sampling strategy impact the discovery of information diffusion in social media? *Proceedings of the 4th International AAAI Conference on Weblogs and Social Media*, 34–41.
- Clapp, J., Fuchs, D., Kalgagianni, A., Arentsen, M., Scott, S., Vandergeest, P., ... Newell, P. (2009). *Corporate Power in Global Agrifood Governance*. Power. MIT Press. <https://doi.org/10.7551/mitpress/9780262012751.001.0001>
- Cloke, K. (2013). *The dance of opposites : explorations in mediation, dialogue and conflict resolution systems design*. Goodmedia Communications.
- Coleman, P. (2006). Conflict, Complexity, and Change: A Meta-Framework for Addressing Protracted, Intractable Conflicts--III. *Peace and Conflict: Journal of Peace Psychology*. https://doi.org/https://doi.org/10.1207/s15327949pac1204_3
- Coleman, P., Vallacher, R., Nowak, A., & Bue Ngoc, L. (2005). Intractable Conflict as an Attractor: Presenting a Dynamical Model of Conflict, Escalation, and Intractability. *Ssrn*, 1454–1475. <https://doi.org/10.2139/ssrn.734963>
- Collier, D. (2011). Understanding Process Tracing. *PS: Political Science & Politics*, 44(04), 823–830. <https://doi.org/10.1017/S1049096511001429>
- Conover, M., Ratkiewicz, J., & Francisco, M. (2011). Political polarization on twitter. In *ICWSM* (Vol. 133, pp. 89–96). <https://doi.org/10.1021/ja202932e>

Coombs, W., & Holladay, S. (2011). *The handbook of crisis communication*. Wiley-Blackwell.

Coscia, M. (2013). Competition and Success in the Meme Pool: A Case Study on Quickmeme.com. *Proceedings of the Seventh International AAAI Conference on Weblogs and Social Media*.

Cressman, R., & Apaloo, J. (2018). Evolutionary game theory. In *Handbook of Dynamic Game Theory*. https://doi.org/10.1007/978-3-319-44374-4_6

Creswell, J. W. (2007). *Research Design: Qualitative, Quantitative and Mixed Method Approaches*. SAGE Publications. <https://doi.org/10.4135/9781849208956>

D

Dahlberg, L. (2005). The Corporate Colonization of Online Attention and the Marginalization of Critical Communication? *Journal of Communication Inquiry*, 29(April), 160–180. <https://doi.org/10.1177/0196859904272745>

Dahlberg, L. (2006). Internet Research Tracings: Towards Non-Reductionist Methodology. *Journal of Computer-Mediated Communication*, 9(3), 00–00. <https://doi.org/10.1111/j.1083-6101.2004.tb00289.x>

Dahlberg, L. (2011). Re-constructing digital democracy: An outline of four “positions.” *New Media & Society*, 13, 855–872. <https://doi.org/10.1177/1461444810389569>

Dahlberg, L., & Phelan, S. (2013). Discourse Theory and Critical Media Politics. *European Journal of Communication*, 28(1), 101. <https://doi.org/10.1057/9780230343511>

Dahlgren, P. (2000). The Internet and the Democratization of Civic Culture. *Political Communication*, 17(November 2014), 335–340. <https://doi.org/10.1080/10584600050178933>

Dahlgren, P. (2005). The Internet, Public Spheres, and Political Communication: Dispersion and Deliberation. *Political Communication*, 22(2), 147–162. <https://doi.org/10.1080/10584600590933160>

Davis, C. B., & Lewicki, R. J. (2003). Environmental conflict resolution: Framing and intractability - An introduction. *Environmental Practice*, 5(3), 200–206. <https://doi.org/10.1017/S1466046603035580>

De Dreu, C. K. W., & McCusker, C. (1997). Gain-loss frames and cooperation in two-person social dilemmas: A transformational analysis. *Journal of Personality and Social Psychology*. <https://doi.org/10.1037/0022-3514.72.5.1093>

de Vreese, C. H. (2005). News framing: Theory and typology *Information Design Journal*, 13(1), 51–62. <https://doi.org/0.1075/idjdd.13.1.06vre>

Del Vicario, M., Bessi, A., Zollo, F., Petroni, F., Scala, A., Caldarelli, G., ... Quattrociocchi, W. (2016). The spreading of misinformation online. *Proceedings of the National Academy of Sciences*, 113(3), 554–559. <https://doi.org/10.1073/pnas.1517441113>

Del Vicario, M., Vivaldo, G., Bessi, A., Zollo, F., Scala, A., Caldarelli, G., & Quattrociocchi, W. (2016). Echo Chambers: Emotional Contagion and Group Polarization on Facebook. *Scientific Reports*, 6(1), 37825. <https://doi.org/10.1038/srep37825>

DeLind, L. B. (2011). Are local food and the local food movement taking us where we want to go? Or are we hitching our wagons to the wrong stars? *Agriculture and Human Values*, 28(2), 273–283. <https://doi.org/10.1007/s10460-010-9263-0>

Dentoni, D., Hospes, O., & Brent Ross, R. (2012). Managing wicked problems in agribusiness: The role of multi-stakeholder engagements in value creation. *International Food and Agribusiness Management Review*, 15(SPECIALISSUEB), 1–12.

Dewulf, A., Gray, B., Putnam, L., Lewicki, R. J., Aarts, N., Bouwen, R., & van Woerkum, C. (2009). Disentangling approaches to framing in conflict and negotiation research: A meta-paradigmatic perspective. *Human Relations*, 62(2), 155–193. <https://doi.org/10.1177/0018726708100356>

Dijk, J. van. (2006). *The Network Society. Social Aspects of New Media. The New Faces of Victimhood: Globalization, ...*

DLG. (2010). *Logboek, Landbouwontwikkleingsgebieden in beeld.*

Dorfman, L., Wallack, L., & Woodruff, K. (2005). More than a message: Framing public health advocacy to change corporate practices. *Health Education and Behavior*. <https://doi.org/10.1177/1090198105275046>

Downs, A. (1972). Up and Down With Ecology - The “Issue Attention Cycle.” *The Public Interest*.

- E** Edwards, D. (1999). Emotion discourse. *Culture & Psychology*.
- Elmelund-Praestekaer, C., & Wien, C. (2008). What's the Fuss About? The Interplay of Media Hypes and Politics. *The International Journal of Press/Politics*, 13(3), 247–266. <https://doi.org/10.1177/1940161208319292>
- Emerson, K., Nabatchi, T., & Balogh, S. (2012). An integrative framework for collaborative governance. *Journal of Public Administration Research and Theory*. <https://doi.org/10.1093/jopart/mur011>
- Entman, R. M. (1993). Framing: Toward Clarification of a Fractured Paradigm. *Journal of Communication*, 43(4), 51–58. <https://doi.org/10.1111/j.1460-2466.1993.tb01304.x>
- Entman, R. M. (2003). Cascading Activation: Contesting the White House's Frame After 9/11. *Political Communication*, 20(4), 415–432.
- Entman, R. M. (2004). Projections of Power. Framing News, Public Opinion, and U.S. Foreign Policy. *Projections of Power*. <https://doi.org/10.7208/chicago/9780226210735.001.0001>
- Ericson, M., & Lundin, R. A. (2013). Locking in and unlocking - adding to path dependence. In *Self-Reinforcing Processes in and among Organizations* (pp. 185–203). <https://doi.org/10.1057/9780230392830>
- Esser, F., & Vliegenthart, R. (2017). Comparative Research Methods. *The International Encyclopedia of Communication Research Methods*, 1–22. <https://doi.org/10.1002/9781118901731.iecrm0035>
- Eurobarometer, S. (2010). SPECIAL EUROBAROMETER 354 Food-related risks. *Special Eurobarometer*, 354(June), 168. <https://doi.org/10.2805/51162>
- F** Faber, P. B., & Mairal Usón, R. (2012). Constructing a Lexicon of English Verbs. *Constructing a Lexicon of English Verbs*. <https://doi.org/10.1515/9783110800623>
- Fairclough, N. (2010). Discourse, Change and Hegemony. In *Critical Discourse Analysis: The Critical Study of Language*.
- Fairclough, N., & Wodak, R. (1997). Critical discourse analysis. In *Discourse as Social Interaction: Volume 1*. <https://doi.org/10.1177/0957926594005004001>

- Feindt, P. H., & Kleinschmit, D. (2011). The BSE Crisis in German Newspapers: Reframing Responsibility. *Science as Culture*, 20(2), 183–208. <https://doi.org/10.1080/09505431.2011.563569>
- Ferro, E., Loukis, E. N., Charalabidis, Y., & Osella, M. (2013). Policy making 2.0: From theory to practice. *Government Information Quarterly*. <https://doi.org/10.1016/j.giq.2013.05.018>
- Fillmore, C. J. (2006). Frame Semantics. In *Encyclopedia of Language & Linguistics*. <https://doi.org/10.1016/B0-08-044854-2/00424-7>
- Finnemann, N. O. (2011). Mediatization theory and digital media. *Communications*, 36(1), 67–89. <https://doi.org/10.1515/COMM.2011.004>
- Fiol, C. M., Pratt, M. G., & O'Connor, E. J. (2009). Managing Intractable Identity Conflicts. *Academy of Management Review*, 34(1), 32–55. <https://doi.org/10.5465/amr.2009.35713276>
- Fuchs, C. (2013). *Social Media: A Critical Introduction*. SAGE, 2013.
- Fuchs, C. (2014). Social Media and the Public Sphere. *TripleC*, 12(1), 57–101.
- Fuchs, C., & Trottier, D. (2014). Theorising Social Media, Politics and the State. *Social Media, Politics and the State*, 264. <https://doi.org/10.4324/9781315764832>
- Fuchs, D., Glaab, K., Hamenstädt, U., Forssell, S., & Lankoski, L. (2014). The Sustainability of the Agrifood System: Determinants of the Interaction between Global and Local Agrifood Governance. *Agriculture and Human Values*, (2011), 63–75. <https://doi.org/10.1007/s10460-014-9516-4>
- Fuchs, D., & Kalfagianni, A. (2009). Discursive power as a source of legitimation in food retail governance. *The International Review of Retail, Distribution and Consumer Research*, 19(January 2015), 553–570. <https://doi.org/10.1080/09593960903445434>
- Fuchs, D., Meyer-Eppler, R., & Hamenstädt, U. (2013). Food for Thought: The Politics of Financialization in the Agrifood System. *Competition and Change*, 17(3), 219–233. <https://doi.org/10.1179/1024529413Z.00000000034>
- Fuller, R. P., & Putnam, L. (2018). Union framing of conflict-related issues in the entertainment industry. *Conflict Resolution Quarterly*, 36(1), 53–67. <https://doi.org/10.1002/crq.21221>

G

- Giaxoglou, K. (2018). #JeSuisCharlie? Hashtags as narrative resources in contexts of ecstatic sharing. *Discourse, Context & Media*, 22, 13–20. <https://doi.org/10.1016/J.DCM.2017.07.006>
- Gies, E., & Edo. (2015). Analyse Megastallen en Megabedrijven. Retrieved from <http://edepot.wur.nl/386850>
- Gies, E., van Os, J., Hermans, T., & Olde Loohuis, R. (2007). Megastallen in beeld. Alterra-Rapport;1581. Retrieved from <http://library.wur.nl/way/bestanden/clc/1859268.pdf>
- Gitlin, J. Van. (2003). *Collective Behavior and Public Opinion. Rapid Shifts in Opinion and Communication*. Lawrence Erlbaum Associates.
- Glaser, B. G., & Strauss, A. L. (2017). Discovery of grounded theory: Strategies for qualitative research. *Discovery of Grounded Theory: Strategies for Qualitative Research*. <https://doi.org/10.4324/9780203793206>
- Goffman, E. (1981). *Frame Analysis: An Essay on the Organization of Experience*. (B. Berger, Ed.), *Contemporary Sociology* (Vol. 10). Northeastern University Press. <https://doi.org/10.2307/2067804>
- Goodman, D. (2000). Organic and conventional agriculture : Materializing discourse and agro-ecological managerialism. *Agriculture and Human Values*, 17, 215–219. <https://doi.org/10.1023/A:1007650924982>
- Grabowicz, P. a., Ramasco, J. J., Moro, E., Pujol, J. M., & Eguiluz, V. M. (2012). Social features of online networks: The strength of intermediary ties in online social media. *PLoS ONE*, 7(1), 1–9. <https://doi.org/10.1371/journal.pone.0029358>
- Gray, B. (2004). Strong opposition: Frame-based resistance to collaboration. *Journal of Community and Applied Social Psychology*. <https://doi.org/10.1002/casp.773>
- Greene, C. (2011). Competing identities at the table: Slow food, consumption, and the performance of social style. *Food as Communication, Communication as Food*, 75–94.
- Grimmer, J., & Stewart, B. M. (2013). Text as data: The promise and pitfalls of automatic content analysis methods for political texts. *Political Analysis*. <https://doi.org/10.1093/pan/mps028>

Gruzd, A., & Roy, J. (2013). Investigating political polarization on twitter: A Canadian perspective. *Policy and Internet*. Wiley-Blackwell Publishing Ltd. <https://doi.org/10.1002/1944-2866.POI354>

Guerrero, L. K., & La Valley, A. G. (2006). Conflict, Emotion, and Communication. In J. G. Oetzel & S. Ting-Toomey (Eds.), *The SAGE Handbook of Conflict Communication: Integrating Theory, Research, and Practice* (pp. 69–96). 2455 Teller Road, Thousand Oaks California 91320 United States: SAGE Publications, Inc. <https://doi.org/10.4135/9781412976176.n3>

Guidry, J. D., Messner, M., Jin, Y., & Medina-Messner, V. (2015). From #mcdonaldsfail to #dominossucks. *Corporate Communications: An International Journal*, 20(3), 344–359. <https://doi.org/10.1108/CCIJ-04-2014-0027>

Gunkle, G., Watzlawick, P., Beavin, J. H., & Jackson, D. D. (2006). Pragmatics of Human Communication. *Educational Theatre Journal*. <https://doi.org/10.2307/3206369>

Hajer, M. (2010). Authoritative Governance: Policy Making in the Age of Mediatization. *Authoritative Governance: Policy Making in the Age of Mediatization*. <https://doi.org/10.1093/acprof:oso/9780199281671.001.0001>

Halevy, N., & Cohen, T. R. (2019). Intergroup Conflict 2020. *Negotiation and Conflict Management Research*, 12(2), 161–173. <https://doi.org/10.1111/ncmr.12148>

Halperin, E., Sharvit, K., & Gross, J. (2010). Emotion and Emotion Regulation in Intergroup Conflict—An Appraisal Based Framework, (December).

Hanna, R., Rohm, A., & Crittenden, V. L. (2011). We're all connected: The power of the social media ecosystem. *Business Horizons*, 54(3), 265–273. <https://doi.org/10.1016/j.bushor.2011.01.007>

Hearn, G., Collie, N., Lyle, P., Choi, J. H.-J., & Foth, M. (2014). Using communicative ecology theory to scope the emerging role of social media in the evolution of urban food systems. *Futures*, 62, 202–212. <https://doi.org/10.1016/j.futures.2014.04.010>

Hellsten, I. (2006). Focus On Metaphors: The Case Of “Frankenfood” On The Web. *Journal of Computer-Mediated Communication*. <https://doi.org/10.1111/j.1083-6101.2003.tb00218.x>

H

R

- Hellsten, I., Dawson, J., & Leydesdorff, L. (2010). Implicit media frames: Automated analysis of public debate on artificial sweeteners. *Public Understanding of Science*, 19(5), 590–608. <https://doi.org/10.1177/0963662509343136>
- Hellsten, I., & Nerlich, B. (2010). Bird flu hype. *Journal of Language and Politics*, 9(3), 393–408. <https://doi.org/10.1075/jlp.9.3.03hel>
- Hellsten, I., & Vasileiadou, E. (2015). The creation of the climategate hype in blogs and newspapers: mixed methods approach. *Internet Research*, 25, 589–609. <https://doi.org/http://dx.doi.org/10.1108/IntR-05-2014-0130>
- Hemphill, L., Culotta, A., & Heston, M. (2013). Framing in Social Media: How the US Congress Uses Twitter Hashtags to Frame Political Issues. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2317335>
- Herzele, A. Van, Aarts, N., & Casaer, J. (2015). Wildlife comeback in Flanders: tracing the fault lines and dynamics of public debate. *European Journal of Wildlife Research*. <https://doi.org/DOI: 10.1007/s10344-015-0925-5>
- Hills, D., & Stern, J. (2006). Metaphor in Context. *The Philosophical Review*. <https://doi.org/10.2307/3182562>
- Hintikka, J. (1994). *Aspects of Metaphor*. Dordrecht: Kluwer Academic Publishers Group. <https://doi.org/10.1007/978-94-015-8315-2>
- Holt Giménez, E., & Shattuck, A. (2011). Food crises, food regimes and food movements: rumblings of reform or tides of transformation? *The Journal of Peasant Studies*, 38(1), 109–144. <https://doi.org/10.1080/03066150.2010.538578>
- Hood, C. (2010). The blame game: Spin, bureaucracy, and self-preservation in government. *The Blame Game: Spin, Bureaucracy, and Self-Preservation in Government*. <https://doi.org/10.4079/pp.v18i0.9361>
- Howard, J. (2006). Using game theory to explain the behaviour of participants involved in a regional governance process. *Rural Society*, 16(3), 254–270. <https://doi.org/10.5172/rsj.351.16.3.254>
- Huberman, B. a, Romero, D., & Wu, F. (2008). Social networks that matter: Twitter under the microscope. *Proc. Intl. Conf. on Computer-Supported Cooperative Work*, 14 (1), 107–114. <https://doi.org/10.1145/143457.143468>

Hurt, K. J., & Welbourne, J. (2018). Conflict and Decision-Making: Attributional and Emotional Influences. *Negotiation and Conflict Management Research*, 11(3), 225–251. <https://doi.org/10.1111/ncmr.12133>

Idrissou, L., & Aarts, N. (2018). Understanding Conflict's Dynamics in Participatory Natural Resources Management: a Critical Review. *European Journal of Business and Social Sciences*, 6(10), 24–40.

Idrissou, L., Paassen, A., Aarts, N., & Leeuwis, C. (2011). The discursive construction of conflict in participatory forest management: The case of the Agoua forest restoration in Benin. *Conservation and Society*, 9(2), 119. <https://doi.org/10.4103/0972-4923.83722>

Iyengar, S. (1994). *Is anyone responsible? How television frames political issues*. The University of Chicago Press.

Iyer, A., & Leach, C. W. (2008). Emotion in inter-group relations. *European Review of Social Psychology*, 19(1), 86–125. <https://doi.org/10.1080/10463280802079738>

Jennings, C. (2011). Intra-group Competition and Inter-group Conflict: an Application to Northern Ireland. *Defence and Peace Economics*, 22(1), 63–83. <https://doi.org/10.1080/10242694.2010.491672>

Jennings, W., & John, P. (2009). The Dynamics of Political Attention: Public Opinion and the Queen's Speech in the United Kingdom. *American Journal of Political Science*, 53(4), 838–854. <https://doi.org/10.1111/j.1540-5907.2009.00404.x>

Johnson, K. E., & Stake, R. E. (1996). *The Art of Case Study Research*. The Modern Language Journal. <https://doi.org/10.2307/329758>

Jones, B. D., & Baumgartner, F. R. (2005). *The Politics of Attention How Government Prioritizes Problems*. Chicago Press.

Jones, T. (2001). Emotional Communication in Conflict. In W. F. Eadie & □Paul E. Nelson (Eds.), *The language of conflict and resolution* (p. 131). Sage Publications.

Kapoor, K. K., Tamilmani, K., Rana, N. P., Patil, P., Dwivedi, Y. K., & Nerur, S. (2018). Advances in Social Media Research: Past, Present and Future. *Information Systems Frontiers*. <https://doi.org/10.1007/s10796-017-9810-y>

- Kaschesky, M., Sobkowicz, P., Lobato, J. M. H., Bouchard, G., Archambeau, C., Scharioth, N., ... Riedl, R. (2013). Bringing representativeness into social media monitoring and analysis. In *Proceedings of the Annual Hawaii International Conference on System Sciences* (pp. 2003–2012). <https://doi.org/10.1109/HICSS.2013.120>
- Katz, M. L., & Shapiro, C. (1994). Systems Competition and Network Effects. *Journal of Economic Perspectives*. <https://doi.org/10.1257/jep.8.2.93>
- Kaufman, S., & Michael, S. D. (2003). *Frames, Framing and Reframing. Beyond Intractability*, University of Colorado.
- Kaushik, P., Chowdhury, A., Hambly Odame, H., & van Paassen, A. (2018). Social Media for Enhancing Stakeholders' Innovation Networks in Ontario, Canada. *Journal of Agricultural & Food Information*, 19(4), 331–353. <https://doi.org/10.1080/10496505.2018.1430579>
- Kavanaugh, A. L., Fox, E. a., Sheetz, S. D., Yang, S., Li, L. T., Shoemaker, D. J., ... Xie, L. (2012). Social media use by government: From the routine to the critical. *Government Information Quarterly*, 29(4), 480–491. <https://doi.org/10.1016/j.giq.2012.06.002>
- Kendall, H. A., Lobao, L. M., & Sharp, J. S. (2006). Public Concern with Animal Well-Being: Place, Social Structural Location, and Individual Experience. *Rural Sociology*, 71(3), 399–428. <https://doi.org/10.1526/003601106778070617>
- Kepplinger, H. M., & Habermeier, J. (1995). The impact of key events on the presentation of reality. *European Journal Of*. <https://doi.org/10.1177/0267323195010003004>
- Khan, G. F., Yoon, H. Y., & Park, H. W. (2014). Social media communication strategies of government agencies: Twitter use in Korea and the USA. *Asian Journal of Communication*, 24(1), 60–78. <https://doi.org/10.1080/01292986.2013.851723>
- Kietzmann, J. H., Silvestre, B. S., Mccarthy, I. P., & Pitt, L. F. (2012). Unpacking the social media phenomenon: Towards a research agenda. *Journal of Public Affairs*, 12(2), 109–119. <https://doi.org/10.1002/pa.1412>
- Kilpinen, E. (2007). Memes versus Signs. On the Use of Meaning Concepts about Nature and Culture.
- Kim, M., Newth, D., & Christen, P. (2013). Modeling Dynamics of Diffusion Across Heterogeneous Social Networks: News Diffusion in Social Media. *Entropy*, 15(10), 4215–4242. <https://doi.org/10.3390/e15104215>

Klandermans, B., Sabucedo, J., & Rodriguez, M. (2002). Identity processes in collective action participation: Farmers' identity and farmers' protest in the Netherlands and Spain. *Political Psychology*, 23(2), 235–251.

Klerkx, L., van Bommel, S., Bos, B., Holster, H., Zwartkruis, J. V., & Aarts, N. (2012). Design process outputs as boundary objects in agricultural innovation projects: Functions and limitations. *Agricultural Systems*. <https://doi.org/10.1016/j.agsy.2012.07.006>

Klijn, E. H., & Koppenjan, J. (2015). Governance Networks in the Public Sector. *Governance Networks in the Public Sector*. <https://doi.org/10.4324/9781315887098>

Klijn, E. H., van Twist, M., van der Steen, M., & Jeffares, S. (2016). Public Managers, Media Influence, and Governance: Three Research Traditions Empirically Explored. *Administration and Society*. <https://doi.org/10.1177/0095399714527752>

Kluge, S. (2000). Empirically Grounded Construction of Types and Typologies in Qualitative Social Research. *Forum Qualitative Sozialforschung*, 1(1), Art. 14.

Kotler, P. (2011). Reinventing Marketing to Manage the Environmental Imperative. *Journal of Marketing*, 75(4), 132–135. <https://doi.org/10.1509/jmkg.75.4.132>

Kramer, R. M., & Weick, K. E. (2002). Making Sense of the Organization. *Administrative Science Quarterly*. <https://doi.org/10.2307/3094924>

Kriesberg, L. (1993). Intractable Conflicts. *Peace Review*. <https://doi.org/10.1080/10402659308425753>

Kumar, S., Morstatter, F., & Liu, H. (2013). Twitter Data Analytics. <https://doi.org/10.1007/978-1-4614-9372-3>

Kwak, H., Lee, C., Park, H., & Moon, S. (2010). What is Twitter , a Social Network or a News Media? In *The International World Wide Web Conference Committee (IW3C2)* (pp. 1–10). Raleigh, North Carolina. <https://doi.org/10.1145/1772690.1772751>

Laine, M., & Vinnari, E. (2017). The transformative potential of counter accounts: a case study of animal rights activism. *Accounting, Auditing and Accountability Journal*, 30(7), 1481–1510. <https://doi.org/10.1108/AAAJ-12-2015-2324>

Lakoff, G. (2004). Don't think of an elephant! Know your values and frame the debate. Chelsea Green Publishing. <https://doi.org/10.1111/j.1753-6405.2007.00098.x>

- Lakoff, G. (2010). Why it matters how we frame the environment. *Environmental Communication*. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/17524030903529749>
- Lehmann, J., Gonçalves, B., & Ramasco, J. J. (2012). Dynamical classes of collective attention in twitter. *Proceedings of the 21st*.
- Lerman, K., Ghosh, R., & Surachawala, T. (2010). Social Contagion : An Empirical Study of Information Spread on Digg and Twitter Follower Graphs. In *Proceedings of the Fourth International AAAI Conference on Weblogs and Social Media* (pp. 90–97).
- Lewicki, R. J., Gray, B., & Elliott, M. (2003). Making sense of intractable environmental conflicts : frames and cases. Washington, DC : Island Press.
- Leydesdorff, L., & Hellsten, I. (2006). Measuring the meaning of words in contexts: An automated analysis of controversies about “Monarch butterflies,” “Frankenfoods,” and “stem cells.” *Scientometrics*, 67(2), 231–258. <https://doi.org/10.1556/Scient.67.2006.2.6>
- Leydesdorff, L., & Welbers, K. (2011). The semantic mapping of words and co-words in contexts. *Journal of Informetrics*, 5(3), 469–475. <https://doi.org/10.1016/j.joi.2011.01.008>
- Lim, M. (2004). The Polarization of Identity through the Internet and the Struggle for Democracy in Indonesia. *Electronic Journal of Communication*, 14, 1–17. Retrieved from <http://www.getcited.org/pub/103428275>
- Lin, Y., Margolin, D., Keegan, B., Baronchelli, A., & Lazer, D. (2013). #Bigbirds Never Die: Understanding Social Dynamics of Emergent Hashtags. *Icwsn*, 370–379.
- Linders, D. (2012). From e-government to we-government: Defining a typology for citizen coproduction in the age of social media. *Government Information Quarterly*, 29(4), 446–454. <https://doi.org/10.1016/j.giq.2012.06.003>
- Lissack, M. (2004). The redefinition of memes: Ascribing meaning to an empty cliché. *Emergence: Complexity & Organization*. https://doi.org/10.1207/s15327000em0503_6
- Liu, P., & Ma, L. (2016). Food scandals, media exposure, and citizens’ safety concerns: A multilevel analysis across Chinese cities. *Food Policy*, 63, 102–111. <https://doi.org/10.1016/j.foodpol.2016.07.005>

Liu, Y., Li, Y., Xi, B., & Koppenjan, J. (2016). A governance network perspective on environmental conflicts in China: findings from the Dalian paraxylene conflict. *Policy Studies*. <https://doi.org/10.1080/01442872.2016.1157853>

Liu, Y. Y., Kliman-Silver, C., & Mislove, A. (2014). The Tweets They Are a-Changin: Evolution of Twitter Users and Behavior. *ICWSM*.

Locke, A., & Edwards, D. (2003). Bill and Monica: Memory, emotion and normativity in Clinton's Grand Jury testimony. *British Journal of Social Psychology*, 42(2), 239–256. <https://doi.org/10.1348/014466603322127238>

Lockie, S. (2006). Capturing the Sustainability Agenda: Organic Foods and Media Discourses on Food Scares, Environment, Genetic Engineering, and Health. *Agriculture and Human Values*, 23(3), 313–323. <https://doi.org/10.1007/s10460-006-9007-3>

Lovejoy, K., & Saxton, G. D. (2012). Information, Community, and Action: How Nonprofit Organizations Use Social Media*. *Journal of Computer-Mediated Communication*, 17(3), 337–353. <https://doi.org/10.1111/j.1083-6101.2012.01576.x>

Luders, M. (2008). Conceptualizing personal media. *New Media & Society*, 10(5), 683–702. <https://doi.org/10.1177/1461444808094352>

Magro, M. J. (2012). A Review of Social Media Use in E-Government. *Administrative Sciences*, 2(2), 148–161. <https://doi.org/10.3390/admsci2020148>

M

Mahrt, M., & Scharkow, M. (2013). The Value of Big Data in Digital Media Research. *Journal of Broadcasting & Electronic Media*, 57(1), 20–33. <https://doi.org/10.1080/08838151.2012.761700>

Maitlis, S., & Sonenshein, S. (2010). Sensemaking in crisis and change: Inspiration and insights from Weick (1988). *Journal of Management Studies*. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-6486.2010.00908.x/full>

Mancini, P., & Hallin, D. C. (2012). Some caveats about comparative research in media studies. In *The SAGE Handbook of Political Communication*. <https://doi.org/10.4135/9781446201015.n41>

R

- Manovich, L. (2011). Trending: The Promises and the Challenges of Big Social Data. *Debates in the Digital Humanities*, 1–10. https://doi.org/http://www.manovich.net/DOCS/Manovich_trending_paper.pdf
- Marks, L. A., Kalaitzandonakes, N., Wilkins, L., & Zakharova, L. (2007). Mass media framing of biotechnology news. *Public Understanding of Science*. <https://doi.org/10.1177/0963662506065054>
- Mattijssen, T., Breman, B. C., & Stevens, T. M. (2019). Oostvaardersplassen on social media. the influence of social media on nature management. *Landschap*.
- McCombs, M. (2004). *How Agenda-Setting Works. Setting the agenda: The mass media and public opinion*. Blackwell Publishing.
- McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a Feather: Homophily in Social Networks. *Annual Review of Sociology*. <https://doi.org/10.1146/annurev.soc.27.1.415>
- Metze, T. A. P., & Van Zuydam, S. (2018). Pigs in the City: Reflective Deliberations on the Boundary Concept of Agroparks in The Netherlands. *Journal of Environmental Policy and Planning*, 20(6), 675–692. <https://doi.org/10.1080/1523908X.2013.819780>
- Miller, R., & Lammas, N. (2010). Social media and its implications for viral marketing. *Asia Pacific Public Relations Journal*, 11(2009), 1–9. Retrieved from <http://www.deakin.edu.au/arts-ed/apprj/articles/11-miller-lammas.pdf>
- Mol, A. P. J. (2006). Environmental governance in the Information Age: the emergence of informational governance. *Environment and Planning C: Government and Policy*, 24(4), 497–514. <https://doi.org/10.1068/c0508j>
- Montgomery, K. C., & Chester, J. (2009). Interactive food and beverage marketing: targeting adolescents in the digital age. *The Journal of Adolescent Health : Official Publication of the Society for Adolescent Medicine*, 45(3 Suppl), S18-29. <https://doi.org/10.1016/j.jadohealth.2009.04.006>
- Mooney, P. H., & Hunt, S. A. (2010). Food Security: The Elaboration of Contested Claims to a Consensus Frame*. *Rural Sociology*, 74(4), 469–497. <https://doi.org/10.1111/j.1549-0831.2009.tb00701.x>

Mou, Y., & Lin, C. A. (2014). Communicating Food Safety via the Social Media: The Role of Knowledge and Emotions on Risk Perception and Prevention. *Science Communication*, 36(5), 593–616. <https://doi.org/10.1177/1075547014549480>

Murdoch, J., & Miele, M. (2004). A new aesthetic of food? Relational reflexivity in the 'alternative' food movement. *Qualities of Food*, 156–175. <https://doi.org/10.2752/174967809X12556950208826>

Murphy, P. (1987). Using games as a model for crisis communications. *Public Relations Review*, 13(4), 19–28. [https://doi.org/10.1016/S0363-8111\(87\)80014-0](https://doi.org/10.1016/S0363-8111(87)80014-0)

Murphy, P. (1989). Game theory models for organizational/public conflict. *Public Relations Review*. [https://doi.org/10.1016/S0363-8111\(89\)80006-2](https://doi.org/10.1016/S0363-8111(89)80006-2)

Nadeau, R., Cloutier, E., & Guay, J. H. (1993). New Evidence About the Existence of a Bandwagon Effect in the Opinion Formation Process. *International Political Science Review*. <https://doi.org/10.1177/019251219301400204>

N

Nerlich, B. (2010). "Climategate": paradoxical metaphors and political paralysis. *Environmental Values*. <https://doi.org/10.3197/096327110X531543>

Nerlich, B., & Clarke, D. D. (2000). Semantic fields and frames: Historical explorations of the interface between language, action, and cognition. *Journal of Pragmatics*, 32(2), 125–150. [https://doi.org/10.1016/S0378-2166\(99\)00042-9](https://doi.org/10.1016/S0378-2166(99)00042-9)

Nestle, M., & McIntosh, W. A. (2010). Writing the food studies movement. *Food, Culture and Society*, 13(2), 159–179. <https://doi.org/10.2752/175174410X12633934462999>

Newig, J. (2004). Public Attention, Political Action: The Example of Environmental Regulation. *Rationality and Society*. <https://doi.org/10.1177/1043463104043713>

Ngai, E. W. T., Moon, K. K., Lam, S. S., Chin, E. S. K., & Tao, S. S. C. (2015). Social media models, technologies, and applications. *Industrial Management & Data Systems*. <https://doi.org/10.1108/imds-03-2015-0075>

Ngai, E. W. T., Tao, S. S. C., & Moon, K. K. (2015). Social media research: Theories, constructs, and conceptual frameworks. *International Journal of Information Management*. <https://doi.org/10.1016/j.ijinfomgt.2014.09.004>

R

Nguyen, L. T., Wu, P., Chan, W., Peng, W., & Zhang, Y. (2012). Predicting collective sentiment dynamics from time-series social media. In Proceedings of the ACM SIGKDD International Conference on Knowledge Discovery and Data Mining. <https://doi.org/10.1145/2346676.2346682>

Noelle-Neumann, E. (1974). The Spiral of Silence A Theory of Public Opinion. *Journal of Communication*. <https://doi.org/10.1111/j.1460-2466.1974.tb00367.x>

Norton, D. (2010). Constructing “Climategate” and Tracking Chatter in an Age of Web n. o. Washington, DC: American University Center for Social Media.

O

Oka, M., Hashimoto, Y., & Ikegami, T. (2014). Self-organization on social media: endo-exo bursts and baseline fluctuations. *PloS One*, 9(10), e109293. <https://doi.org/10.1371/journal.pone.0109293>

Olteanu, A., Castillo, C., Diaz, F., & Kiciman, E. (2019). Social Data: Biases, Methodological Pitfalls, and Ethical Boundaries. *Frontiers in Big Data*, 2. <https://doi.org/10.3389/fdata.2019.00013>

Omroep Brabant. (2011). De 19 meest interessante cijfers over megastallen - Omroep Brabant. Retrieved July 8, 2019, from <https://www.omroepbrabant.nl/nieuws/119476/De-19-meest-interessante-cijfers-over-megastallen>

Ostrom, E. (2009). Understanding institutional diversity. *Understanding Institutional Diversity*. <https://doi.org/10.1057/palgrave.ces.8100208>

Owen, L., Howard, W., & Waldron, M. (2000). Conflicts over farming practices in Canada: the role of interactive conflict resolution approaches. *Journal of Rural Studies*, 16(4), 475–483. [https://doi.org/10.1016/S0743-0167\(00\)00023-1](https://doi.org/10.1016/S0743-0167(00)00023-1)

P

Panagiotopoulos, P., Barnett, J., & Brooks, L. (2013). Social Media and Government Responsiveness: The Case of the UK Food Standards Agency. *Electronic Government: Proceedings of the 12th IFIP WG 8.5 International Conference, EGOV 2013, 8074(September)*, 310–321.

Pandhare, M. A., & Alvi, A. (2015). Public Opinion Mining For Effective Policy Making. *International Journal of Research in Advent Technology*, 3(4).

Pang, A. (2013). Social Media Hype in Times of Crises: Nature, Characteristics and Impact on Organizations. *Asia Pacific Media Educator*. <https://doi.org/10.1177/1326365x13517189>

- Pang, A., Limsico, J. I. L., Phong, L., Lareza, B. J. L., & Low, S. Y. (2018). Reputational damage on Twitter #hijack. In *From Media Hype to Twitter Storm*. <https://doi.org/10.2307/j.ctt21215m0.21>
- Pang, A., Shin, W., Lew, Z., & Walther, J. B. (2018). Building relationships through dialogic communication: organizations, stakeholders, and computer-mediated communication. *Journal of Marketing Communications*, 24(1), 68–82. <https://doi.org/10.1080/13527266.2016.1269019>
- Papacharissi, Z. (2016). Affective publics and structures of storytelling: sentiment, events and mediality. *Information, Communication & Society*, 19(3), 307–324. <https://doi.org/10.1080/1369118X.2015.1109697>
- Parmelee, J. H. (2014). The agenda-building function of political tweets. *New Media & Society*, 16(3), 434–450. <https://doi.org/10.1177/1461444813487955>
- Paul, G. D., Geddes, D., Jones, T., & Donohue, W. A. (2016). Revitalizing Conflict Research with a Communication Perspective: Celebrating and Learning from Linda Putnam's Contributions to the Study of Conflict. *Negotiation and Conflict Management Research*, 9(4), 309–331. <https://doi.org/10.1111/ncmr.12080>
- Pearce, B. W., & Littlejohn, S. W. (1997). *Moral conflict : when social worlds collide*. Sage Publications.
- Pearson, L. J., Pearson, L., & Pearson, C. J. (2010). Sustainable urban agriculture: stocktake and opportunities. *International Journal of Agricultural Sustainability*, 8(1), 7–19. <https://doi.org/10.3763/ijas.2009.0468>
- Peekhaus, W. (2010). Monsanto Discovers New Social Media. *International Journal of Communication*, 4(0), 955–976. Retrieved from <http://ijoc.org/ojs/index.php/ijoc/article/view/901>
- Peng, Y., Li, J., Xia, H., Qi, S., & Li, J. (2015). The effects of food safety issues released by we media on consumers' awareness and purchasing behavior: A case study in China. *Food Policy*, 51, 44–52. <https://doi.org/10.1016/j.foodpol.2014.12.010>
- Perbix, G. (2014). Not Just “Sustainable”: Communicating Growing Practices in a Statewide. *Journal of Applied Communications*. <https://doi.org/10.4148/1051-0834.1082>

- Perri. (2008). THE TOOLS OF GOVERNMENT IN THE DIGITAL AGE - by Christopher C. Hood and Helen Z. Margetts. *Public Administration*, 86(4), 1137–1138. https://doi.org/10.1111/j.1467-9299.2008.00756_4.x
- Petley, J. (2013). *Media and Public Shaming: Drawing the Boundaries of Disclosure*.
- Pfeffer, J., Mayer, K., & Morstatter, F. (2018). Tampering with Twitter's Sample API. *EPJ Data Science*, 7(1), 50. <https://doi.org/10.1140/epjds/s13688-018-0178-0>
- Pfeffer, J., Zorbach, T., & Carley, K. M. (2014). Understanding online firestorms: Negative word-of-mouth dynamics in social media networks. *Journal of Marketing Communications*, 20(1–2), 117–128. <https://doi.org/10.1080/13527266.2013.797778>
- Pinkley, R. L., & Northcraft, G. B. (2018). Conflict Frames of Reference: Implications for Dispute Processes and Outcomes. *Academy of Management Journal*. <https://doi.org/10.5465/256777>
- Pluut, H., & Curşeu, P. L. (2013). Perceptions of intragroup conflict: The effect of coping strategies on conflict transformation and escalation. *Group Processes & Intergroup Relations*, 16(4), 412–425. <https://doi.org/10.1177/1368430212453633>
- Porter, A., & Hellsten, I. (2014). Investigating participatory dynamics through social media using a multideterminant “frame” approach: the case of Climategate on YouTube. *Journal of Computer-Mediated Communication*. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/jcc4.12065/full>
- Potter, J., & Hepburn, A. (2007). Discursive Psychology: Mind and Reality in Practice. In A. Weatherall, M. Watson, Bernadette, & C. Gallois (Eds.), *Language, Discourse and Social Psychology* (pp. 160–180). London: Palgrave Macmillan UK. https://doi.org/10.1057/9780230206168_7
- Price, V., & Tewksbury, D. (1997). News Values and Public Opinion: A Theoretical Account of Media Priming and Framing. In *Progress in Communication Sciences*.
- Putnam, L. (2005). Discourse Analysis: Mucking Around with Negotiation Data. *International Negotiation*. <https://doi.org/10.1163/1571806054741083>
- Putnam, L., & Holmer, M. (1992). Framing, reframing, and issue development. *Communication and Negotiation*, London Sag, 128–55.

Putnam, L., & Shoemaker, M. (2007). Changes in conflict framing in the news coverage of an environmental conflict. *Journal of Dispute Resolution*, 2007(1), 167–175.

PvdD. (2011). Nieuwsarchief 2011 - Partij voor de Dieren. Retrieved July 8, 2019, from <https://www.partijvoordedieren.nl/archief/nieuws/2011>

Randall, E. (2009). *Food, risk and politics: Scare, scandal and crisis-insights into the risk politics of food safety*. Manchester University Press.

R

Ransan-Cooper, H., A. Ercan, S., & Duus, S. (2018). When anger meets joy: how emotions mobilise and sustain the anti-coal seam gas movement in regional Australia. *Social Movement Studies*, 17(6), 635–657. <https://doi.org/10.1080/14742837.2018.1515624>

Ratkiewicz, J., Conover, M., Meiss, M., Gonçalves, B., Patil, S., Flammini, A., & Menczer, F. (2011). Truthy: Mapping the spread of astroturf in microblog streams. *Proceedings of the 20th International Conference Companion on World Wide Web (WWW '11)*, 249–252. <https://doi.org/10.1145/1963192.1963301>

Rauschnabel, P. A., Kammerlander, N., & Ivens, B. S. (2016). Collaborative Brand Attacks in Social Media: Exploring the Antecedents, Characteristics, and Consequences of a New Form of Brand Crises. *Journal of Marketing Theory and Practice*, 24(4), 381–410. <https://doi.org/10.1080/10696679.2016.1205452>

Regan, A., Raats, M., Shan, L., Wall, P., & McConnon, A. (2014). Risk communication and social media during food safety crises: a study of stakeholders' opinions in Ireland. *Journal of Risk Research*, 1–15. <https://doi.org/10.1080/13669877.2014.961517>

Rieger, J., Kuhlitz, C., & Anders, S. (2016). Food scandals, media attention and habit persistence among desensitised meat consumers. *Food Policy*, 64, 82–92. <https://doi.org/10.1016/j.foodpol.2016.09.005>

Rieh, S. Y., & Danielson, D. R. (2007). Credibility: A multidisciplinary framework. *Annual Review of Information Science and Technology*, 41(1), 307–364. <https://doi.org/10.1002/aris.2007.1440410114>

Rijksoverheid. (2016). Rijksoverheid, veehouderij documenten. Retrieved June 1, 2016, from <https://www.rijksoverheid.nl/onderwerpen/veehouderij/documenten>

Roese, V. (2018). You won't believe how co-dependent they are. In *From Media Hype to Twitter Storm*. <https://doi.org/10.2307/j.ctt21215m0.19>

Rogan, R. G. (2006). Conflict Framing Categories Revisited. *Communication Quarterly*, 54(2), 157–173. <https://doi.org/10.1080/01463370600650860>

Rothman, J. (1997). Resolving identity-based conflict in nations, organizations, and communities. The Jossey-Bass conflict resolution series. Jossey-Bass, Wiley online.

Russell Neuman, W., Guggenheim, L., Mo Jang, S., & Bae, S. Y. (2014). The Dynamics of Public Attention: Agenda-Setting Theory Meets Big Data. *Journal of Communication*, 64(2), 193–214. <https://doi.org/10.1111/jcom.12088>

Rutsaert, P., Pieniak, Z., Regan, A., McConnon, A., Kuttischreuter, M., Lores, M., ... Verbeke, W. (2014). Social media as a useful tool in food risk and benefit communication? A strategic orientation approach. *Food Policy*, 46, 84–93. <https://doi.org/10.1016/j.foodpol.2014.02.003>

Rutsaert, P., Regan, A., Pieniak, Z., McConnon, A., Moss, A., Wall, P., & Verbeke, W. (2013). The use of social media in food risk and benefit communication. *Trends in Food Science & Technology*, 30(1), 84–91. <https://doi.org/10.1016/j.tifs.2012.10.006>

S

Saravanakumar, M., & SuganthaLakshmi, T. (2012). Social Media Marketing. *Life Science Journal*, 9(4), 4444–4451.

Scala, D. J., & Johnson, K. M. (2017). Political Polarization along the Rural-Urban Continuum? The Geography of the Presidential Vote, 2000–2016. *The ANNALS of the American Academy of Political and Social Science*, 672(1), 162–184. <https://doi.org/10.1177/0002716217712696>

Scharfstein, D. S., & Stein, J. C. (1990). Herd behavior and investment. *American Economic Review*. <https://doi.org/10.1257/aer.90.3.705>

Scharpf, F. W. (1987). A Game-Theoretical Interpretation of Inflation and Unemployment in Western Europe. *Journal of Public Policy*. <https://doi.org/10.1017/S0143814X00004438>

Scharpf, F. W. (2018). Games real actors play: Actor-centered institutionalism in policy research. *Games Real Actors Play: Actor-Centered Institutionalism in Policy Research*. <https://doi.org/10.4324/9780429500275>

Scheufele, D. A., & Iyengar, S. (2012). The state of framing research: A call for new directions. *The Oxford Handbook of Political Communication*. <https://doi.org/10.1093/oxfordhb/9780199793471.013.47>

- Schmidt, V. a. (2008). Discursive Institutionalism: The Explanatory Power of Ideas and Discourse. *Annual Review of Political Science*, 11(1), 303–326. <https://doi.org/10.1146/annurev.polisci.11.060606.135342>
- Schneider, T., Eli, K., Dolan, C., & Ulijaszek, S. (2017). Digital food activism. *Digital Food Activism*, 00(00), 1–234. <https://doi.org/10.4324/9781315109930>
- Scott, K. (2018). “Hashtags work everywhere”: The pragmatic functions of spoken hashtags. *Discourse, Context & Media*, 22, 57–64. <https://doi.org/10.1016/J.DCM.2017.07.002>
- Seawright, J., & Gerring, J. (2008). Case Selection Techniques in Case Study Research. *Political Research Quarterly*, 61(2), 294–308. <https://doi.org/10.1177/1065912907313077>
- Shan, L., Regan, A., De Brún, A., Barnett, J., van der Sanden, M. C. a, Wall, P., & McConnon, A. (2014). Food crisis coverage by social and traditional media: A case study of the 2008 Irish dioxin crisis. *Public Understanding of Science (Bristol, England)*, 23(8), 911–928. <https://doi.org/10.1177/0963662512472315>
- Simon, H. A. (1991). Bounded Rationality and Organizational Learning. *Organization Science*. <https://doi.org/10.1287/orsc.2.1.125>
- Snow, D. (2004). Framing Processes, Ideology, and Discursive Fields. *The Blackwell Companion to Social Movements*, 380–412.
- Snow, D. (2007). Framing and Social Movements. In *The Blackwell Encyclopedia of Sociology*. <https://doi.org/10.1002/9781405165518.wbeosf065>
- Snow, D., Rochford, E. B., Worden, S. K., & Benford, R. (1986). Frame Alignment Processes, Micromobilization, and Movement Participation. *American Sociological Review*, 51(4), 464. <https://doi.org/10.2307/2095581>
- Snow, D., Vliementhart, R., & Ketelaars, P. (2018). The Framing Perspective on Social Movements. *The Wiley Blackwell Companion to Social Movements*, (December), 392–410. <https://doi.org/10.1002/9781119168577.ch22>
- Solak, N., Reifen Tagar, M., Cohen-Chen, S., Saguy, T., & Halperin, E. (2017). Disappointment expression evokes collective guilt and collective action in intergroup conflict: the moderating role of legitimacy perceptions. *Cognition and Emotion*, 31(6), 1112–1126. <https://doi.org/10.1080/02699931.2016.1197098>

- Spitzberg, B. B. H. (2014). Toward a model of meme diffusion (M3D). *Communication Theory*, 24(3), 311–339. <https://doi.org/10.1111/comt.12042>
- Star, S. L., & Griesemer, J. R. (1989). Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907–39. *Social Studies of Science*. <https://doi.org/10.1177/030631289019003001>
- Starr, A. (2010). Local Food: A Social Movement? *Cultural Studies : Critical Methodologies*. <https://doi.org/10.1177/1532708610372769>
- Sterne, J. (2010). *Social Media Metrics: How to Measure and Optimize Your Marketing Investment*. Media (Vol. 3). John Wiley & Sons.
- Stevens, T. M. (2019a). Excerpts of co-occurrence analysis in WordStat, V3. Mendeley Data Repository. <https://doi.org/http://dx.doi.org/10.17632/4ympp4f233.3>
- Stevens, T. M. (2019b). The Emergence and Evolution of Master Terms in the Public Debate about Livestock Farming: Semantic Fields, Communication Strategies and Policy Practices_Plofkip (booster-broiler) and Megastal (mega-stable). Mendeley Data Repository. <https://doi.org/10.17632/hnfsmjzyxz.3>
- Stevens, T. M., Aarts, N., & Dewulf, A. (2019). The emergence and evolution of master terms in the public debate about livestock farming: Semantic fields, communication strategies and policy practices. *Discourse, Context & Media*, 31, 100317. <https://doi.org/10.1016/j.dcm.2019.100317>
- Stevens, T. M., Aarts, N., & Dewulf, A. (2020). Using Emotions to Frame Issues and Identities in Conflict: Farmer Movements on Social Media. *Negotiation and Conflict Management Research*, ncmr.12177. <https://doi.org/10.1111/ncmr.12177>
- Stevens, T. M., Aarts, N., Termeer, C. J. A. M., & Dewulf, A. (2016). Social media as a new playing field for the governance of agro-food sustainability. *Current Opinion in Environmental Sustainability*, 18, 99–106. <https://doi.org/http://dx.doi.org/10.1016/j.cosust.2015.11.010> 1877-3435/#
- Stevens, T. M., Aarts, N., Termeer, C. J. A. M., & Dewulf, A. (2018). Social media hypes about agro-food issues: Activism, scandals and conflicts. *Food Policy*. <https://doi.org/10.1016/j.foodpol.2018.04.009>

Stevenson, G. W., Ruhf, K., Lezberg, S., & Clancy, K. (2008). Warrior, builder, and weaver work: Strategies for changing the food system. *Remaking the North American Food System: Strategies for Sustainability*, 33–62.

Stieglitz, S., & Dang-Xuan, L. (2013a). Emotions and Information Diffusion in Social Media—Sentiment of Microblogs and Sharing Behavior. *Journal of Management Information Systems*, 29(4), 217–248. <https://doi.org/10.2753/MIS0742-1222290408>

Stieglitz, S., & Dang-Xuan, L. (2013b). Social media and political communication: a social media analytics framework. *Social Network Analysis and Mining*, 3(4), 1277–1291. <https://doi.org/10.1007/s13278-012-0079-3>

Suh, B., Hong, L., Pirolli, P., & Chi, E. (2010). Want to be retweeted? large scale analytics on factors impacting retweet in twitter network. *Social Computing*. Retrieved from http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=5590452

Taggart, G. (2011). Don't we care?: the ethics and emotional labour of early years professionalism. *Early Years*, 31(1), 85–95. <https://doi.org/10.1080/09575146.2010.536948>

Tajfel, H., & Turner, J. C. (1979). An Integrative Theory of Intergroup Conflict. In *The social psychology of intergroup relations*. [https://doi.org/10.1016/S0065-2601\(05\)37005-5](https://doi.org/10.1016/S0065-2601(05)37005-5)

Te Velde, H., Aarts, N., & Van Woerkum, C. (2002). Dealing with Ambivalence: Farmers' and Consumers' Perceptions of Animal Welfare in Livestock Breeding. *Journal of Agricultural and Environmental Ethics*, 15(2), 203–219. <https://doi.org/10.1023/A:1015012403331>

Termeer, C. J. A. M., Breeman, G., Van Lieshout, M., & Pot, W. (2010). Why more knowledge could thwart democracy: Configurations and fixations in the Dutch megastables debate. In *Knowledge Democracy* (pp. 99–111). Berlin, Heidelberg: Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-11381-9_9

Termeer, C. J. A. M., Dewulf, A., Breeman, G., & Stiller, S. J. (2015). Governance Capabilities for Dealing Wisely With Wicked Problems. *Administration & Society*, 47(6), 680–710. <https://doi.org/10.1177/0095399712469195>

Termeer, C. J. A. M., Dewulf, A., & Lieshout, M. van. (2010). Disentangling Scale Approaches in Governance Research: Comparing Monocentric, Multilevel, and Adaptive Governance. *Ecology and Society*, 15(4), art29. <https://doi.org/10.5751/ES-03798-150429>

Tetlock, P. E., Kristel, O. V., Elson, S. B., Green, M. C., & Lerner, J. S. (2000). The psychology of the unthinkable: Taboo trade-offs, forbidden base rates, and heretical counterfactuals. *Journal of Personality and Social Psychology*. <https://doi.org/10.1037/0022-3514.78.5.853>

Trouw. (2011). Aantal megastallen in vijf jaar verdubbeld. Retrieved July 8, 2019, from <https://www.trouw.nl/nieuws/aantal-megastallen-in-vijf-jaar-verdubbeld-b25d14d3/>

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*. <https://doi.org/10.1126/science.7455683>

V

Valenzuela, S. (2013). Unpacking the Use of Social Media for Protest Behavior: The Roles of Information, Opinion Expression, and Activism. *American Behavioral Scientist*, 57(7), 920–942. <https://doi.org/10.1177/0002764213479375>

van Bueren, E. M., Lammerts van Bueren, E. T., & van der Zijpp, A. J. (2014). Understanding wicked problems and organized irresponsibility: challenges for governing the sustainable intensification of chicken meat production. *Current Opinion in Environmental Sustainability*, 8, 1–14. <https://doi.org/10.1016/j.cosust.2014.06.002>

van der Berg, M., Jaarsma, M., Ramaekers, P., van Roekel, R., Vancauteran, M., Voncken, R., ... Fung Wong, K. (2016). Internationaliserings- monitor 2016–II Agribusiness.

Van der Meer, T. (2014). Organizational crisis-denial strategy: The effect of denial on public framing. *Public Relations Review*, 40(3), 537–539. <https://doi.org/10.1016/j.pubrev.2014.02.005>

Van der Meer, T. (2016). Automated content analysis and crisis communication research. *Public Relations Review*, 42(5), 952–961. <https://doi.org/10.1016/j.pubrev.2016.09.001>

Van der Meer, T., & Verhoeven, J. W. M. (2014). Emotional crisis communication. *Public Relations Review*, 40(3), 526–536. <https://doi.org/10.1016/j.pubrev.2014.03.004>

Van der Meer, T., Verhoeven, P., Beentjes, H., & Vliegenthart, R. (2014a). When frames align: The interplay between PR, news media, and the public in times of crisis. *Public Relations Review*, 40(5), 751–761. <https://doi.org/10.1016/j.pubrev.2014.07.008>

Van der Meer, T., Verhoeven, P., Beentjes, H., & Vliegenthart, R. (2014b). When frames align: The interplay between PR, news media, and the public in times of crisis. *Public Relations Review*, 40(5), 751–761. <https://doi.org/10.1016/j.pubrev.2014.07.008>

van Dijk, J., & Poell, T. (2013). Understanding social media logic. *Media and Communication*, 1(1), 2–14. <https://doi.org/10.12924/mac2013.01010002>

van Dijk, J. (2005). The deepening divide: Inequality in the information society. *The Deepening Divide: Inequality in the Information Society*. <https://doi.org/10.4135/9781452229812>

Van Latesteijn, H. C., & Andeweg, K. (2011). The transforum model: Transforming agro innovation toward sustainable development. *The TransForum Model: Transforming Agro Innovation Toward Sustainable Development*. <https://doi.org/10.1007/978-90-481-9781-1>

Vasterman, P. (2004). *Mediahype*. University of Amsterdam. Retrieved from <http://dare.uva.nl/record/1/236389>

Vasterman, P. (2005). Media-Hype: Self-Reinforcing News Waves, Journalistic Standards and the Construction of Social Problems. *European Journal of Communication*, 20(4), 508–530. <https://doi.org/10.1177/0267323105058254>

Vasterman, P. (2018). *From Media Hype to Twitter Storm : The Dynamics of Self Reinforcing Processes in News Waves*. (P. Vasterman, Ed.). PB - Amsterdam University Press: Amsterdam University Press. <https://doi.org/10.5117/9789462982178>

Vaughan, E., & Seifert, M. (1992). Variability in the Framing of Risk Issues. *Journal of Social Issues*. <https://doi.org/10.1111/j.1540-4560.1992.tb01948.x>

Veil, S. R., Buehner, T., & Palenchar, M. J. (2011). A Work-In-Process Literature Review: Incorporating Social Media in Risk and Crisis Communication. *Journal of Contingencies and Crisis Management*, 19(2), 110–122. <https://doi.org/10.1111/j.1468-5973.2011.00639.x>

Veil, S. R., Reno, J., Freihaut, R., & Oldham, J. (2015). Online activists vs. Kraft foods: A case of social media hijacking. *Public Relations Review*, 41(1), 103–108. <https://doi.org/10.1016/j.pubrev.2014.11.017>

Vlieger, E., & Leydesdorff, L. (2012). Visualization and Analysis of Frames in Collections of Messages : Content Analysis and the Measurement of Meaning. *Research Methodologies, Innovations and Philosophies in Systems Engineering and Information Systems*, 3(1), 321–339. <https://doi.org/10.4018/978-1-4666-0179-6.ch16.Abstract>

- W** Wageningen Economic Research. (2017). Nederlandse handel in agrarische producten. Wageningen Economic Research.
- Waldherr, A. (2018). Modelling issue-attention dynamics in a hybrid media system. In *From Media Hype to Twitter Storm*. <https://doi.org/10.2307/j.ctt21215m0.18>
- Walton, D. (2014). *Emotive language in argumentation*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139565776>
- Weatherall, A., & Stubbe, M. (2015). Emotions in action: Telephone-mediated dispute resolution. *British Journal of Social Psychology*, 54(2), 273–290. <https://doi.org/10.1111/bjso.12082>
- Weerd, M. De, & Klandermans, B. (1999). Group identification and political protest: Farmers' protest in the Netherlands. *European Journal of Social*.
- Weicht, B. (2008). The morality of caring: the discursive construction of informal care. *Enquire*, 1(2), 1–27.
- Weick, K. E. (2001). *Making Sense of the Organization*. Book (Vol. 2). Blackwell Publishers.
- Weng, L., Ratkiewicz, J., Perra, N., Gonçalves, B., Castillo, C., Bonchi, F., ... Flammini, A. (2013). The Role of Information Diffusion in the Evolution of Social Networks.
- Wien, C., & Elmelund-Praestekaer, C. (2009). An Anatomy of Media Hypes: Developing a Model for the Dynamics and Structure of Intense Media Coverage of Single Issues. *European Journal of Communication*, 24(2), 183–201. <https://doi.org/10.1177/0267323108101831>
- Wondolleck, J. M., Gray, B., & Bryan, T. (2003). Us versus them: How identities and characterizations influence conflict. *Environmental Practice*, 5(3), 207–213. <https://doi.org/10.1017/S1466046603035592>
- Wu, C.-W. (2015). Facebook users' intentions in risk communication and food-safety issues. *Journal of Business Research*, 68(11), 2242–2247. <https://doi.org/10.1016/j.jbusres.2015.06.005>
- Y** Yang, J., & Leskovec, J. (2010). Modeling information diffusion in implicit networks. *Proceedings - IEEE International Conference on Data Mining, ICDM*, 599–608. <https://doi.org/10.1109/ICDM.2010.22>

Yardi, S., & Boyd, D. (2010). Dynamic Debates: An Analysis of Group Polarization Over Time on Twitter. *Bulletin of Science, Technology & Society*, 30(5), 316–327. <https://doi.org/10.1177/0270467610380011>

Yin, R. K. (2009). *Case Study Research Design and Methods* Fourth Edition. Applied Social Research Methods Series.

Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). Thousand Oaks, CA: SAGE Publications.

Yuce, S., Agarwal, N., & Wigand, R. (2013). Social Computing, Behavioral-Cultural Modeling and Prediction. (A. M. Greenberg, W. G. Kennedy, & N. D. Bos, Eds.), *Lecture Notes in Computer Science* (including subseries *Lecture Notes in Artificial Intelligence* and *Lecture Notes in Bioinformatics*) (Vol. 7812). Springer Berlin Heidelberg. <https://doi.org/10.1007/978-3-642-37210-0>

Yuksel, H., Karantininis, K., & Hess, S. (2013). Mass Media and Food Crisis : A Discourse Analysis of Media Mass Media and Food Crisis : A Discourse Analysis of Media Abstract, (September), 4–7.

Zaharna, R. S., & Uysal, N. (2016). Going for the jugular in public diplomacy: How adversarial publics using social media are challenging state legitimacy. *Public Relations Review*, 42(1), 109–119. <https://doi.org/10.1016/J.PUBREV.2015.07.006>

Zhao, D., & Rosson, M. B. (2009). How and Why People Twitter : The Role that Micro-blogging Plays in Informal Communication at Work. In the ACM 2009 international conference on Supporting group work (pp. 243–252). Sanibel island, Florida. <https://doi.org/10.1145/1531674.1531710>

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Summary

This thesis examines the role of social media in the public debate about animal farming and food production in The Netherlands. The results of this case study provide insights into social media dynamics in the governance of wicked problems. More specifically, this thesis provides insights into:

- (1) the issues, events and actors that generate peak attention on social media;
- (2) the emergent dynamics that result from frame interactions;
- (3) the influence of social media dynamics on public debates and policies.

To analyse social media dynamics, I combined computational methods for an analysis of emergent patterns on a macro-level, with a detailed interpretive analysis of frame interactions during critical moments on a micro-level. In addition to Twitter and Facebook data, news media messages, policy debates and documents were investigated.

The empirical research started with the development of an extensive search query to explore public debates concerning agro-food issues. Based on the increase rate of social media messages on various time scales over a four-year period, I identified cases of peak selective activity: 'social media hypes'. An analysis of four dimensions (level of activity, message content, interaction of actors; and media interplay) and the patterns between these dimensions across cases, showed that peak activity revolves around three themes: scandals, activism and conflicts – each with characteristic patterns of activity, framing, interaction and media interplay, i.e. each with their own dynamics. First, scandals are triggered by a news event that generates a relatively high and long peak of social media activity. Social media activity follows news media reports, and there is little variety in framing. Second, activism is characterized by recurring waves of activity in which a single term is used as a rhetorical device to problematize industrial agriculture. These terms are used in campaigns and protest actions, but also more widely in public debates to evaluate various issues and events. Third, conflicts are characterised by a pattern of activity, framing, and media interplay that reflects three phases; animal rights advocates problematize farming practices and address politicians to take action; farmers mobilize a counter movement using identity frames and social media venues, which generates an online conflict that receives news media attention; the state secretary announces a policy decision on the matter, the attention for the issue diminishes and the conflict returns dormant.

The results show that peak selective activity not just follows news media messages about important events or policy issues in the sector, but that peaks revolve around a few themes that arise out of the interactions between stakeholders. Hashtags form important framing devices to select and connect issues, events and actors, and to morally evaluate the situation.

Based on these findings, two in-depth comparative case studies were conducted to better understand

- (1) the role of keywords as dominant framing devices in the public debate
- (2) the discursive use of emotions and identity in online intergroup conflicts

First, a longitudinal comparative case study was conducted on the emergence and evolution of two dominant keywords in the Dutch livestock debate: *plofkip* (booster-broiler) and *megastal* (mega- stable). Based on an analysis of social media messages, news articles, and policy debates and documents the role of keywords in semantic fields, communication strategies, and policy practices were investigated. The results show four dynamics through which keywords become dominant framing devices: (1) loaded keywords used for contested politicized objects become powerful framing devices if they carry normative meaning and yet are open enough to be applied widely; (2) if activists explicitly and consistently relate the meaning of a loaded term to realities and responsibilities in the sector, the term becomes the signifier of an activist frame; (3) counter terms and frames increase attention, broaden the involvement of actors and deepen the conversation to a value-based debate, through which keywords become master terms; (4) master terms are politically defined and shape policy practices, which in turn reinforces the affordance and legitimacy of the term in the public debate. I propose the concept ‘master term’ as a keyword that not only reflects, but activates and establishes a master frame around which conversations and practices revolve.

Second, two social media conflicts between farmers and animal rights advocates were investigated to understand how conflicts establish, escalate and return dormant. The analysis focussed on issue and identity framing and the discursive use of emotions in interactions. In contrast to previous framing studies in conflict research, I found that the two groups used the same set of frames and did so consistently throughout the three phases of both cases. I identify this as a symmetric conflict framing repertoire. The groups both use a dominant moral frame – animal welfare is of absolute value –, but express distinct views on policy solutions. This triggers a contestation of credibility – who knows best and who cares most for animals – in which the two groups use the same set of issue and identity frames to directly oppose each other. The binary opposition is initially established through issue-framing but escalates into an identity conflict that involves group labelling and

blaming. The discursive use of emotion reinforces this escalation in two ways. First, it reinforces a vicious cycle in the contestation of credibility, i.e. emotion is implicitly used to frame oneself as caring and trustworthy, and explicitly used to frame the other party as deceptive and irrational. Second, disputants use collective emotions as a response to the other group's offensive actions (blaming) and as a justification of one's own collective actions. The frame interactions and the discursive use of emotion thus shape the three conflict phases.

Overall, all types of stakeholders are involved on social media; political, public, and various private actors throughout the production chain (e.g. farmers, meat processing companies, retailers) are active as well as addressed, mentioned or talked about. Although social media actors frequently change their role to adjust to or alter the game that is being played, I identified relatively stable functions in social media interactions that reflect dependency relations; instigators that create events, crowds that generate momentum and culprits that reinforce or reduce public attention. The actions of instigators and crowds are generally directed towards bringing about change, as a form of activism and political opposition, whereas the culprits are targeted online to be held accountable.

This thesis contributes to three fields of literature: framing, social media dynamics and governance literature. First, two new concepts are introduced that help to understand how peak selective attention results from frame interactions; master terms and the symmetric conflict framing repertoire. Second, a theoretical framework is presented to analyse and interpret social media dynamics, and the self-reinforcing dynamics of social media hypes more particularly. This framework is accompanied by novel methodologies based on computational methods and interpretive analysis, to enable the analysis of the interrelation between emergence and agency on social media over time. Third, I demonstrate how the roles, strategies, resources and dependencies on social media have implications for governance. I conclude that social media create a public playing field that connects arenas and players, and changes the governance game.

Samenvatting

Dit proefschrift bestudeert de rol van sociale media in het maatschappelijk debat over de veehouderij en voedselproductie in Nederland. De resultaten van deze casusstudie geven inzicht in de dynamiek van sociale media in de context van complexe politiek-bestuurlijke vraagstukken. Om precies te zijn wordt er inzicht gegeven in;

- 1) de onderwerpen, gebeurtenissen en partijen die aandacht genereren op sociale media;
- 2) de emergente dynamiek die ontstaat uit frame-interacties, en;
- 3) de invloed van deze sociale media dynamiek op het maatschappelijke debat en beleid.

Voor dit onderzoek is gebruik gemaakt van Twitter en Facebook data, maar ook van nieuwsmedia berichten, politieke debatten en beleidsdocumenten. De data analyse bestond uit een combinatie van geautomatiseerde methoden om de emergente patronen op macroniveau in kaart te brengen, en gedetailleerde interpretatieve analyses van frame-interacties gedurende 'kritieke momenten' op microniveau.

Het empirisch onderzoek begon met de ontwikkeling van een uitgebreide zoekopdracht om het online publieke debat over voedselproductie te verkennen. Het verloop van sociale media activiteit is geanalyseerd over een periode van vier jaar en op basis daarvan zijn casussen geïdentificeerd die gekenmerkt worden door selectieve piekaandacht: '*social media hypes*'. Een analyse van de vier dimensies van communicatie (wat, wanneer, wie, en waar) en de patronen in de samenhang daartussen gedurende deze golven, laat zien dat selectieve piekactiviteit ontstaat rondom drie thema's; schandalen, activisme en conflicten – ieder met een eigen dynamiek (d.w.z. een kenmerkend patroon van activiteit, framing, interacties, en mediawisselwerking). Schandalen worden getriggerd door een nieuwswaardige gebeurtenis die een relatief hoge en lange golf van sociale media aandacht genereert. Sociale media activiteit volgt de nieuwsberichtgeving en er is een lage variëteit in frames. Activisme wordt gekenmerkt door terugkerende golven van activiteit waarin een term als stijlfiguur wordt gebruikt (plofkip en megastal) om de industriële landbouw te problematiseren. Deze termen worden gebruikt in campagnes en protesten, maar ook in het maatschappelijke debat om diverse gebeurtenissen en onderwerpen te duiden. Conflicten, tot slot, hebben een kenmerkend patroon van activiteit, frame-interacties en mediawisselwerking dat bestaat uit drie fasen: (1) dierenrechtenactivisten bekritisieren de boerenpraktijk en spreken bestuurders aan om actie te ondernemen; (2) boeren mobiliseren een tegenbeweging door gebruik te maken van identiteitsframes en sociale media platfora, wat leidt tot een online conflict en media-

aandacht, en tot slot; (3) de staatssecretaris neemt een besluit, de aandacht voor het onderwerp neemt af en het conflict tussen boeren en dierenrechtenactivisten verdwijnt onder de radar van nieuwsmedia en bestuurders, maar sluimert voort.

De resultaten laten zien dat selectieve piekaandacht op sociale media niet enkel ontstaat in reactie op nieuwsmediaberichten over belangrijke gebeurtenissen en bestuurlijke kwesties in de sector, maar dat selectieve piekaandacht ontstaat rondom enkele thema's die worden gevormd door de interacties tussen partijen. Hashtags vormen belangrijke frame-instrumenten om onderwerpen, gebeurtenissen en partijen te selecteren en verbinden, en moreel te veroordelen.

Op basis van de bevindingen uit deze eerste empirische studie, zijn er twee diepte-analyses uitgevoerd om meer inzicht te krijgen in

- 1) de rol van sleutelwoorden als dominante frames in de ontwikkeling van het maatschappelijk debat, en
- 2) het discursieve gebruik van emotie en identiteit in het ontstaan en verloop van online conflicten.

Ten eerste, is er een longitudinale vergelijkende casusstudie uitgevoerd naar de opkomst en het veranderende gebruik van twee dominante sleutelwoorden in het publieke debat over de veehouderij: *plofkip* en *megastal*. Op basis van een analyse van sociale media berichten, nieuwsberichten, politieke debatten en beleidsdocumenten, is er onderzoek gedaan naar de rol van deze sleutelwoorden in semantische velden, communicatiestrategieën en beleidspraktijken. De resultaten laten zien dat woorden zich ontwikkelen tot dominante frame-instrumenten via vier dynamieken: 1) beladen termen die worden gebruikt voor gepolitiseerde objecten kunnen zich ontwikkelen tot krachtige frame-instrumenten als ze een sterk normatieve, maar ook open betekenis hebben; 2) als activisten een term expliciet en consistent relateren aan gebeurtenissen en verantwoordelijkheden in de sector, dan komt de term symbool te staan voor het activisme-frame; 3) termen en frames die tegen het sleutelwoord worden ingebracht, leiden tot een intensivering, verbreding en verdieping van het debat rondom het sleutelwoord 4) sleutelwoorden krijgen een beleidsdefinitie en geven vorm aan beleidspraktijken, die op hun beurt de kracht en legitimiteit van de term in het debat versterken. In het verlengde van het concept master-frame, introduceer ik het concept '*master term*', voor sleutelwoorden die conversaties en praktijken beheersen. Een master term symboliseert niet alleen een *master-frame*, maar activeert en institutionaliseert het frame ook.

Ten tweede is er een verdiepende casusstudie gedaan naar twee sociale media conflicten tussen boeren en dierenrechtenactivisten om inzicht te krijgen in hoe conflicten opwellen, escaleren, en weer verdwijnen. De analyse was gericht op het in kaart brengen van de onderwerp- en identiteit-framing, en het discursieve gebruik van emoties in interacties in de evolutie van deze online conflicten. In tegenstelling tot eerder onderzoek naar framing in conflicten, laat deze studie zien dat de twee groepen niet verschillende, maar dezelfde frames gebruiken in alle drie de fasen van beide conflicten. Ik conceptualiseer dit als een *symmetrisch conflict framing repertoire*. Beide groepen gebruiken een dominant waardenframe – dierenwelzijn is van absolute waarde –, maar hebben verschillende opvattingen over de beleidsmaatregel. Dit ontketent een gevecht om geloofwaardigheid – wie weet het meest, en wie geeft het meest om dieren – waarin de groepen lijnrecht tegenover elkaar staan maar dezelfde onderwerp- en identiteit-frames gebruiken. De tweedeling en oppositie vindt in eerste instantie plaats via onderwerp-framing, maar escaleert door groepsstereotyperingen en beschuldigingen. Het discursieve gebruik van emoties versterkt deze escalatie op twee manieren. Ten eerste zorgt het voor een vicieuze cirkel in het gevecht om geloofwaardigheid: emotie wordt impliciet gebruikt om zichzelf te framen als zorgzaam en betrouwbaar, en expliciet gebruikt om de ander te framen als bedrieglijk en irrationeel. Ten tweede gebruiken disputanten collectieve emoties in reactie op de offensieve acties van de andere groep (beschuldigingen) en in de rechtvaardiging van de collectieve acties van de eigen groep. De frame-interacties en het discursieve gebruik van emoties bepalen deels de drie fasen in het conflict.

Resumerend kunnen we stellen dat sociale media actoren niet alleen nieuwsberichtgeving over gebeurtenissen in de sector volgen en becommentariëren, maar ook aandacht voor specifieke onderwerpen, gebeurtenissen en partijen kunnen *initieëren*, *genereren*, en *versterken of afzwakken*. Alle type partijen zijn betrokken op sociale media: politieke, maatschappelijke en verschillende commerciële partijen in de keten (nl. boeren, vleesverwerkingsbedrijven, en retailers). De relatief stabiele functies in sociale media interacties reflecteren rolpatronen en afhankelijkheidsrelaties: aanjagers creëren belangwekkende gebeurtenissen, de massa genereert momentum, en de schuldigen versterken of verzwakken de publieke aandacht. De acties van de aanjagers en de massa zijn over het algemeen gericht op verandering, in de vorm van activisme en politieke oppositie, terwijl de machthebbende partijen online worden beschuldigt, bestookt en aansprakelijk gehouden.

Dit proefschrift levert een bijdrage aan drie onderzoeksvelden: framing, sociale media dynamiek, en de governance literatuur. Ten eerste worden er twee nieuwe concepten geïntroduceerd die inzicht geven in hoe selectieve piekaandacht ontstaat uit frame-interacties; *master terms* en het *symmetrisch conflict framing repertoire*. Ten tweede wordt er een conceptueel kader gepresenteerd

om sociale media dynamiek te analyseren en interpreteren, en in het bijzonder de zelfversterkende mechanismen die leiden tot selectieve piekaandacht, zgn. *social media hypes*. Daarbij worden er in dit proefschrift nieuwe methodologieën ontwikkeld en toegepast, gebaseerd op een combinatie van geautomatiseerde en interpretatieve analyses, om de wisselwerking tussen individuele agentschap (*agency*) en overstijgende mechanismen die ontstaan uit de veelheid van interacties (*emergence*) te onderzoeken. Ten derde demonstreert dit proefschrift hoe de rollen, strategieën, bronnen en afhankelijkheden in het spel op sociale media invloed hebben op de interacties in andere governance arena's. Ik concludeer daarom dat sociale media een publiek speelveld vormen waarop verschillende arena's en spelers met elkaar worden verbonden, en dat de interacties op dit speelveld vergaande implicaties hebben voor het bestuur van complexe maatschappelijke vraagstukken.

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Tim Stevens
Wageningen School of Social Sciences (WASS)
Completed Training and Supervision Plan



Name of the learning activity	Department/Institute	Year	ECTS*
A) Project related competences			
Social Network Analysis, online course	University of Michigan	2013	3
Writing PhD Proposal	WUR	2013-2014	6
Exchange and development of social media methods	WENR, Food & Biobased Research	2013-2014	1
<i>'Social media as a new playing field for agro-food governance'</i>	Etmaal Conference, Wageningen	2014	1
Presenting and participating in 4 Informational Governance Seminars	WUR, Informational Governance program	2013-2015	1
<i>'Social Media Hypes about agro-food issues'</i>	World Dairy Congress, Rotterdam	2016	1
Social Media Theory and Data in Journalism and Political Communication	Summer School Radboud University, Nijmegen	2016	2
Social Media and Social Cohesion	Hendrik Muller Summer School KNAW, Amsterdam	2017	1.5
<i>'The Emergence and Evolution of Master Terms'</i>	Symposium Political Polarization and Challenges to Democracy, Vienna, Austria	2017	1
B) General research related competences			
Introduction Course	WASS	2013	1
PhD carousel	WGS	2014	0.3
Efficient Writing Strategies	WGS	2014	1.3
Scientific Publishing	WGS	2014	0.3
Scientific Writing	WGS	2017	1
Voice Matters - Voice and Presentation Skills Training	WGS		0.4
Reviewer	Journal Information, Communication and Society	2013-2019	1
Publish for impact, symposium	WUR	2017	0.3
Ronde tafel bijeenkomst <i>Communicatie over voeding: naar geloofwaardigheid en effectiviteit</i>	Kenniscentrum Suiker & Voeding		0.4
<i>Natuur 2.0: Het natuurdebat op social media</i>	WECR, WENR, WOt-technical report	2017-2019	4
<i>Het online debat over de Oostvaardersplassen</i>	WECR, WENR, Publicatie in Landschap	2018-2019	

Name of the learning activity	Department/Institute	Year	ECTS*
C) Career related competences/personal development			
Managing the SNA discussion group	WUR	2013-2014	1
Etmaal Conference, organisation	WUR	2013-2014	1
Competence Assessment	WGS	2014	0.3
Career Perspectives	WGS	2017	1.6
Project and Time Management	WGS	2014	1.5
Supervisor MSc and BSc students	WUR	2015-2019	1
ACT advisor	WUR	2017	0.3
Course coordinator CPT-53806	WUR	2016-2019	1
Course coordinator CPT-12306	WUR	2018-2019	1
<i>'Bepalen sociale media hypes nu het speelveld voor het landbouwbeleid?'</i>	Published in <i>Duurzaamheid in de Informatiesamenleving</i>	2016	1
<i>'Oostvaardersplassen: analyse discussie in sociale media'</i>	Blog on <i>Nature Today</i>	2018	1
Interview for <i>'Het boerenfront op Facebook en Twitter'</i>	Published in <i>Vork</i>	2018	0.3
Total			38.5

*One credit according to ECTS is on average equivalent to 28 hours of study load

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