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Making sense of risk - An analysis of framings in media of the chemical risks of textiles, toys and paint

Stenborg, Emelie

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An analysis of framings in media of the chemical risks of textiles, toys and paint

Emelie Stenborg

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Research Policy Institute, Lund University, Sweden
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List of abbreviations and glossary

Acrylamide – a by-product of frying, but also used for example as a sealing agent, and a carcinogen and toxic to health

Allergen – any substance that can cause an allergy

Anti-mould agent – a substance that destroys or suppresses mould

Asbestos – was commonly used as a building material until its effects on human health were established

Azo dyes or pigments – compounds used to colour food and textiles that are believed to have various health effects

Biocide – a pesticide aimed at organisms

Bisphenol A – a compound used to make plastics and an endocrine disrupter

Caesium – a radioactive substance

Carbon dioxide – a by-product of combustion and a greenhouse gas

Carcinogenic – a substance that acts as an agent directly involved in causing cancer

Chlorophenols – a groups of multipurpose chemicals, where one of its varieties, PCP, is used as a pesticide and disinfectant and is toxic to the health.

Chromium – an element of which in particular one variety (chromium^{vi}) is toxic and carcinogenic

DBP – considered as one of the more hazardous phthalates and a CMR (carcinogenic, mutagenic and toxic to reproduction)

DDT – a pesticide and a POP (persistent organic pollutant) and endocrine disrupter

DEHP – considered as one of the more hazaradous phthalates and a CMR

Dioxin – a broad class of compounds that are by-products of industrial processes (combustion) and POPs and toxic to human health

DMF (dimethyl fumarate) – an anti-mould agent and allergen

Endocrine disrupters – a substance that disturbs the hormonal systems in living organisms

Flame retardants (brominated) – prevents, for example, fabrics from catching fire and bioaccumulative and endocrine disrupters

Insecticide – a pesticide aimed at insects

Irgarol – a copper-based complex used in anti-fouling paint and toxic to the environment and health and bioaccumulative

Lead – a poisonous element

MDBGN – a preservative/biocide and an allergen

Mercury – an element that via combustion enters the environment and is highly toxic to mammals and humans.

NGO – Non-Governmental Organisation

Nitrogen oxide – a by-product of combustion and an air pollutant

Nonylphenol (NP) – a decomposition product of nonylphenol ethoxylate and toxic to the environment and endocrine disrupter

Nonylphenol ethoxylate (NPE) – a detergent used, among other things, in the manufacturing process of fabrics and an endocrine disrupter

Octylphenol – a group of isomeric aromatic compunds used as intermediates for other chemicals and toxic to the environment

PAH – a group of compounds, polycyclic aromatic hydrocarbons, that are by-products of combustion and carcinogenic and mutagenic

PCB – a group of similar multipurpose chemicals that are softening and isolating and toxic to the environment and health

PFC (perfluorinated compounds) – a groups of compounds used for functional surfaces and as stain, oil and water repellents and greenhouse gases and bioaccumulative

Pesticides – substances to prevent, treat or hinder any pest

Phthalates – softeners in plastic, some of which cause harm to the environment and human health

Precautionary principle – has several defintions but a quite ellaborate example is "When an activity raises threats to the environment or human health, precautionary measures should be taken, even if some cause-and-effect relationships are not fully established scientifically. In this context, the proponent of an activity, rather than the public, should bear the burden of proof." (Kemikalieinspektionen, 2007, p. 22)

PVC – a highly common plastic that may be toxic depending on what placticiser is used to make it softer (i.e. DEHP, DBP)

REACH – Registration, Evaluation, Authorisation and Restriction of CHemicals, the harmonised EU chemicals legislation

SAR – Social amplification of risk

Substitution principle – has several definitions but one can be "Substitution means the replacement or reduction of hazardous substances in products and processes by less hazardous or non-hazardous substances, or by achieving an equivalent functionality via technological or organisational measures" (Lohse et al., 2003, p. i). A more extensive definition is "If risks to the environment and human health and safety can be reduced by replacing a chemical substance or product either by another substance or by some non-chemical technology, then this replacement should take place. All decisions on such substitutions should be based on the best available evidence. This evidence can be sufficient to warrant a substitution even if quantitative risk estimates cannot be made." (Kemikalieinspektionen, 2007, p. 5)

Sulphur – An element that via combustion forms compounds contributing to acidic rain

TBT – a group of organotin compunds where some are used as biocides in anti-fouling paints and highly toxic to the environment and POPs

Thalidomide – A medicine used to combat morning sickness in pregnant women in the late 1950s and early 1960s and whose active component had severe by-effects on the foetus

Xylene – an aromatic hydrocarbon used as solvent and toxic to the environment and health and VOCs (volatile organic compounds)

1 The chemical society

Social science studies of risk often emphasise the ongoing redefinition of the social world into one characterised by a preoccupation with a new type of risk. These risks are said to differ from older types in that they are impersonal, global, imperceptible and caused by technology (Dingwall, 1999). This distinction cannot be clear-cut, though. Many natural disasters show several of the same characteristics (for example, the tsunami catastrophe in 2004 had a global effect) and technology has caused risks for as long as it has existed (water pumps caused cholera at the beginning of the nineteenth century, for example). That means that the older types of risk, to a large extent, exist in parallel with newer types rather than being replaced by them (Ekberg, 2007).

A suggestion for what is different, however, is the way of thinking and coping with risks. Covello and Mumpower (1985) suggested nine ways that affect how the social management of risk has changed. Some of the ways relate to the origin and cause of risk – a shift from hazards and disasters to risks caused by technology and science (including, for example, the prevalence of cancer and heart diseases that comes with age and lifestyle). Others relate to the scientific side – science has become better at identifying and measuring risks and scientists have increased in numbers (especially if they focus on health, safety and environment). A third group of reasons can be denoted more procedural – the use of formal risk analysis and the intervention of government have increased. Finally, the public is more present in risk management, both through special interest groups in society but also through a greater awareness of potential risks (Covello & Mumpower, 1985). These four changing factors – the origin of risk, and the roles of science, government and the public – suggest that the way that risks are perceived and managed has changed. This is what can be called a risk society characterised by the preoccupation with late modern risks (Beck, 1986; 1992; Giddens, 1990; 1999). This finds expression in the time and resources spent in identifying, assessing and managing risk and how risks are defined in society. In this thesis I investigate one such late modern risk – chemical risks of consumer goods.

> This capacity of chemistry to change the material world has had significant consequences, both positive and negative, on the relationship between chemistry and society. (Sjöström, 2007, p. 85)

Chemicals can be divided into different subgroups – natural chemicals, synthetic chemicals and synthetic chemicals that are identical to natural chemicals. The first group exist in nature and are as such integrated into the ecosystem. They have an optimal concentration and small deviances have a limited impact. Even dangerous natural substances, toxins from bacteria or fungus for example, are usually seen as part of the ecosystem and do not pose a risk *per se*. If there are natural chemicals in much larger quantities than expected, they are normally produced industrially. Due to the higher concentration, they pose a threat to the ecosystem since the natural mechanisms of metabolism are insufficient. Finally, synthetic chemicals are invented and manufactured by man and constitute the largest share of the chemicals in use. There are no naturally occurring protective mechanisms against these chemicals and they are responsible for the majority of known health and environmental risks (Petersson, 2006). Hence, the naturally existing chemicals are usually not part of what is called late modern risks (Beck, 1992). Thus it is the manufacture and use of mainly synthetic chemicals, rather than the chemical in itself, that constitutes the modern risk (Casper, 2003). For this thesis, the implication is that the chemicals in focus mainly are synthetic. Another implication is that even if, at the most fundamental level, everything can be defined as chemicals, not all chemicals pose a risk.

For the past two centuries, chemicals and chemistry have revolutionised society (Crone, 1986). This can be described as a "chemicalisation" of the environment (Casper, 2003; Sjöström, 2007) and has been labelled the "Chemical Age" (Crone, 1986) or the "Plastic Age" (Mulder, 1998) describing the dominant position of synthetic chemicals in society. The chemicalisation started around the 1930s with the introduction of plastic and synthetic fibres, with the Second World War acting as a dividing line between the old and new ways of viewing chemicals (Crone, 1986; Mulder, 1998). Since then, every aspect of Western human life is dominated by synthetic chemicals – from textiles and toys to building materials, cleaning agents, medicine and food. These chemicals improve the quality of life for people. This can be seen in the way plastics are used instead of resource- and energy-demanding metals, synthetic fibres last longer and are cheaper than natural materials, pesticides increase food availability and better health, and synthetic drugs make people healthier.

The negative effects of chemicals – the socially manifested risks – cannot go unnoted. But it is not simply a matter of synthetic chemicals being "bad" and should therefore be prohibited. There are many things that would not exist if it were not for synthetic chemicals. One example is most things related to the information society (Mulder, 1998). Another is the birth control pill that has indeed revolutionised the world (but also imposes risks) (Tyrer, 1999). Other chemicals would not exist in sufficient quantities for the demand – for example antibiotics (Crone, 1986). Synthetic chemicals have thus provided humans with a quality of life that it would be difficult imagine coping without. As a telling illustration, Crone (1986) says that the

proportions of deaths from cancer has increased but rhetorically asks whether this is due to an increased exposure to carcinogenic chemicals or if it is because modern medicine today cures what used to be deadly infectious diseases.

Chemistry is different from other technologies in that it also is an industry – it is economically important. In line with that importance there is a view that chemical regulation should not reduce the possibilities of industry to conduct its business (unless it is specified as dangerous) in order to keep the industry globally competitive (Crone 1986; Halffman & Bal, 2010). There is a subsequent societal emphasis on the needs of this industry – including the education of chemists, how chemists view their role, what the purpose of chemistry is suggested to be, and for how chemical issues are dealt with in society (Sjöström, 2007). It also finds expression in a view that chemical manufacturers are only sources of production – it is the demand for chemicals that is the structural problem (Crone, 1986). That the public then, paradoxically, seems to be scared of chemicals is explained by a view that the public is "chemophobic" and remedies for the chemophobia are, first, that the public should learn to have a balanced view of chemicals in society (Crone, 1986) and, second, that scientific experts should be given political influence as a counterweight (Sjöström, 2007). Thus, what is missing in the discourses surrounding chemistry is the responsibilities the chemist has as part of both the problem and any possible solutions, and what aims chemistry could have in society (Sjöström, 2005; 2007); there is an "end-of-pipe" focus on chemical risks that sets conditions for how the risks are defined and discussed in society.

1.1 Late modern chemical risk

Since the second industrial revolution there has been an increase in economic growth and welfare, but also in the human use of natural resources and in pollution, predominantly in the West (Holm, 2008). Sweden reacted to the effects of the rapid industrialisation by introducing workers' rights in the late nineteenth century (Löfstedt, 2003b). But it was the exploding private consumption in the 1950s, that eventually also resulted in visible environmental effects, that put environmental issues on the agenda. At this stage solutions were end-of-pipe – higher chimneys or longer drainpipes (Holm, 2008). In the early 1960s the American biologist Rachel Carson published a book, *Silent Spring*, describing how pesticides and insecticides, in

particular DDT,[1] were used on farms, forests and at home with devastating results for nature and animals (Carson, 1962). This book is seen as the start of environmental movements and the increasing general awareness of the chemical risks in our society. In Sweden, Dr. Palmstierna published books on the same topic that helped put the issue on the public agenda (see for example Palmstierna, 1967; 1972). In Sweden, chemicals such as mercury, lead and sulphur started to be discussed because of their implications for wild life, humans and nature respectively (Petersson, 2006).

During the 1970s the critique against modern society grew stronger not only in terms of anti-war and anti-consumption but also in questions related to energy, resources and the use of pesticides and insecticides. Many environmental organisations were now established (Holm, 2008). Examples of substances in focus were PCB, dioxins, nitrogen oxide and PAHs (Petersson, 2006) but also work issues were exposed (Löfstedt, 2003b). The Centre Party successfully promoted its environmental orientation to attract voters. The substitution principle was incorporated into Swedish law (Löfstedt, 2003b). The last two examples illustrate how environmental issues increasingly became politicised.

In the 1980s there was a reduction of environmental protests, perhaps as a backlash to the efforts made in previous decades. Nevertheless, a political party with an environmental focus, the Swedish Green Party, was established. There was also attention to forest death, which was later redirected to seal death (Holm, 2008). Chemicals in focus were carbon dioxide, chlorophenols and caesium (Petersson, 2006). Political consumption started to spread as well as the practice of separating waste and recycling (Holm, 2008).

The increase in political consumption meant that product labels were introduced in the 1990s and that firms and municipalities developed environmental profiles. Greater political efforts were also taken, such as the UN conference in Rio de Janeiro in 1992, where Agenda 21 was established (Holm, 2008). Phthalates, flame retardants and nonylphenol ethoxylate, for example, were in focus (Petersson, 2006). The book *Our Stolen Future*, by three American scientists, describes the problem of endocrine disrupters (Colborn, Dumanoski, & Myers Peterson, 1996) and has been called a new *Silent Spring*.

Early in the last decade, the 2000s, the political focus once again diminished but political consumerism gained a stronger foothold with an increasing number of ethical claims being considered. The focus increased dramatically, however, when

[1] See the list of abbreviations and glossary for a specification of the chemicals and principles in this historical account.

climate change put environmental issues back on the agenda (Holm, 2008). This also led to collective political action, across national borders (although with questionable results). Green chemistry has also surfaced as a branch of chemical research and engineering concerned with designing products and processes that minimise the use and production of hazardous substances (Sjöström, 2005).

Since the mid 2000s, chemical risks have been in focus at the EU level with the establishment of REACH, a harmonised chemical legislation. There has also been a focus on chemicals in everyday life by governments and non-governmental organisations (NGOs), for example in Denmark and Sweden.[2] Endocrine disrupters, acrylamide, and the chemical contribution to allergies are some topics that have been discussed (Petersson, 2006). That REACH for the first time introduces general chemical legislation on consumer goods, and the social attention directed towards it, means that the chemical risks of consumer goods have increasingly come into focus in the public debate.

Chemical risks of consumer goods as concerns in society

Considering what has been said so far, chemical risks of consumer goods become interesting for many reasons. The amount of chemicals in consumer goods and the potential risks they pose represent inconceivable numbers – hundreds of thousands of chemicals in millions of consumer goods, of which only a very small percentage have been assessed for their risk (Karlsson, 2010). Many chemicals in consumer goods serve a purpose – dyes, flame retardants and plastic softeners for example – and some of them are restricted for posing risks to the environment or human health (Gilek, Eriksson, & Rudén, 2010). But the worries about chemicals in consumer goods are increasingly moving beyond immediate threats and are instead associated with low-dose, long-term exposure which is difficult to assess scientifically (Rudén, 2004). The consumer goods in themselves are part of long product value chains where the chemical control is low (Fransson, 2012) and where the difficulty in attributing risk to societies' institutions makes it possible for actors and institutions to avoid responsibility (MacKendrick, 2010). Furthermore, the manufacture and use of chemicals are part of huge industries with economic importance, which means that there are counterforces to strict regulations (Brown J. V., 2003). There are thus different levels of risk that work together or against each other in society's collective

[2] http://www.naturskyddsforeningen.se/vad-vi-gor/miljogifter, http://www.mst.dk/Borger/Kemikalier/kortlaegn_af_kemikalier_i_forbrugerprodukter/ and http://kemi.se/sv/Start/Kemikalier-i-vardagen/, accessed 25 February 2013.

definition of risk. Following this, the chemical risks of consumer goods are subsequently to a large extent unmanaged (Eklund & Karlsson, 2010). This leads to the suggestion that the chemical risks of consumer goods can be seen as late modern risks (Beck, 1992).

As an effect of late modern risks being unmanaged in society, individuals are given greater responsibility for their own safety, also in relation to chemical risks (MacKendrick, 2011). But rather than focusing on how the citizen by political means can be part of risk governance, there is a contemporary focus on the consumer, which creates tensions between collective, global risks and the (limits to the) individual management of them (Jubas, 2007). This is particularly salient in this thesis as consumer goods are by definition supposed to be bought. By the choices a consumer makes in the grocery store or on the high street, the rational goes, he can change the conditions for production, living and consumption – thus being a citizen-consumer (Johnston, 2008). The citizen-consumer becomes an important mechanism in society's governance of the chemical risks of consumer goods.

However, in order for the chemical risks of consumer goods to be considered important, they need to be part of the public debate about risks. Since the public have few sources of experience or information regarding environmental risks (i.e. chemical risks of consumer goods) and what to do about them, the media become crucial for bringing risk issues to the forefront of public debate (Durfee, 2006; Hansen, 2011). Even considering the emergence of social media and the increasingly mobile and selective media use, traditional media still hold a dominant position in people's lives. People are addicted to media (Hadenius, Weibull, & Wadbring, 2011). This, however, does not mean that the media make sense of chemical risks single-handedly but rather there are several actors and factors that help, through complex and often contradictory processes, in shaping what is visible in media (Hansen, 2002).

Even if the logic of news and risks is suggested to differ (Hughes, Kitzinger, & Murdock, 2006) are there indications of an increasing presence of coverage that resonates with the chemical risks of consumer goods (Adam, 2000; Baum & Jamison, 2006). In addition, there are plenty of articles that are not news in media but that still contribute to the construction of risk issues (Hughes, Kitzinger, & Murdock, 2006). The media also have a broad task and ambition targeting the market and democracy – giving the audience what they want and what is in their interest (Lewis, Inthorn, & Wahl-Jorgensen, 2005) including complex risk issues. The media are therefore pivotal for the public to make sense of risk issues and for the way meanings of risks are collectively created. Thus, representations of risk, as visible in media, become highly important for how the chemical risks of consumer goods are viewed and, in effect, managed in society.

There is previous research connecting media and late modern risk, including three PhD studies that have focused on the public debate about gene technology in Sweden

(Bakshi, 2000; Ideland, 2002a; Olofsson, 2002). An article by Egan Sjölander, Wolanik Boström and Ögren (2010) investigates how framings by the media of chemical risks differ between two countries, Sweden and Poland. Iles (2007) studies how civic epistemologies shape knowledge production about chemical risks in products (limited to phthalates) where the media are but one part. Thus, the way the chemical risks of consumer goods are made meaningful in the media is an empirical topic remaining to be studied.

The way in which the public role in the governance of risks is visible in media is a rarely researched topic. Instead the roles of the public have to be split up into research on political consumption and the potential impact it has on behaviour of firms, and on the role of the public in promoting social change. This leaves me not only with an empirical gap to fill but also with an opportunity to develop ideas about how the role of the public is visible in framings in media and what this suggests about a risk issue.

Research that combines media representations of risks and the public role in governance of the same risks is difficult to find. MacKendrick (2010; 2011) is the one exception I have found that explicitly discusses the connection of the risk society, media (news and feature articles) and the public in connection with body burdens.[3] Empirically, however, it focuses on a different topic, has a slightly different theoretical approach and is of smaller scope. Thus, to combine research on the media and the chemical risks of consumer goods with the way the public is viewed in respect of the same risk seems to be a research area worth pursuing.

1.2 Aim and research questions

From the historical overview introducing this thesis, it is clear that chemical risks have risen out of the technological advancements humankind has made. But it is also clear that these risks have been visualised and managed, not only by science, but by other actors. Risks thus quickly went from a matter for science to being a matter also for society and are therefore constructed both by knowledge claims (not always scientific) and by social structures.

The aim of this thesis is to understand and problematise the co-construction of chemical risks of consumer goods as concerns in society, by analysing how these risks are represented in the media.

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[3] Body burdens are the chemical content in human bodies that are a result of everyday exposure above background levels.

This thesis analyses three types of representations in media to achieve this aim. First, knowledge claims and experiences, scientific or non-scientific, are visible in the media and act as a basis for risk judgements. Second, mechanisms and processes in society that contribute to the cause, effect and solution of risk are part of the representations. Third, there are suggestions for the role of the public, ranging from citizen to consumer, or any hybrids thereof, as part of risk issues. In this thesis these three types are called *substantive*, *procedural* and *citizen-consumer framings* respectively. What these framings share is a perpetual complexity of "facts", contradictions, simplifications, multiple opinions, actor's voices, and so on, that creates a tension in what perspectives of risk are visible in media and how risks are made sense of (Hansen, 2002). The view in this thesis is thus that the three types of framings co-construct chemical risks of consumer goods as concerns in society. This thesis aims to shed some light on this by answering the following research questions:

1. What substantive, procedural and citizen-consumer framings are visible of the chemical risks of textiles, toys and paint?
2. How do substantive, procedural and citizen-consumer framings, by supporting or contradicting, and excluding or highlighting different aspects, co-construct the chemical risks of textiles, toys and paint?
3. What are the implications of these dynamics for how the chemical risks of consumer goods are managed in society?

Figure 1 below illustrates the relationship between the research questions, method, analytical categories and conclusions. It shows how, in order to answer the research questions, this thesis investigates a particular subset of empirical material. This sub-set is news, opinion articles and feature articles, between 1994 and 2009, in Swedish print media regarding the three cases of the chemical risks of textiles, toys and paint. The three cases have been chosen on the basis that they should (1) be consumer products, (2) be close to the public's everyday practices, (3) be subject to some media coverage, (4) allow for comparisons and be complementary. All three product groups, textiles, toys and paint, are bought by private individuals and are part of people's practices. They are further subjects of debates and show aspects that allow for comparisons. Hence, these cases have been chosen using purposeful sampling (Patton, 2002a) for their explanatory and complementary characteristics enabling a holistic analysis from many perspectives (Flyvbjerg, 2006).

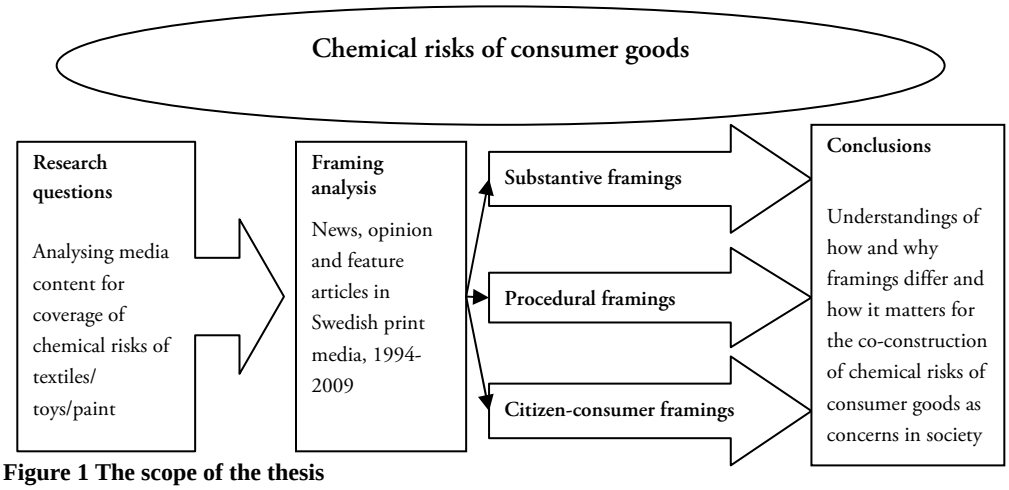

Figure 1 The scope of the thesis

In this thesis the approach of framing has been used. Framing is a concept for how humans are part of a narrative version of the world, for example through media but also through everyday conversations or education, for example (Chong & Druckman, 2007a). Framing can be seen as an organising idea for making sense of issues (Reese, 2007) that both define the general problem (Gamson, 1989) and represent factual content about issues (Zhou & Moy, 2007). Depending on how issues and topics are framed – for risk issues above all in media – there are different outcomes in terms of awareness and attitudes (Durfee, 2006) and possibly also in the activities of people (cf. Hansen, 2011). The framing approach can thus bridge studies of media and communication content with studies of public and political understanding, opinion and decision making (Hansen, 2011). This thesis subsequently takes framing as a point of departure to connect studies of risk constructions in media with perspectives on the role of the public in these risk issues.

The Swedish context in this thesis has implications for how the empirical material can be interpreted. First, Sweden is internationally known as a forerunner in environmental issues, meaning that the conditions for framings about chemical risks are beneficial (Stenborg & Klintman, 2012). The active use of the precautionary principle means that risks are part of the public debate early in their "careers". Second, the awareness among the Swedish public about environmental issues is rather high and framings in media regarding issues that are not directly experienceable or concrete can be assumed to be an important arena for meaning-creating (Juraitë & Thelander, 1999). Third, given the weak civil society in Sweden and the high trust in the state's corrective/protective ability (Amnå, 2007), the media also become an arena

where the citizen is visible. All these factors enable me to utilise the media articles as an estimate of the public debate about the chemical risks of consumer goods – including aspects of the civil society.

Contribution

Research policy studies can be defined as studying knowledge as a contested resource. The contribution of this thesis to research policy lies in the way it highlights how knowledge is produced in many spheres in society and that it is a highly contested and constructed process. In addition, it touches upon new types of governance, with a focus on the public that links policy to the chemical risks of consumer goods. Finally, it points out the tension between the traditional science values and knowledge claims that is the basis for chemical risk assessment, and how new types of risks need to be governed.

This thesis seeks to contribute to the research done on how risks are defined in society through processes of framing. The less common approach of analysing both knowledge claims of risk and the sense-making at a social level means that what is a risk and how it is defined in society can be expanded on, as well as what this implies for the governance of chemical risks of consumer goods. This thesis also contributes to research on the citizen-consumer by explicitly pointing the lens at representations of the public in relation to the chemical risks of consumer goods and what this implies for how risks are defined and governed. The contribution of this thesis can be seen as adding to the material on complex late modern risks by emphasising three elements: a new type of risk, the public in relation to risk and how representations of both are framed in the media.

Limitations

This thesis investigates the framings in media of chemical risks of consumer goods for three product groups: textiles, toys and paint. The empirical material consists of news, opinion and feature articles from Swedish print media between 1994 and 2009. The material was collected using key word searches in online databases. Articles that were printed in several papers – often opinion articles in local papers or material originating from news agencies – have only been included once. The reason for not looking at all articles but rather at the content of selected media texts is that this thesis aims at identifying framings rather than the impact of media coverage.

This thesis does not empirically investigate all types of representations (for example official websites, recommendations by public authorities, television or internet web forums) regarding all types of chemical risks of consumer goods. It does not aim to

produce general results of substantive, procedural and citizen-consumer framings of risks (even if it does aim at conceptual generalisations of certain aspects). Nor does it analyse how the general public is represented in other forums where expressions of their role can be found, for example in NGO documents. Also, this study does not investigate the new or social media such as blogs, the internet or how people search for information about the chemical risks of consumer goods. The main reason for this was to enable empirical material that was stable over time and that could be believed to reach all Swedish citizens as a public arena, in order to gain insights into the risks as societal concerns.

This study is not a media study in that I do not aim to examine how framings are constructions *by* media. Rather, I concur that the media articles are constructed in themselves, that they do not just emerge in a neutral manner, but I choose to use the media articles as representations of how risk issues are co-constructed, not investigating that part of risk construction further. This also enables me to look at the content of the article and to include direct quotations and what people say as part of risk images. It is also the reason why I choose to say "framings in media" rather than "media framings", which may be a more conventional term.

At times actors are visible in the analysis of the empirical material, but this study does not include a deep analysis of actors in terms of their contribution, or their strategies, as regards framings of risk in media. The reasons for not focusing on actors in this thesis are mainly two. First, it would be a thesis in itself given the number of actors visible in the empirical material and the three rather diverse cases. Second, returning to the reasoning in the previous paragraph, I am not studying *why* the framings in media look the way they do, but *what* they look like.

1.3 Structure of the thesis

Chapter 2 functions as a point of departure for understanding how some fundamental issues are viewed in this thesis to aid in further reading. These issues are whether risks can be seen as representing reality, how risk, hazard and uncertainty are defined in this thesis, how media is defined, and how the three rather diverse theoretical tools used (risk society, citizen-consumer and framing theory) relate to each other. Chapters 3 and 4 will cover the theoretical underpinnings. Chapter 3 introduces the concept of risk society and some strands of risk research that are relevant for this thesis: risk governance, risk reflection, and risk and safety. Chapter 4 discusses individualisation tendencies in society that have implications both for risks and for consumer goods. When doing this I review the public's role in the solution of risk, ranging from consumers to citizens and aspects of product labelling and everyday practices. Chapter 5 bridges theory and method by introducing theories of media and

of framing. The chapter aims at introducing the concept of framing taking its expression in media organisations, linking up with the theoretical framework of risk society and the citizen-consumer but also developing analytical tools. After this follows a presentation of methodology in Chapter 6. The choice of method, case studies, and the choice of cases (textiles, toys and paint) are discussed. In the same chapter, a section describes how the empirical material has been collected and worked with. Chapters 7, 8 and 9 introduce and analyse the cases of textiles, toys and paint respectively. This analysis is divided according to the three *a priori* analytical categories, substantive, procedural and citizen-consumer framings, with the analytical themes under each category being *in vivo* categories in themselves. In Chapter 10 the cases will be more broadly discussed in terms of patterns of similarities and differences across the cases. Chapter 11 concludes and discusses the main findings in terms of how framings in media co-construct risk but also in terms of the implications of the findings for society. Finally, in Chapter 12 there are some reflections on the work that has been done.

2 Points of departure

The "reality" of risk

Risk is a concept that carries many meanings. Risks can be identified at a societal level as fatal threats, fate, a test of strength, a game of chance or an early warning indicator (Renn, 2004). In addition, risk may refer to chance or probability of harm, a consequence or a dangerous situation (Hellström & Jacob, 2001). Renn (1992) argues that there are different approaches to risk grounded in academic disciplines: the actuarial approach, the toxicological approach, the engineering approach, the economic approach, the psychological approach, social theories of risk and cultural theory of risk. These approaches to risk differ in three respects: how uncertainty is conceptualised, how negative effects are valued and the underlying concept of reality. The last aspect will be dwelt upon here since this is critical when analysing co-constructions of risk, namely to what extent knowledge can reflect reality (of risk).

Sociologists of knowledge or science most often see our knowledge of the natural world as social constructions, not relying on an objective truth, but instead filtered and processed by social practices and negotiations. Within the natural sciences, social construction finds expression in the predictive power of the theories scientists try to prove, the apparatus they use, the calculations of results and the talk and practices between scientists (Hacking, 1999; Demeritt, 2001). However, there are great varieties in the belief of the extent to which our world is socially constructed. Some would claim that "how things are" actually determines the outcome of the process of science that, albeit social, does not impact facts (cf. Hacking, 1999) while others claim that nothing exists in itself but only our idea of it (cf. Demeritt, 2001). What is provocative to scientists (and others) then is the latter idea that there are no real objects, no nature-bound laws and no necessity in the way scientific ideas are developed. However, this rejection is unnecessary in Hacking's (1999) view – people talk about different things. According to him, most social constructivists maintain that the ideas of the object, rather than the object in itself, are socially constructed. Similarly, they do not contend that what the natural sciences suggests is in general false. But they say that there is no predetermination in what, how and in what order scientific ideas emerge. In addition, even if science can be seen to gradually converge to reality, it is not possible to know when the "end point" of knowledge is reached (Hellström & Jacob, 2001). To illustrate this position, Hacking (1999) uses the

example of quarks and says that the idea of the quark rather than the quark itself is constructed. Demeritt calls this "heterogeneous constructionism" by stating that "nature and other things-in-the-world are disclosed to us as objects through practical engagements that configure them in ways that are recognisable *for* us and transforming *of* us" (2001, p. 311).

Demeritt distinguishes between a "refutational constructionism" that aims at falsifying scientific claims and a "philosophical constructionism" that wants to situate human knowledge and understandings of reality as socially produced (Demeritt, 2001; 2002). The second broad category of social constructionism can be seen to have several sub-types, of which a particularly interesting one for this thesis is called "phenomenological constructionism". This approach understands social and environmental problems as products of social conditions rather than physical conditions (Demeritt, 2002). Since the construction in general is based on cognitive mechanisms it opens up for investigating the public discourse of risk. A common problem with such an approach is that the researchers who practise it usually are rather unconcerned with the existence of any problems or with the truth regarding facts said about them. As a result the research is both politically and philosophically detached by solely aiming at describing it (Demeritt, 2002). In agreement with Demeritt's criticism, this thesis aims to consider knowledge claims as a basis for judgements of risks as well as the social constructions of risks.

This view is endorsed by, among others, Shrader-Frechette (1991), who says that while risks are socially constructed, there are risk perceptions that are epistemologically more grounded – risks are real and constructed at the same time (see also Anderson, 1997; Boholm, 2003; Boholm & Corvellec, 2011). To use the example of quarks again, even if it is in principle impossible to observe quarks there are good reasons to accept quark theory as true – such as scientific consensus, consistency and explanatory power. This means that what can be seen as "real" does not have to be that in an "all-or-nothing" way, representing perfect knowledge about a risk event, but can be partial, temporary and replaceable and still be of value for risk practices (Shrader-Frechette, 1991). Then the distinction between real and constructed rather becomes a matter of conflict between interests (Shrader-Frechette, 1991; Hellström & Jacob, 2001). Some call this mix of standpoints pragmatism and argue that it would be impossible to work with reducing risks if one did not assume some level of realism (Mythen, 2007).

Shrader-Frechette (1991) claims that risk practices (she does not discuss risk *per se* but rather risks as practice through, for example, perceptions and evaluations) can occupy

a middle path between social constructivists and realists.[4] In her view scientific risk practices can be both rational and objective even if they are always infused with values at every stage of the process. The scientific objectivity of risk evaluation is ensured by its ability to withstand criticism at the same time as being subject to change if better discoveries are made, and by its explanatory and predictable power. In that sense, certain risk explanations are better than others. She contends that "risk perceptions are often real and objective, at least in the sense that empirical evidence (e.g., accident frequency) is relevant to them and is capable of providing grounds for amending them. All risks (the probability p that some X will occur), then, are both perceived and real. Their exact nature and magnitude become more fully knowable, however, insofar as more instances of X occur" (Shrader-Frechette, 1991, p. 80). Even so, Shrader-Frechette (1991) shows great sensitivity to the public's perception of risk by saying that it is not irrational or illogical but rather a mixture of cultural and individual factors paired with perspectives of and attitudes to risk (which differ from industry's and (social) scientists') and characteristics of the hazard in itself. By doing so, she is clear in that it is not possible in general to distinguish actual and perceived risks from each other.

Following Shrader-Frechette, a point of departure for this thesis is that social and environmental risks are socially produced but that physical conditions are important, both because modern risks are science-dependent and because they have a realistic component whose effects we cannot ignore. There exist certain objective "facts" around which there is great consensus that sets limits to how risks can be described in order to be accepted by the majority of the population (Anderson, 1997). Risks, such as pollution, do manifest themselves whether they can be described or not – even if the social construction decides if and how they are acknowledged (Lidskog, 1996). That said, the epistemological point of view in this thesis can be characterised as *constructivist-realism* (Wynne, 2002) or *constructive realism* (Metzner-Szigeth, 2009), which explicitly recognises that all risk perceptions available are *co-constructions* of nature and culture (Latour, 2003; Zinn, 2004).

The implication of the reasoning in the paragraphs above for this thesis is dual; first, chemical risks of consumer goods, of necessity, involve representations of "reality" to make sense of and to govern them, and second, these representations are socially constructed even if there is an underlying risk that may not be. In this thesis it implies the necessity to view all media texts as social constructions. It also explains why the concept of risk society is used in this thesis rather than an analysis of chemical risks of

[4] Shrader-Frechette calls them cultural relativists and naive positivists respectively but I continue to use the nomenclature previously used.

consumer goods from a technological perspective: "The interesting questions arise, however, when one starts to consider the relationships between the ontological nature of an entity and the categories we use to describe it" (Horlick-Jones & Sime, 2004, p. 447). Risks are not purely technological, and the impacts of culture on risk would be lost if ideas that do not consider culture were used.

To make this reasoning clearer a few examples will be presented. One such example is smoking. Even if various actors may dispute the fact that smoking cigarettes is a major contributor to lung cancer, and if people do not always know or let the knowledge influence their decisions to smoke, it is still possible to come to an understanding of an external risk reality (that smoking causes lung cancer) (Anderson, 1997). A second example is how asbestos was used as a construction material for many years before it was established that the material is highly carcinogenic. The risk with asbestos can therefore be said to have existed, to be real, before it was established (Boholm & Ferreira, 2005). A final example is how thalidomide was used to combat morning sickness in pregnant women but also resulted in miscarriages, birth defects and stillborn babies. It was later shown that it was the use of the drug as a racemate mixture (1:1) of the two isomers (mirror images) that caused the negative side effects. Thus, one isomer causes no adverse effects on the foetus while the other does. These examples show how there can be an objective reality of the origin of risk and its effects that cannot be constructed. Chemicals and chemical compounds have properties that *in principle* may be objectively determined (even if science in practice never reaches such determination) that are essential to hazards that may turn into risks. Even if these properties are ignored, the effects of the risk will not change. That risks often are established after the effects have been long known warrants the legitimacy of risks existing (Boholm & Ferreira, 2005). This is not to underestimate the difficulties in producing, valuing and using any sort of objective knowledge – rather the opposite: it can be argued that social collective processes also influence what is seen as objective knowledge (Hellström & Jacob, 2001). But on the other hand it is equally poor to suggest that the reason that it is difficult means that a complementary view of risk cannot be upheld (cf. Anderson, 1997).

Risk, hazard and uncertainty in this thesis

The view of *risk* used in this thesis, following the reasoning above, is that late modern risks are manifestations of science and technology taking place in nature and in society, and that these manifestations have both real and constructed elements. Not all science or technology poses risks but late modern risks are based on science, its technological applications or on technology (not all technology is science-based). Further, risk is not characterised by technology alone but the societal management of risk is at least as important for its manifestation and management. It should also be

noted that several risks may be possible and that definitions of risk most likely will be subject to change. This leads me to a definition of risk as utilised in this thesis that "establishes a *relationship of risk* between a *risk object* and an *object of risk*" (Boholm & Corvellec, 2011, p. 175). This means that a risk consists of something causing risk (a risk object), something that is exposed to risk (an object of risk) and, in situated contexts, a causal and contingent way in which the risk object is considered to threaten the valued object at risk (relationship of risk). *Risk is thus, in this thesis, used for an expected, with some degree of uncertainty, adverse effect on humans or the environment (or other things valued by humans) as caused by chemicals in consumer goods.*

The usefulness of Boholm and Corvellec's (2011) definition for this thesis is that it specifies (1) that the relationship of risk is based on hypotheses or accounts of what can happen if certain conditions are met, and (2) a link between cause and effect that is established – thus there is "realness" to the risk. For example, are (some) phthalates in plastic toys (the risk object)[5] posing a threat to human health (the object of risk) through their endocrine-disruptive properties (relationship of risk). However, it is important to note that all the processes around defining and visualising risks are social constructions. This includes the scientific practices that suggest that phthalates are endocrine disrupters and decisions to act upon any perceptions of risk (Boholm & Corvellec, 2011). Another important aspect is that the risk object, the object of risk and the relationship of risk are not fixed in time but instead continuously evolving and even changing places. What is a risk object can also be redefined as an object of risk and vice versa (Boholm & Corvellec, 2011). But it is also likely that certain definitions of risk show greater stability than others – if for example they are based on shared fundamental beliefs such as the protection of certain groups in society.

In this thesis *hazard* is an important concept since the risks of chemicals are based on chemical (or physical) properties. It is these properties that, in combination with exposure and a time factor, establish the causal link between the chemical and the risk to humans or the environment (Greim, 2010). Thus, the hazardous properties alone are not sufficient to cause risk. A hazard is not a risk until there is a context in which the risk can manifest itself. For example, phthalates in toys are not a risk unless someone or something is exposed to them over a period of time.[6] This implies that when the concept of hazard is used in this thesis it refers to a property of a chemical that may or may not be a risk depending on the situated contexts.

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[5] The toy as such could also be seen as the risk object, but in this thesis I choose to present the chemical as the risk object in order to make the discussion more specific.

[6] Note however that they may pose a risk at other stages of the product life cycle.

Uncertainty can at its most fundamental level be described as a lack of relevant information – it is what we do not know. It is a more fundamental state of ignorance than risk (Hellström & Jacob, 2001). Uncertainty, like risk, has both positive and negative connotations. When the focus is on the negative ones uncertainty relates to the relationship of risk, the risk object and the object of risk not being permanent and consistent – for example the chances of a negative outcome and the effects of that outcome. Uncertainty is in that respect a fundamental characteristic of risk and without uncertainty there is no risk. This is especially true for late modern risks where outcomes and probabilities are fairly unknown (Boholm, 2003). In addition, uncertainty in terms of risk is related to risks always being probabilities (Shrader-Frechette, 1991). In this thesis uncertainty is used when there is a lack of knowledge, and a subsequent public discussion, about the effects and even the existence of risk. With that said, the focus in this thesis lies on risk rather than uncertainty in that it analyses framings for chemical risks where the scientific basis for risk definition is rather known and established. Even so, it is likely that the different cases – textiles, toys and paint – are surrounded by different degrees of uncertainty due to the amount of "what is known" about the chemical risks related to that product group and other contextual factors that shape how people perceive and act upon risks.

Media in this thesis

In this thesis media is seen as a carrier of meaning and communicator – thus as a synonym of mass-mediated communication (mass media) (Hadenius, Weibull, & Wadbring, 2011). However, this thesis is not concerned with all types of mass media. Therefore, print media is a more precise term referring to papers, magazines, books, leaflets for example – virtually everything that is printed in order to communicate to the masses (McQuail, 2005). But not all of these different types of print media are used as empirical material in this thesis. Rather the main focus is on the contents of *printed newspapers* since it can be viewed as an estimate of the public debate and since the material is stable over time (see Chapter 6.2).

To a researcher using the media as an object of study, to use the term "media" when having this focus may seem superficial and somewhat misleading, but there are a couple of reasons to do so. First, the bulk of the theoretical foundation used in this thesis use precisely that term. For example, when discussing how risks are visualised, "media" is often highlighted. Another example is the concept of framing that almost exclusively uses the term "media" when analysing representations of risk. So, in order to be consistent with that, I have chosen to talk about media. A second reason is that this thesis aims to go beyond having media as object of study to analyse rather "framings in media" with a broader ambition. The utilisation of the concept "framings in media" emphasises that framings are of and by culture rather than by

media practices alone and takes greater contextual aspects into account. With this perspective the media are viewed as an arena of public debate that shapes and is shaped by, among other things, framings of risk. The media articles used as empirical material thus become an estimate of the public debate.

Connecting media, risk and the citizen-consumer

In Chapters 3, 4 and 5, I will review the literature that presents relevant lines of thought for this thesis. It includes theories about risk research (risk governance, risk reflection, and risk and safety), about the citizen-consumer hybrid, and about framing. This wide array of literature is used to account for the aim of the thesis – to analyse framings of the co-construction of chemical risks of consumer goods as concerns in society and the public's role in the risk issues.

Boholm and Ferreira (2005) suggest that one way to conduct purposeful risk research is to occupy the overlapping zones of different risk-relevant research. In these zones it becomes possible to challenge and restructure existing knowledge and to translate this into messages of how to act. Horlick-Jones and Sime (2004) agree but also suggest that disciplinary knowledge even may be insufficient to study risks as these are combinations of materiality and sociality that academic disciplinarity fails to capture. In Figure 2, which is taken from Boholm and Ferreira (2005, p. 37), this is illustrated by showing that activities of relevance for risk research overlap and that there is a dual information flow between them.

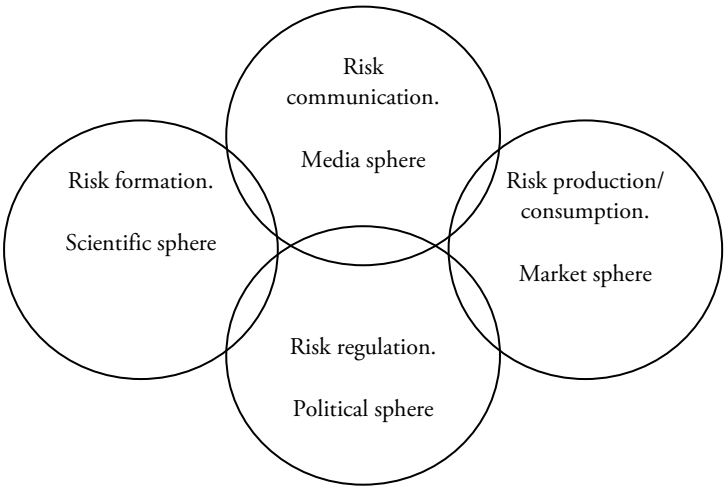

Figure 2 Four overlapping fields of societal activity with relevance for risk research
Note: Taken from (Boholm & Ferreira, 2005, p. 37).

The research fields in this thesis at least touch upon all the four spheres in Figure 2 by emphasising media framings as both relating to the scientific and the social, the focus on the citizen-consumer as part of the market sphere and risk governance theories as part of the political sphere. In line with that, the three research fields of risk society, the citizen-consumer and framing are interconnected and mutually influence each other (Hansen, 2002). The focus of this thesis lies then on the risk framings in media, the content/message of these risk framings and the view of the public in respect of them.

At the same time as framing is used for theoretical purposes, framings in media are used as the empirical basis for analysis in this thesis. This means that framing theory takes on a slightly different role from the theories on risk and the citizen-consumer used in this thesis. It acts as a bridge between theory and method, and this is highlighted in Chapter 5.

3 Risk society

In this chapter the concept of risk society is introduced. First, there is a section aiming at reviewing literature on the risk society focusing on dynamics, aspects and concepts of importance for this thesis. This is done in order to set the scene for the discussion of three lines of thought that have their origin in ideas of a risk society, namely *risk governance*, *risk reflection* and *risk and safety*. They are all highly relevant for how risks are communicated, made sense of, perceived and managed in society and are used in this thesis as tools to understand how chemical risks of consumer goods are made into societal concerns.

It is impossible to discuss risk in the social sciences without mentioning the German sociologist Ulrich Beck's risk society. Beck introduced the concept of the risk society in the mid 1980s (Beck, 1986; 1992).[7] Risk society, or second modernity, is distinguished by a perpetual and dominant focus on, and a management of, risks. In the meantime we live in a period of transition from distribution of wealth to distribution of risk (Beck, 1990; 1992). That risks manifest themselves after the process causing them has been socially accepted long before means that practices of today and yesterday set the parameters for what are acceptable risks – risks are socially defined (Beck, 1992). This is relevant for chemical risks where their acceptance was long based on a historical use – risks were "grandfathered" (Brown J. V., 2003). In line with this, risk society is what "happens when technology develops faster than the social institutions that monitor it" (Olofsson & Öhman, 2007, p. 179).[8] Risks are created by man as a result of technological developments, are imperceptible for humans, cause systemic irreversible change, are invisible, and diffused in time and space (Beck, 1992) – thus chemicals and the chemical society are a prime example. These risks are not failures of technology (Ekberg, 2007) or believed effects of catastrophes (Wimmer & Quandt, 2006) but instead the *anticipation* of catastrophe (Beck, 2006; Ekberg, 2007).

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[7] The original book was published in German in 1986 and translated into English in 1992. Hereafter I will refer to the 1992 edition.

[8] A claim that alludes back to the sociologist Ogburn's (1922) notion of "cultural lag".

Modern risks are multidimensional and involve multiple actors (Assmuth, Hildén, & Benighaus, 2010). Technical, economic, social, health related and environmental dimensions involve actors such as scientists, experts, policy makers, stakeholders, the public and media. Hence, modern risk issues are characterised by complexity, conflict, uncertainty and dynamic change (Macgill & Siu, 2005) – expertise is at its best partial. Still, the characteristics of risk emphasise the role of science and experts in identifying and defining risks (even if science has lost some of its authority due to the obvious limits of science in managing risks) (Tulloch & Lupton, 2003) – for example by assessing a chemical substance for its risk. In addition to science, the visualisation of risk in late modernity is often granted to media that is the public arena, above all, where risks are constructed, contested and criticised (Beck, 1992; Cottle, 1998). Beck has, however, been criticised for having an unnuanced view of media with bold claims about its influence and monolithic nature (Anderson, 2010) but without specifying it further (Hansen, 2011). Even so, the role of science and media means that these two arenas are extremely important in a late modern society as visualisers of risk (Beck, 1992).

In spite of the omnipresence of risk there is a denial of responsibility for man-made risks by the institutions in late modern society. This means that even if risks have to be acknowledged, the responsibility for the same risks is collectively avoided (Ekberg, 2007). The management of risks is then done by mechanisms with little public accountability, such as the market. This is referred to as "organised irresponsibility" and has as consequence that risks cannot easily be attributed to actors or institutions (MacKendrick, 2010; 2011). Traditional institutions in society that once provided safety – family, employer or the state – have also dissolved and individuals have to guarantee their own safety. Free from the social structures surrounding earlier generations, people are able *and* forced to continuously determine their own destiny by the choices they make (Olofsson & Öhman, 2007) – such as what consumer goods to buy. As a result risk responsibility is put on individuals (Ekberg, 2007) often as consumers (Beck, 2006). This means that modernity does not only give a freedom to choose, but an *obligation* to choose. This enforced choosing can then instead be seen as an "institutionalised individualism" where people are still guided by institutions and structures, but where these are hidden in an "ideology of individualisation" (Höijer, Lidskog, & Uggla, 2006). However, individuals continuously fail to control risks leading to anxiety and ambivalence when choosing (Ekberg, 2007). Following this anxiety, the idea of "tragic individualisation" has been put forth that describes the futility of the individual to manage risk (Beck, 2006; MacKendrick, 2011). For example, as will be discussed more later, when people become aware of the dangers of chemicals in consumer goods, one way is to purchase differently and more consciously, even if this only solves the problem to a very limited degree (MacKendrick, 2011).

As an effect of that risks cannot be managed in society, neither by states nor by individuals, individuals have the potential to become reflexive.[9] This starts with an awareness that risks cannot be mastered and leads to the undermining of the nation state (Beck, Bonss, & Lau, 2003). The first step is the transition from industrial to risk society and the second step, which constitutes the second modernity, is self-confrontation where citizens of modernity realise the dangers involved in its activities (Lupton, 1999). Eventually this awareness means that the public can become more engaged in risk issues with emerging sub-politics as an effect (in terms of new political actors). Thus, late modern risks have the potential to become political (Olofsson & Öhman, 2007) and change society. This is the road ahead that Beck suggests – the rise of civic movement in terms of, for example, NGOs and civic media (Beck, 2006; Wimmer & Quandt, 2006). In the case of chemical risks of consumer goods, this would not only mean that the public are selective about what they buy, but that other actors take active part in defining and managing risks – such as NGOs (Iles, 2007). As a critique of the concept of reflexivity, Elliot (2002) proposes that it is impossible to claim that the process of reflexivity is carried out automatically by risk society processes, independently of humans, since it is precisely human practices that are dissolved. The blind process of reflexivity thus seems to underestimate human agency. In addition, the lack of empirical support for the idea of sub-politics is striking (Wimmer & Quandt, 2006; Olofsson & Öhman, 2007). But perhaps ideas of risk governance (as will be discussed below) can be an incremental step towards sub-politics.

Late modern risks are also political for another reason. The rich and poor are "Equally exposed to risk in general but unequally exposed to risk in particular" (Luhman in Ekberg, 2007, p. 361). This means that, for example, smog affects everyone but the abilities to escape smoke is granted more to the rich. In time, however, this escape route will diminish as the risks spread over the world because "smog is democratic" (Beck, 1992, p. 36). But the democratic aspects of risk may be overemphasised as it has also been argued that if risks are equal it is because the rich have not yet discovered how to avoid them (Dingwall, 1999). In more recent publications Beck also seems to acknowledge this by saying that risk exposure is the new principal inequality of modern society, and only the ones who can define their own risks benefit from reflexivity. This seems to indicate that not all members of society have the same potential to be reflexive, and thus at least to be aware of risk and potential measures to avoid it. This has some bearing for the chemical society since chemistry is perceived as "difficult" for the general audience (cf. Sjöström, 2007). However, at the

[9] Note that Giddens's (1991) view of reflexivity is different, with an increasing reliance on (partial) expertise, as will be discussed in the next chapter.

same time, Beck suggests that global risks reinforce public debates about and activities against potential risks leading to an "involuntary democratization" (Beck, 2006)

Sometimes it is claimed that we live in a safer society than ever but still fear risks more than before (Ekberg, 2007; Connolly & Prothero, 2008). A possible explanation for this is that the risks we encounter today are closely linked to decision-making and reflexivity and not to dangers (Höijer, Lidskog, & Uggla, 2006). Another explanation is the definition of late modern risk as the expected outcome of an activity rather than an "effect of damage" (Wimmer & Quandt, 2006) – the preoccupation can be seen as based on scenarios of risk for every aspect of life (Falkheimner, 2007). Even so, as a criticism of risk society, natural disasters and other types of older risks are of much greater concern for large parts of the world's population. Even in Western societies the old types of risk related to unemployment, racism, violence and military efforts of much greater immediacy than the modern risks Beck suggests (Ekberg, 2007). In addition, it has also been suggested that the disparity of new and old risks is over-emphasised (Elliot, 2002). This would lead people to live in multiple modernities that allow people to be traditional and modern at the same time (Olofsson & Öhman, 2007). However, it has also been argued that what has actually changed is not the risks as such, but rather the collective interpretation of risks as different from before (Latour, 2003) by being more radical and global than they used to be (Falkheimner, 2007). Beck, in tune with Latour and Giddens, rejects the critique about the quantity of risk, by saying that what matters is not how many risks there are but that if catastrophes and disaster are expected, society will act correspondingly (Beck, 2006).

The theory of second modernity is often contrasted against first modernity (see Beck, Bonss, & Lau, 2003), as are new risks against old. These are the first two binary propositions utilised in theories on the risk society. Others – local and global, individual and collective, natural and technological, real and constructed, calculable and incalculable, visible and invisible, voluntary and involuntary, actual and perceived (Ekberg, 2007), self and other, and rich and poor (Lupton, 1999) – are essentially used in discussions on late modern risks. As will be seen later, many of these will be present in my own empirical analysis with the addition of, among others, substantive and procedural, safe and unsafe, and citizen and consumer. What is interesting about these binary positions is that they are theoretically treated as rather separate but they will always be intertwined in discussions of risk. They are impossible to talk about without adding a "but" and also include the binary opposition. For example, the invisibility of chemical risks can be discussed, "but" the visible effects of pollution must also be mentioned. Beck (2006) highlights the intertwined binary nature of risk by talking of "Janus-faced" consequences and proposes the challenge of accounting for these binaries. Latour (2003), on the other hand, says that it is only because society treats the roles of science and society as if they were completely separate (binaries) that they can be as intertwined as they are today. Another expression of this is that medicine has not cured as many diseases as it has "produced", as diagnostics

allows for the detection of illness but not the cure of them (Dingwall, 1999). Altogether, this seems to imply that simply by proposing that late modern risks are binary in nature – separate from the old risks – they become impossible to manage as such. Instead, acknowledging the interconnectedness between binary characteristics is necessary when discussing late modern risks.

Other binaries – realist and socially constructed, and individual and structural/collective – will be discussed below, before we head into three more specific lines of thought about risks that are of relevance for this thesis.

3.1 The societal effects of the risk society

Risk research has since the early days influenced a wide range of theoretical and methodological approaches. This is visible in Figure 3 below, which has taken inspiration from Renn (1992, p. 68), Taylor-Gooby and Zinn (2006, p. 407) and Horlick-Jones and Sime (2004, p. 449), although the figure represents my readings of the material. The figure divides risk research according to two dimensions. First, the extent to which risk is seen as socially constructed or not, putting at the extremes whether risks are seen as only real or if risks are viewed as exclusively social constructs. The second dimension covers whether risks are understood and acted upon in society based on individual characteristics, or whether risks are collective with social determinants for understandings. In the figure the boxes represent lines of thought that I touch upon in this thesis and the ovals represent the theoretical fields this thesis contributes to. They will be examined below.

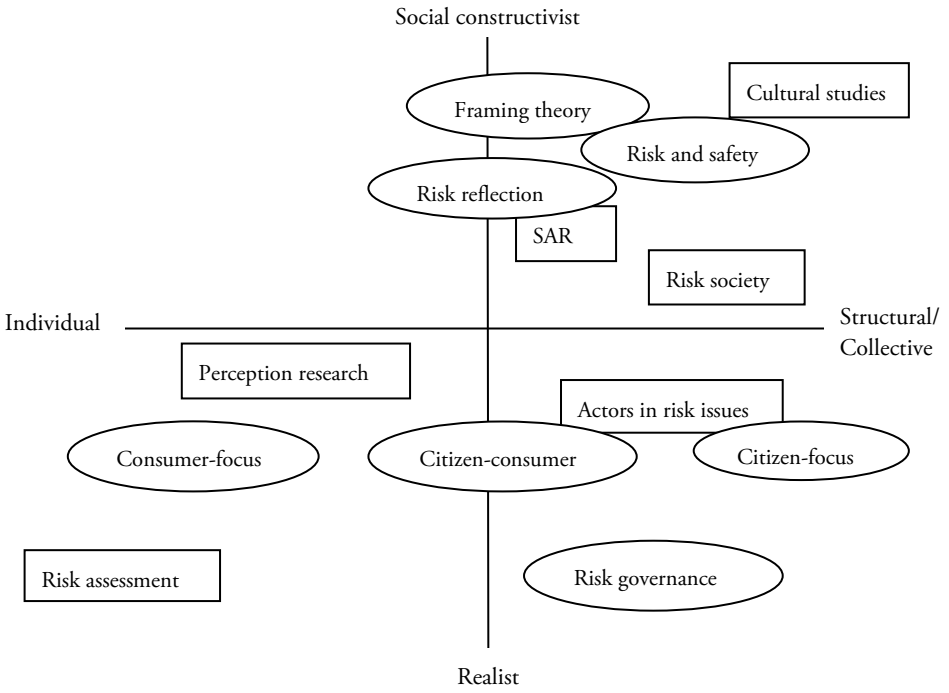

Figure 3 Risk research in this thesis

In the upper right quadrant, to first go through the boxes, combining constructed and social views of risk are the sociocultural perspectives (see also Lupton, 1999). In it we can see the work by Beck and Giddens, and researchers influenced by them, as well as Douglas's work on self/other (see for example Douglas & Wildavsky, 1982). Framing theory is also located here in its discussions of risk and how framings are constructed by a variety of factors (to be reviewed in Chapter 5) where only very little is determined by any "realness" of risk. The social amplification of risk (SAR) framework similarly try to explain how society intensifies and attenuates risk through actors' sense-making.

The lower right quadrant combines realist and structural perspectives of risk, presenting research on how actors' influence in defining risk issues for/on the public agenda (Parlour & Schatzow, 1978). These researchers would normally use a realist definition of risk – there *is* a risk – but at the same time call on social/collective processes to control them.

The lower left quadrant, combining realist and individual view of risks, is called the psychological (Taylor-Gooby & Zinn, 2006) or the cognitive science perspective

(Lupton, 1999). It includes techno-scientific perspectives where probabilities are explained and risk assessed scientifically, but also perspectives of risk perception where members of the public are grouped according to characteristics that account for how they think and behave concerning risk. However, individual accounts of risk perception (including aspects of cognition, mental models and affect) and understanding can also be widened to include social factors that influences risk perception of individuals and of the collective (as will be seen later).

In Figure 3 there is also one empty quadrant. Doing research that would end up in the top left quadrant by combining aspects of individual and constructivist perspectives may be uncomfortable for researchers taking social construction as a point of departure. On the other hand, I would argue that certain risk perception research do just this when they say that risk is socially constructed while simultaneously looking for factors that affect individuals' risk perception (Slovic, 1999). These factors can go beyond classifications of gender or age, for example, and include more individualistic factors such as prior experience or habits (cf. Renn, 2004). Another approach to this would be to study risk from a phenomenological perspective (Horlick-Jones & Sime, 2004).

My own research and the theories used are similarly spread through the three occupied quadrants. *Risk governance* locates itself in a realist definition of risk but with a greater focus on the structures in society that influence what risks are seen as salient and how. *Risk reflection* leans to the more constructed perspectives touching upon aspects of collective definitions of risk – for example through framing mechanisms. Views of how *risk and safety* are related belong to the quadrant that views risks as constructed and collective since the whole reasoning is based on risks being created simultaneously as they are defined. The theoretical construct of the *citizen-consumer* locates itself in the middle where risks are seen as mainly real (at least the perceptions of risks are real) and where the individual is part of the collective through his actions in the shops. The work on how the consumer and citizen can act to mitigate risk, on the other hand, is based on individual and collective perspectives respectively (due to the nature of a consumer and a citizen) but with a focus on risks as real – they can be effectively mitigated depending on one's actions. Thus, it becomes clear that this thesis needs a definition of risk that takes both real and constructed aspects into account (see Chapter 2).

In the remainder of this chapter the three risk reasearch fields mentioned above – risk governance, risk reflection, and risk and safety – will be elaborated on.

3.1.1 Risk governance

The changing ways in which risks are viewed in society have been suggested to interplay with how they are managed in society (Covello & Mumpower, 1985). Science can identify and visualise prior invisible risks and is therefore given ample room in risk management processes (Hannigan, 2006). The public has taken, but also been given, a greater participatory role, meaning that political risk practices have been expanded to include them as well (Hansson, Lundin, Idvall, Kaleja, & Putnina, 2011). These two factors mean that the formerly strict governmental risk management has turned into something more multifaceted and, at least ideally, inclusive (Assmuth, Hildén, & Benighaus, 2010). Risk management could be seen to evolve into risk governance. This is especially visible for issues that can be described as late modern risks where the public is suggested to have the "right to know" about the risk effects of scientific development (Hansson, Lundin, Idvall, Kaleja, & Putnina, 2011).

Risk governance is thus a term that is more inclusive than risk analysis or risk management as it includes the two earlier approaches to handling risks but also widens the scope by including more actors, stakeholders,[10] and processes than traditional methods (Renn, 2005). The reason for doing this is the realisation that risks have other dimensions than technical, including social and psychological ones that are shaped by values, beliefs and culture (Assmuth, Hildén, & Benighaus, 2010). Governance is a move away from the top-down government approach as it includes the processes, conventions and institutions that determine how power is exercised, how decisions are made and how stakeholders participate (Renn & Roco, 2006). Risk governance can be defined as including "the totality of actors, rules, conventions, processes and mechanisms concerned with how relevant risk information is collected, analysed and communicated and management decisions are taken" (Renn & Roco, 2006, p. 157). It thus gives particular attention to relevant risk-decisions and actions, has a multi-actor perspective and considers contextual factors (the institutional regulatory setup and socio-cultural factors) (Renn & Roco, 2006). The integration of these elements is necessary since all of them are fragmented. However, there are apparent problems in doing so given the large number of actors, ranging from national, to EU, to global actors, and the variety of sectors of governance, for example

[10] In the risk governance literature stakeholders can be defined as socially organised groups that are or will be affected by the risk and/or by any management decisions to handle it. But other groups such as media, cultural elites or opinion leaders as well as the general public are also important actors for the risk governance process (Renn, 2005).

regulatory areas, that are involved in risk governance (Assmuth, Hildén, & Benighaus, 2010).

Chemical risks illustrate this problem well by the way in which "Specifically in chemicals control and risk governance, many actors, with their variable interests and concepts of risks, influence whether and how integrated treatment of risk is achieved" (Assmuth, Hildén, & Benighaus, 2010, p. 3945). This means that not only is risk governance of particular relevance for chemical risks but also that the variety of actors and risk perspectives and interests implies that it is particularly challenging. This will be elaborated on below.

Klinke and Renn (2010), in a book chapter on the management of chemicals, discus how governing risks is a challenging tasks because of four factors. *Seriousness* refers to the inherent hazard of a risk agent such as a chemical. *Complexity* refers to the difficult task in finding causal links between cause and effect. *Uncertainty* is a result of both lack of knowledge and a genuine uncertainty resulting from context. Both complexity and uncertainty are demonstrated, for example, by that conclusive epidemiological data can be expected only for a few number of substances due to statistical issues and real-life influences (Rudén, 2004). Finally, *ambiguity* refers to how the risk is differently interpreted by different actors. The four factors highlight that risk governance is "multi-dimensional also because risks and responses to them – socio-political and technological – interact" (Assmuth, Hildén, & Benighaus, 2010, p. 3943). If phthalates are used as an example, they have properties that make them inherently more or less hazardous. But since they show effects by low-dose, long-term exposure, causal links are is hard to demonstrate. This leads to uncertainty about the effect of phthalates in toys – if they pose a risk to the user, for example, but also that the addition of phthalates to toys means that the safety of the product is uncertain. At the same time there are differences of opinions, among the EU, states, industry, NGOs, and members of the public, as to whether or not phthalates in the same toys pose a risk to the user.

Klinke and Renn (2010) further discuss the four stages of the risk governance process: *pre-assessment*, *appraisal*, *characterisation/evaluation* and *management*. The stages are challenging in two ways: first by how activities generate and collect knowledge about the risk, and second, by managing the risk. The *pre-assessment* stage involves finding signs of early warnings and defining problems. As such it includes both scientific and social indications of risk. The risk *appraisal* stage aims at both identifying and estimating the risk in a scientific and in a social way. This means that this stage includes the scientific definition of risk including aspect of toxicity, dose, exposure, threshold values, for example – what would normally be called risk assessment (cf. Rudén, 2004). But it also includes what is called a concern assessment of how individuals and society view a certain risk (Klinke & Renn, 2010). The *characterisation/evaluation* stage is supposed to define what levels of the given risk are

tolerable and acceptable in society. This judgement includes aspects based on scientific evidence as well as societal values. It further defines what resources should be devoted to minimising risk. Finally the risk *management* stage selects appropriate measures from among a range of options (Klinke & Renn, 2010). That this process is open to negotiations and judgements of risk managers and policy makers is visible, for example, in the lengthy processes defining and regulating phthalates in children's toys. Another example is that work safety legislation differs considerable between countries – even in respect of what exposures of chemicals are seen as tolerable (Schenk, 2010).[11]

Risk governance is of course relevant for other actors than state or supra-state arrangements. The private sector is important when discussing how chemical risks of consumer goods are governed. It is namely the production and consumption of goods containing chemicals that lies at the core of these risks. This means that firms at times have to react to claims of prohibited or unsuitable chemicals in their products. An approach to understanding how these reactions are played out is risk issues management, which describes how firms can act in the anticipation of negative attention to their brand (Benoit, 1995; Regester & Larkin, 2008). Much the same as risk governance above, it includes aspects of best practice and is a way for brands to avoid damaging their reputation. Risk issues management therefore involves tools that firms can use to identify, analyse and manage emerging issues that they need to respond to for reasons of business (Regester & Larkin, 2008). Crisis management occurs when scandals have already happened and is a response by the firm to restore its business (Regester & Larkin, 2008). Benoit (1995; 1997) calls these image repair strategies[12] and has discussed several cases, ranging from individuals to firms to states (for an overview see Burns & Bruner, 2000). Even if these strategies can be blamed for a static view of rhetoric and for problems assessing their effectiveness (Burns & Bruner, 2000), they nevertheless highlight a number of strategies that firms have used, and can use, as a response to claims of being responsible for something an audience disapproves of (Benoit, 1997). Thus, crisis management or image repair

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[11] In addition, one final aspect at the very heart of risk governance is communication. As a topic in itself it will not be reviewed here, but can very briefly be said to be aimed both at the ones involved in and at the ones outside of the immediate governance process. The communication, in a risk context, can be seen as having four aims: to inform and educate, to train and affect behaviour, to create trust and to ensure that stakeholders can take part in the risk governance process (Klinke & Renn, 2010).

[12] Benoit (1997) varies between calling them image *restoration* or *repair* strategies, but the word "repair" implies that image may never be restored but rather patched.

strategies are highly relevant for claims of chemical risks of consumer goods that firms have to respond to (see the case studies in Regester & Larkin, 2008). The image repair strategies are of five types: denial, evasion of responsibility, reducing the offensiveness of the event, corrective action and mortification. These strategies, or varieties of them, can be used alone or in combination by firms as attempts to repair their brand (Benoit, 1997; Burns & Bruner, 2000). A more recent publication highlights other factors related to legislation and communication and also stresses that the media have an important role in the revelation of product scandals. In addition, it discusses how firms can relate to media – both as foe and as ally (Regester & Larkin, 2008).

The reflexive aspect of late modernity has explanatory power as regards why risk governance is an increasingly used practice in the risk society. First, reflexivity as such means that the public becomes more aware of the limits to the processes in society that is supposed to manage risk (Beck, 1992). At the same time, risks are increasingly science-dependent for their identification and definition. But science has lost some authoritative power by failing to manage risks, which leads the public to utilise other sources of expertise and knowledge claims (Tulloch & Lupton, 2003). Thus the combination of a changed view and practice, of science and of the public, enforces changes in how risks are managed (Hansson, Lundin, Idvall, Kaleja, & Putnina, 2011). The reflexivity in late modern society also means that the public are concerned with and have to manage risks in their lives (Tulloch & Lupton, 2003). The next section discusses this by focusing on risk awareness and perception, here called risk reflection.

3.1.2 Risk reflection

As said above, reflexivity means that the public become aware that it is impossible to master risks. At the same time, individualisation processes are increasing, as people have to choose how to live their lives (Giddens, 1991; Beck, Bonss, & Lau, 2003; MacKendrick, 2011). In terms of risk this finds expression in individuals having to manage risks in their daily lives. Yet, "Risks tells us what should be avoided, but not what should be chosen" (Höijer, Lidskog, & Uggla, 2006, p. 354), meaning that the public have to decide what defines the risk and how it should be managed. In this thesis this is called risk reflection.

Risk reflection is a collective process. How risks are valued is a mix of science and judgement based on psychological, social, cultural and political factors (Slovic, 1999). To this can also be added that the particularities of the risk also impact on the responses to it (Wardman, 2008). Hence, risks are not (only) "facts" but interpretations (Bostrom, 2003). These interpretations vary because "information is assimilated and interpreted in different ways, depending on prior beliefs,

predispositions, personal experience, and the attitudes of peers" (Nelkin, 1989, p. 106). It is thus not only experts and lay people that understand risk differently, as has often been stressed, but the individual and group difference among the public may be even larger (Jarlbro, 1994). This is one part of explaining why certain chemical risks are seen as more salient in certain countries and why there are procedures in society that manage them before there is a scientifically based risk assessment (as would normally be the case). See for example the case of phthalates (Iles, 2007) and bisphenol A (Brewer & Ley, 2011).

Risk perception is a strand of psychology focusing precisely on how the public, as individuals and members of groups, interpret risks. It aims at explaining how people think and behave regarding risks and why they do so differently. Even if the focus is on individual responses, they are also searching for factors that determine how people perceive risk, dividing the public into categories (Taylor-Gooby & Zinn, 2006). Thus, albeit presented as an individual approach to risk reflection, it can still be used to describe how the public respond to risks as part of a collective (Lupton & Tulloch, 2002; Tulloch & Lupton, 2003; Olofsson & Öhman, 2007). Factors that distinguish how people perceive risk are worldviews (Bier, 2001) or if they are accustomed to the risk in question – it is difficult, for example, for people to view textiles as a problematic product since they are so used to them (Fransson & Molander, 2012). Socio-economic differences are also important. Income, education, gender, ethnicity, and other factors leading to marginalisation in general mean higher levels of perceived risks for these groups. This is at the same time the groups in society with least influence (Bier, 2001) which is contradictory and as such creates conditions for late modern risks (more about this below).

Rather than focusing on the determinants of risk perception, other researchers instead argue that we manage our lives not as much as individuals but as belonging to subgroups in society and also that these groups predefine positions, moral values and practices (Douglas & Wildavsky, 1982; Lupton & Tulloch, 2002). Douglas & Wildavsky (1982) discuss how common values lead to common fears. They focus on how some risks come to be perceived as more important than other, perhaps equally pressing, risks. They call this a "social bias" and suggest that different sets of social biases are targeted at finding different kinds of dangers. This implies that in a (part of) society, not all risks have the ability to be attended to, not because of any reality about risks, but because of how cultural values, beliefs and morals targets certain risks as more urgent than others. The risks people attend to depend on their life situation, and changing risk perceptions means changing societal organisation (Douglas & Wildavsky, 1982). In their book *Risk and Culture* they show how, by changing perspectives, the risks that are taken for granted and natural in one cultural context may be interpreted entirely differently in another. Thus, the way risk is viewed depends on shared cultural understanding of what is a risk, what are the consequences and how one can come to terms with it. The cultural perspective on risk has been

criticised for being too cultural and not accounting for, among other things, that individuals perceive risks differently or that individuals have different personas, for example at work or as parents (Shrader-Frechette, 1991; Renn, 1992; Boholm & Ferreira, 2005; Metzner-Szigeth, 2009). More serious is perhaps the criticism that Douglas and Wildavsky view the general public as uninformed and biased in its focus on contemporary (environmental) risk (Shrader-Frechette, 1991; Metzner-Szigeth, 2009).

The view of risks as essentially cultural is shared by another line of thought, SAR, which aims to explain why some risks are seen as more acceptable than others, why some activities are seen as acceptable from a risk perspective and why the urgency of a risk is not in proportion to the attention it gets (Kasperson et al., 1988; McComas, 2003; Masuda & Garvin, 2006). In this framework, risks are seen as social constructions but the focus is on the cultural processes of "sense-making" that groups in society do when they advocate their own view of the world (Masuda & Garvin, 2006). Risks are thus transferred through different stages of amplification that heighten or attenuate individuals' or groups' risk perceptions and subsequently their risk-reducing behaviour (Masuda & Garvin, 2006). SAR has originally been defined as "The social structure and processes of risk experience, the resulting repercussions on individual and group perceptions, and the effects of these responses on community, society, and economy" (Kasperson et al., 1988, p. 179) but is still criticised for having an underlying realistic view of risks (Taylor-Gooby, 2004).

Going beyond both individuals and collectives, in research on risk and civil society there is a shift towards studying environmental movements and their role in how society reflects on risk. From being seen on the periphery, for example in early work not including environmental movements as agenda setters (see for example Parlour & Schatzow, 1978), they are now seen as one of the primary actors when establishing risk issues on the social agenda, perhaps predominantly through media (Hansen, 2011). Not only do environmental movements identify environmental problems and work with scientists and politicians in establishing them but they are also some of the most prominent claim-makers in social (risk) issues today. This means that environmental claims not supported by an environmental movement may have a hard time getting space in the public debate (Hannigan, 2006) and may thus not be part of the public's risk vocabulary. In respect of the chemical risks of consumer goods, the impact of NGOs is considerable because they are active actors in the definition of risk, the governance of risk, and in the public visualisation of them – for example in the media (Iles, 2007).

The above sections have discussed how risks become concerns to and are governed by individuals and society. In the next section I will move on to how defining risks can also be seen as creating risk and thus emphasising the constructive element of risk.

3.1.3 Risk and safety

Traditionally, the safety of citizens would be a major task of states (Nyers, 2009). However, "the measures taken to increase security will end up being the same as those which bring about insecurity" (Nyers, 2009, p. 205). Whilst the level of discussion often is in terms of "protecting borders"[13] the quotation applies well to the risk governance process discussed earlier, as risks always need to be defined, evaluated and assessed before they can be managed (Doyle, 2007). That indicates that by governing risks, states (or other actors) also create the very same risk by pointing out that there is a threat present that some, or all, ought to be protected against. One example of this of relevance for this thesis is how the product alarm about acrylamide in potato crisps drew attention to the risk of eating fried food, something that was previously believed to be safe (Löfstedt, 2003b). In addition, in order to protect, citizens' rights are limited (Beck, 2006). Thus, by making risks explicit, what was previously safe becomes unsafe. The word safety points at the exact opposite – the existence of a threat or risk (cf. de Wilde, 2008).

By defining risk, *what* is not a risk and *who* is not at risk is simultaneously defined. By defining who is to be protected from risk, other groups are always excluded. For example certain phthalates can be prohibited for certain product/consumer groups or applications but not for others. But also, quite intriguingly, one of the groups in society that is aggregately most protected – the children – are also the ones who are said to be most at risk *when* at risk (cf. Park, 2007).

The creation of safe and unsafe is an explicit consequence of how risks are defined and governed in society. At the same time, structures from old times are diminishing in power (Beck, Bonss, & Lau, 2003). Two related mechanisms that instead take over power are, first, globalisation, causing risks that are difficult to control by traditional means such as national legislation (Spaargaren & Mol, 2008), and second, the reduction of the autonomy of the nation-state (Beck, Bonss, & Lau, 2003). The two processes, globalisation and the reduction of the nation-state, have also been suggested to diminish the citizens' rights and obligations to the state (Falk, 2000), instead increasing the consumer's obligation to manage risk (Beck, 2001) by, in light of this thesis, buying products that are free from hazardous chemicals. As large parts of the risk management process are imposed on individuals in a late modern society, the question of who is included and who is excluded becomes important for another reason. Only the people who are included can politically participate in the very same

[13] Drawing on Agamben's work on the camp and the bare-life that emerges from being stripped of one's citizen's rights. See for example Ek (2006).

risk management process (Doyle, 2007). The ones who are excluded must fight, or resist, the exclusion. This is seen in a risk society where the risk space is forced open for more participants by the very activities of the previously excluded (cf. Doyle, 2007; Nyers, 2009).

The creation of safe/unsafe in respect of chemical risks of consumer goods is visible in the global value chains utilised by producers of consumer goods. In the case of textiles, for example, it has been found that firms' control over what chemicals are used when manufacturing the clothes they sell normally only extends to the closest supplier (Boström, Börjesson, Gilek, Jönsson, & Karlsson, 2012; Fransson, 2012; Fransson & Molander, 2012). At the same time, requirements are communicated mainly via lists of restricted chemicals, codes of conduct or agreements, and controls for compliance with those are not always in place (Boström, Börjesson, Gilek, Jönsson, & Karlsson, 2012). Demands are rarely put on sub-suppliers (Fransson, 2012) and it is not always even known who is a sub-supplier (Boström, Börjesson, Gilek, Jönsson, & Karlsson, 2012). What this means in global patterns of trade is that trust is enforced as control mechanism between supplier and the ordering firm (Spaargaren & Mol, 2008) – and by extension to the customer.

This however does not mean that the textiles – or toys or paints – available in the shop are safe. Rather it becomes clear, through the unravelling of product scandals, that every item of clothes, every toy or can of paint, becomes a possible risk and that it is virtually impossible to know which products are safe and which are not – there is a constant awareness of risk (Doyle, 2007). Therefore the creation of safety becomes reliant on the individual making the right choices – perhaps guided by product labels (more about them later). The citizen can then execute acts of feeling safe by buying products that fulfil some criteria of soundness – no matter whether one is part of a protected group or not. In this way consumption becomes a political tool that one does not have to hold citizens' rights to wield. The next section will focus precisely on the citizen and the consumers as indivudal management of risk and as a political tool to govern risk.

4 Managing risks as individuals

Even if late modern risks in Beck´s (1992) initial work mainly concerned risks of a greater magnitude, discussions about, in particular, the idea of increasing reflexivity can be connected to how individuals manage risks by lifestyle choices (Macnaghten, 2003; Connolly & Prothero, 2008). The underlying rationale for this perspective is that individuals utilise lifestyle choices in late modernity as a means of managing risks (Giddens, 1991; Connolly & Prothero, 2008). One such way to mitigate risk that is highlighted is how individuals manage risks through consumption and through everyday practices (Connolly & Prothero, 2008; Spaargaren & Mol, 2008), having implications for how the public can manage the chemical risks of consumer goods as individuals. This perspective will be elaborated on in this section.

Giddens is a social scientist who, in addition to Beck, is often mentioned in connection with the risk society. While discussing many aspects of lifestyle choices such as sexuality, relationships, work and the body, particularly relevant for this thesis are his ideas of how individuals are reflexive about risks. Giddens (1990; 1991) views modern society as a risk culture, called high modernity. He proposes that while some traditional risks may have been reduced by human advances, other high-consequence risks, of a new kind, have been introduced mainly as an effect of the structuring power of globalisation. But rather than life becoming more risky or risks more frequent, it is how society's actors relate to risk in high modernity that is different from before. Risk has become a way of organising the world for individuals (and experts), as a result of the pace and scope of (technological) change and the restructuring of modern institutions. This – for individuals – "reflexively organized endeavour" is concerned with the shaping of lifestyle choices among a multitude of mediated options that are important for identity and for daily practices (Giddens, 1991).

Reflexivity in Giddens's (1990; 1991) terms denotes a decided trust in expert systems – even if the expertise relates to limited knowledge areas and is not necessarily scientific. For Beck (1992) reflexivity rather means an increasing tendency to consider one's own part in how to come to terms with risk effects. As consumers, everyone has to react to scientific claims and counterclaims (Giddens, 1999) but as citizens are responsible for the effect their actions have at a global level (Beck, 1990). There thus seems to be a tension in how the individual can manage risks in late modernity – as a consumer or as a citizen. This point is important for this thesis since it investigates

chemical risk framings for consumer goods that are bought of necessity – individuals are thus drawn into risk governance.

Analysing reflexivity from the perspective of consumption practices by necessity involves the recognition of two other elements. The first is globalisation which connects individuals, often by commodities, to the world "out there" (Connolly & Prothero, 2008). That means that individuals can relate to the global world by processes or products that integrate other environments into their personal experience (Giddens, 1990). For example, environmental pollution in a country of production may be easier to relate to if it can be illustrated by the consumer goods people buy. In addition, (global) market mechanisms are sometimes held up as faster and more effective than political solutions in the immediate perspective. It becomes a market form of politics (Spaargaren & Mol, 2008). The second is a greater individualisation of society, where individuals have to be concerned with the "project of the self" (Giddens, 1991). The project of the self is heavily commodified (Giddens, 1991) and not only concerned with how to live but also with the right way to live (Connolly & Prothero, 2008). This means that individuals constantly have to choose how to live their lives by how they consume – to a large extent depending on the current risk scenarios painted up by experts and media. Thus, the processes that force choice among individuals are connected to the generation of risk in society (Connolly & Prothero, 2008) – people have no choice but to choose (Giddens, 1991). As Beck puts it "Individualization means market dependency in all dimensions of living" (1992, p. 135). The right way to live, in this thesis in respect of chemical risks of consumer goods, is therefore increasingly linked to consumption practices and not to citizen activities.

One example of the increasing individualisation of risk is that there is a proposed shift in focus on risks from aspects of the environment to aspects of human health highlighting only one set of problems (MacKendrick, 2010; Maibach, Nisbet, Baldwin, Akerlof, & Diao, 2010). It has been suggested that this is related to individualisation processes emphasising the consumer (to the demise of the citizen), since it is easier to mobilise action for individual health issues than for collective environmental problems (Brown, Zavetoski, McCormick, Mandelbaum, & Luebke, 2001). MacKendrick (2010) suggests, for example, that the focus on human health shifts attention from collective and institutional responsibility for the environment towards the individual responsibility of being healthy. She exemplifies how food has moved away from being conceived as part of nature to being viewed as a commodity, and thus exposure to chemicals from food becomes a matter of choice rather than a collective problem. Organic food is not bought because it lessens the environmental impact but because it is better from a personal health perspective (MacKendrick, 2010). This is likely to be relevant for chemical risks of consumer goods as well.

As modern risks are closely tied to patterns of production (Beck, 1990; Halkier, 2001), selective consumption can be one way of managing risk. Risks have accordingly been suggested to have an impact on *how* people consume (Mitchell, 1998; Yeung & Morris, 2001).[14] When it comes to managing chemical risks by consumption, both Giddens's and Beck's notions of reflexivity are needed. Individuals need to trust experts and media that tell of desired qualities of products and the causes of and solutions to environmental and health degradation, at the same time as individuals need to use their personal experience and knowledge about how the world is interconnected to be able to distinguish between better and worse choices. By becoming aware of how consumption influences society and that consuming differently can change it, people become citizens *and* consumers. In this thesis this is analysed through the theoretical concept of the citizen-consumer as related to risk issues. This concept is used to explain how the public is viewed in relation to chemical risks of consumer goods, in terms of causes, effects and solutions – as citizens, consumers or a hybrid thereof.

The concept of citizen-consumer and its two extremes – the citizen and the consumer – is a means for researchers to view the public as (a)political actors. Below is an introduction to the concept of the citizen-consumer and I will also present viewpoints from two camps of researchers – those who believe that consumers are important political actors and those who think that it is not sufficient to be an aware consumer to change society. Hence, I will not present economic ideas of consumers and the market or literature on citizenship in a more idealised manner. Instead, I review literature focusing on the merging of the consumer and the citizen as it is suggested to be a specific characteristic of our contemporary risk society. I will also discuss two concepts that are closely tied to the citizen-consumer – product labels and everyday practices – that are of high relevance for chemical risks of consumer goods. The relevant literature often discusses consumption in relation to environmental or health "concerns" and usually does not employ the term "risk". However, the concept of citizen-consumer can be applied to the (similar) concept of risk (see for example MacKendrick, 2011), which will be clear in the discussion below.

[14] This has mainly been identified for food products, for example as a result of the BSE scare, but is of relevance for other consumer products as well.

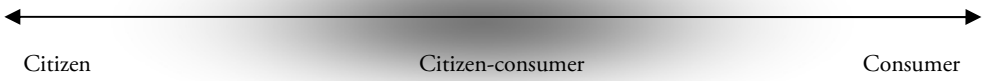

Figure 4 The continuum of citizens and consumers

Figure 4 above shows how research on individuals can be viewed using these lines of argument within the continuum of the citizen-consumer. This chapter focuses on the centre with arguments striving towards both extremes, as indicated by the shaded area. This image is of course idealised, but illustrates a traditional view of the consumer and the citizen as roles with rather separate characteristics and activities. In addition, in this chapter, I discuss two concepts related to the citizen-consumer and to chemical risks of consumer goods – product labelling and everyday practices.

4.1 The citizen-consumer hybrid

"commodity choice can satisfy an individual's desire for personal health and happiness while generating sustainability and social harmony for society as a whole" (Johnston, 2008, p. 232)

When the word consumer is linked to the word citizen, there are two interpretations. First, that people are voting with their money and second, that they consume in a socially responsible manner (McGregor, 1999). The first does not imply any activities as such – consumers aid in deciding what should happen in the world (e.g. how to manage or mitigate risks) but the quality of the influence is not mentioned. The second, however, requires that an individual first think of what she wants to achieve and makes her purchases morally defensible. However, even if the second interpretation is more reflexive it still does not necessarily imply a political angle to it. A consumer can use his own morality and judgement to decide what he should buy without including wider citizenship aspects (Sassatelli, 2006). For example, mothers are often encouraged to consume as "parents" to mitigate health risks, implying a care for the family but not for society as a whole (MacKendrick, 2010).

Traditionally, consumers and citizens are seen as binaries. The consumer is seen as the optimal individual and the citizen is geared towards the common good. A consumer is fickle in his attention and commitment and values individual choice that promotes his own interest (Stevenson, 2002). The consumer focuses on his own well-being and

wants (Korthals, 2001). The political correspondence is then the market and any state interference should only be made to strengthen the autonomy of the consumer (Livingstone, Lunt, & Miller, 2007). The citizen, on the other hand, is seen as interested in the "collective responsibility to a social and ecological common" (Johnston, 2008, p. 229). The state should, correspondingly, actively promote the interests of the weaker groups in society (Livingstone, Lunt, & Miller, 2007). The merging of the consumer and the citizen – the citizen-consumer – is seen as someone who has a moral obligation towards others (including the environment) and consumes according to individual choices of ethics. The reason why these choices lead to political consumption is that citizen concerns exceed consumer interest and consumer goods are bought in order to change or manage problems and risks in society – such as chemical risks. Governance is the political equivalent and as such the methods are mostly more procedural and inclusive, for example introducing information schemes and labelling (Seyfang, 2005) but can also be about limiting choice (Johnston, 2008) or about coordinated politics on a much larger global scale (Stevenson, 2002). But the main source of influence is identified as the public and political debates that aid the citizen-consumer in balancing ethical or (chemical) risk claims when consuming (Korthals, 2001; Stevenson, 2002).[15]

Stolle, Hooghe, & Micheletti (2005), in an attempt to formalise political consumption, say that three conditions need to be met: behaviour, awareness/motivation, and frequency/habit. This suggests that it is not just the actual purchasing decision but also the reasons behind it as well as how often it is done, that determines whether consumption is political or not. This points towards the differences between consumers and citizens. Consumption is an activity in itself and has the potential of having political impact even without the intention to do so. But citizens do not become active unless there is an intention and thought behind it (and then of course the outcome might not always be for everyone's best).

One example of the volatility of the concept in terms of the normative assumption of what ethical claims should be considered "the common good" is eating at McDonald's. It can be political because it is an empowering activity, where everyone is equal and the staff is given value (Schudson, 2007) or it can be part of identity creation, for example in young people (Connolly & Prothero, 2008). But not eating at McDonald's can also be a stance taken against fast food (Soper, 2004; Connolly & Prothero, 2008) or globalisation (Stevenson, 2002). This shows that the same activity can be political for very different reasons, depending on the perception and judgement of the citizen-consumer. It also indicates a problem of the effects of

[15] In addition, private communication is extremely important.

political consumption – how can the same activity be expected to have different effects according to the intent of the consumer when the intention is not communicated? In terms of consumer goods this tension is visible in a similar impossibility to make *the* right choice – rather consumers have to balance risk claims to make their own judgement about what to buy somehow knowing that every choice is a bad choice.

There are differing views of the quality of the link between the citizen and the consumer. One is that being the latter undermines the former (Maniates, 2001). In that view the diminishing interest people show in politics has been replaced by an increased interest in consumption. A contrasting view is that consumerism merely is a new form of exercising citizenship (Michael, 1998; Stevenson, 2002). There seem, however, to be difficulties in describing what citizens do. One explanation is that society today, with a combination of neoliberal economics and a preoccupation with risk, puts the consumer instead of the citizen in focus (Stevenson, 2002; Jubas, 2007; Livingstone, Lunt, & Miller, 2007). For example, when investigating how the images of the citizen-consumer are framed, Johnston (2008) finds that a grocery store that is dominant on the ethical market in the USA treats citizenship superficially in favour of consumerism goals. Similarly, Livingstone, Lunt and Miller (2007), when investigating the regulatory Office of Communication in the UK, found that the term consumer is used unproblematically while the citizen perspective displays incoherence and lack of applicability. The conclusion thus is that it is perceived to be easy to be a consumer and to make good choices as one, while the activities of a citizen are blurred. But the simplicity of being a political consumer may be overestimated – there is not always a better choice to be made, and while some products are bought because of their environmental and social considerations (such as chemical risks) there are many products where these factors are not even considered (Shaw, Newholm, & Dickinson, 2006; McDonald, Oates, Thyne, Alevizou, & McMorland, 2009).

Below, I will discuss two camps of researchers focusing on the citizen-consumer. The first views the political consumption as in essence positive and powerful as a political tool while the second suggests that consumption is not sufficient to solve large problems in society.

Consumer-oriented research

A definition of consumers that act as citizens through what they buy can be "individuals whose consumer practices and conceptualisations of the 'good life' are inextricably linked to their 'citizen' concerns for environmental preservation and sustainability" (Soper, 2004, p. 112). Researchers that argue that consumerism is a political action often refer to both historical and political activities. The first claim that political consumption is not a new occurrence is exemplified with an anti-

sweatshop campaign in the early 1900s, the US civil rights movements use of boycotts and the Boston Tea Party for example (Stolle, Hooghe, & Micheletti, 2005; Schudson, 2007). The second claim that politics uses consumer logics is supported by, for example, attracting votes with promises of tax reductions that compromise the common good (Schudson, 2007).

Some, however, argue that now is the beginning of an era of the consumer as an expression of citizenship (Stevenson, 2002). There is an increase in both political consumers and political consumption. This is a result of more and better choice, more money, more information and more awareness (given by for example mass media). Hence people are more aware of their political power as consumers and are also using it (Scamell, 2000). Proponents of political consumption emphasise that it is something that everyone, more or less, can do, which allows for an aggregated political impact (Seyfang, 2005). But apart from being able to consume, people also *have* to do it – everyone is a consumer (Schudson, 2007).[16] It is a highly accepted activity that does not require much extra effort in the supermarket or the high street.

There is also a perspective that sees the political activity of consumption as being about values and culture – shopping can be about creating identities and room for minority and/or politically powerless groups in society (gays or the young, for example) (Stevenson, 2002). It also raises issues of power and politics (for example the neglected area of shopping for the household that is seen as feminine and private as opposed to the masculine view of citizenship) (Jubas, 2007; Johnston, 2008). Consumption can thus be empowering when done in certain ways – it reconnects welfare and consumption and transcends class boundaries (Trentman, 2007). The empowering of the consumer can also be the introduction to greater political perspectives and activities (Johnston, 2008; Seyfang, 2005). This is supported by that the consumer activities of people do not seem to have decreased the general public engagement in political activities (Trentman, 2007) as has been previously argued (see for example a review in Keum, Devanathan, Deshpande, Nelson, & Shah, 2004).

Schudson (2007) tries to loosen the distinction between consumption and politics by saying that not only does consumption look like politics but that politics also looks like consumption. Politics is far from always directed towards the public good and instead aims at favouring certain groups over others. Also, the ambitions of politicians are often based on selfish and not altruistic reasons. Furthermore, he states that while consumption is fun and can be empowering, politics can be just the opposite. It can be time-consuming, boring, distant and disempowering. The point that consumption and politics are similar and that one should not be given more value than the other on

[16] From a Western perspective, one might add.

moral grounds is oversimplified, however. That politics is not fun is not a reason to promote consumerism over it. Politics also goes beyond the individual act of consumption to claim collective responsibility. This is the main point of the researchers who suggest that political consumption is not enough to manage risk.

Citizen-oriented research

Many researchers, while acknowledging the benefits of political consumption, also use several arguments to show the limits to consumption as a political action. "While shoppers are invited to buy or boycott a particular product, citizens should seek to raise questions as to the political context of production and consumption." (Stevenson, 2002, p. 301). Therefore, consumption is simply not enough as a political activity as it does not involve more than the opening of wallets and being able to (somewhat) interpret a label.[17] Rather, in order to consume politically, people need value orientation among ethical claims and it requires social time and space to do that (Korthals, 2001). This makes the public discussion – not the shopping – the political activity.[18] That people can shop politically at all is because the products already have been raised as political/moral issues (Stevenson, 2002).

Maniates (2001) argues that one of the problems with current ideologies of individualism is that they do not lead to any substantial changes. When focusing on the individual aspects of managing environmental risk, citizens' lose sight of the greater institutional influences such as political power or collectively changing the order of society. This means that by focusing on the consumer, the citizen becomes passive by becoming isolated from political contexts (Maniates, 2001; Sandlin, 2004). Another way to isolate the citizen is to encourage her to act as only one aspect of her citizenship – as a parent or as a consumer, for example (MacKendrick, 2011). By targeting political action to individual issues the citizen definition is further narrowed down to only parts of its implications.

The reason why some buy organic textiles or Fair Trade toys might not be based on ideas of health, fairness or sustainability but other reasons such as status. Others may

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[17] One can of course claim that it takes knowledge and awareness to be a political consumer. This is precisely the claim of the proponents of political consumption – that the act itself requires more than being a self-interested consumer.

[18] But researchers who think that consumption is one expression of citizenship also acknowledge this, and call it the "politics behind the product" (Stolle, Hooghe, & Micheletti, 2005, p. 246).

not afford to buy ethically even if they have political reasons to do so. Hence, the consumer is difficult to manage or even to understand as a political tool (Jubas, 2007). One reason is that there cannot be *one* definition of a consumer at the expense of all others and subsequently the term is difficult to use consistently (Gabriel & Lang, 2006). A second reason is that not all shopping is done in a self-reflexive manner and change happens despite of consumer's intentions (Sassatelli, 2006). A third reason is that any attempt to control a consumer leads it to mutating into something different (Gabriel & Lang, 2008). Sassatelli (2006) uses a similar reasoning when she states that all the different practices termed political consumption are too fragmented and conflicting to be rendered a joint political activity. She also says that the reason we have political consumerism is that it is easily absorbed by the market itself and does not target the political and economic system (see also Lockie, 2009). Her final objection is that there actually might be organised politics behind political consumerism in an effort to reorganise national markets as a response to globalisation (to buy local produce for example).

Another string of critique against the usability of consumerism brings up Beck's notion of the individual and the collective. Jubas (2007) says that consumption is only one marker of citizenship and an individual act is not collective enough to be political. Individualised responsibility, according to this view, is not the answer to collective problems. Even if political consumerism is easy, and hence a large number of people can do it, people are not required to change their lifestyles. This individual action is not enough to fuel the social actions necessary to solve collective problems as the traditional market forces are still in place (Allen & Kovach, 2000). Markets cannot offer anything that is external to themselves – that is less or no choice (Seyfang, 2005) or doing without (McDonald, Oates, Thyne, Alevizou, & McMorland, 2009). Instead the efforts need to be collective and negotiated to solve the underlying issue (Seyfang, 2005; Stevenson, 2002) as democratisation of risk requires more fundamental changes than a political tone in consumption practices (Jubas, 2007).

As will be more discussed below, however, this is a narrow view of consumerism that instead could include practices. Consumption could then be seen to include second-hand, swapping, taking better care of possessions or buying higher-quality goods (Klintman & Stenborg, 2011). Another way of encouraging alternative sustainable consumption could be to promote alternative ways of owning and carrying out daily practices (Mont, 2004). It has therefore been suggested that it is in people's daily habits that the power of the citizen-consumer resides since this sets the boundaries for human agency (Spaargaren & Mol, 2008)

The contribution of daily practices when analysing the citizen-consumer will be discussed below. First, however, a short discussion of how product labels may encourage political consumption.

4.2 Product labels

One way to aid consumers in purchasing decisions, to encourage political consumption, and to inform of (lack of) risks is to use product labels. The rationale behind labelling is that by providing consumers with information about the characteristics of products, they will make better choices (Leire & Thidell, 2005). This also implies that labels further rely on the ability of the consumer to interpret the label, as the product in itself cannot communicate any benign qualities. In addition to being able to interpret a label, this also enforces trust as an important aspect of product labels. This is because decisions on what criteria need to be fulfilled for labelling, how the labelling schemes are managed and organised, and how the use of labels is controlled are largely invisible to the consumer (Leire & Thidell, 2005; Boström & Klintman, 2008).

In addition to informing consumers about the qualities of products, labels similarly inform about what not to buy and have been suggested to draw attention to the fact that most products are not labelled (Hollander, 1995; Ariely, 2000). Labels "symbolically distinguish between green and grey, good and bad, sustainable and unsustainable, safe and risky, and such symbolic differentiation has often proved to be highly controversial: 'What is wrong with this (unlabelled) product?'" (Boström & Klintman, 2008, p. 2). A label is thus a contradictory tool in that it relies on two conflicting processes – differentiation from other products and integration into the market (Boström & Klintman, 2008). In addition, there are many kinds of labels – for example voluntary, industry self-regulated and safety labelling – that function in different ways, in terms of what they are supposed to communicate and on what premises (Leire & Thidell, 2005). Another issue with labels that has been highlighted is that not all products can be labelled – labelling is a selective tool and not a generic one (Thidell, 2009). It can also be criticised for removing responsibility from states to markets (Scott D. N., 2007). As such, much the same as political consumption, a label cannot encourage less consumption since this is beyond the market (cf. Seyfang, 2005).

The underlying ideology of labels is suggested to be located in a spectrum ranging from labels as addressing consumers' concerns (Boström & Klintman, 2008) to a way for mainstream market outlets to diversify (Lockie, 2009). For example, the US Environmental Protection Agency developed a framework where consumer awareness and acceptance is supposed to lead to changed buying patterns that in turn should change industry behaviour (Leire & Thidell, 2005). Lockie (2009) says instead that the introduction of organic food and textile fibres to ordinary market outlets is yet another way for large firms to control, and maintain, the market. This means that, even though labels are used as political tools to change the market, it is unclear whether it is consumer demand that drives the changes. For example, Carlsson-

Kanyama, Lindén and Lundell (2006), when investigating eco-labels in clothes, suggest that the reasons why such labelling has not been used more extensively are short product cycles, volatile brand firm-supplier relationships, administrative burden imposed with registration, low demand for eco-labelled products and also a low awareness about eco-labels among costumers. Thus, consumer demand and awareness is only part of the explanation for the seemingly low consumption of eco-labelled clothes (even if this has been suggested to be changing more recently, see Boström, Börjesson, Gilek, Jönsson, & Karlsson, 2012).

4.3 Everyday practices

As we saw above, it has been suggested that labelling and political consumption do not lead to any significant changes (cf. Boström & Klintman, 2008). The reason for this is that both still focus on a maintained level of consumption and as such avoid challenging consumption levels and patterns (Mont, 2004). Consumption as a narrow concept can however be widened to also include aspects of provision, use and disposal of goods and services (Halkier, 2001) that need to be incorporated in everyday practices in sustainability or risk issues (Spaargaren & Mol, 2008). This means that environmental risks that are closely related to production/consumption, and technology/science also manifest themselves, and are co-produced, in the daily practices of individuals or groups of individuals (Shove & Walker, 2010). Concepts such as "lifestyle politics" can be used to widen the idea of how consumption contributes to sustainability by also including habits, routines and shared practices (Spaargaren & Mol, 2008). Mitigating risks then become part of everyday practices (Halkier, 2001) and not only of acts of shopping (Shove & Walker, 2010). For example, aspects of sustainable consumption can include aspects of maintenance, disposal or not consuming at all (McDonald, Oates, Thyne, Alevizou, & McMorland, 2009). One example is how individuals can manage chemical risks of their clothes by acting differently, for example washing before use, using less or by better maintenance, thereby reducing the chemical risk to which their clothes expose them or the environment (Klintman & Stenborg, 2011).

One way to extend consumption into practices is by viewing the concept of citizen-consumer as an opportunity to educate and inform the public about concerns and risks in society, and how these problems relate to activities that individuals perform. Subsequently some would view political consumption as a part of adult education (McGregor, 1999; Sandlin, 2004) where political aspects are re-negotiated. In this view consumption is regarded as a culture of practice and thus change takes place within the borders of this practice (Sandlin, 2004; Connolly & Prothero, 2008). This means that the greening of lifestyles and practices is as important as promoting

political consumption (Spaargaren & Mol, 2008). But it is also clear that seeing political consumerism as education implies that *one* view of citizenship is promoted. According to Sandlin (2004) these ideal types can be found along a continuum from embracing consumption, to downshifting, to fighting consumption. *Critical* consumer education is then concerned with promoting citizenship first (McGregor, 1999) so that the public view themselves as political citizens first and political consumers second (Maniates, 2001).

The concept of the citizen-consumer has been reviewed above together with two related mechanisms – product labelling and everyday practices. Below I move on to discuss how images of risk and the public are communicated and understood by framings visible in media.

5 Framing theory

The media is the site for three roles in Beck's risk society – the construction, the contestation and the criticism of risk (Cottle, 1998). This has been identified in the issues of climate change (Stevenson, 2002), BSE (Adam, 2000) and gene technology (Olofsson, 2002; Ideland, 2002a) and has the potential of being so for chemical risks of consumer goods. In this thesis the media's role in risk issues, as an arena of public debate, will be analysed through the concept of framing.

> A frame is a central organizing idea for making sense of relevant events and suggesting what is at issue. (Gamson, 1989, p. 157)

Following the quotation above, the concept of framing can be explained by how processes for making sense of issues select, emphasise, omit and expand the content of information. Framing can be seen as a conscious effort to promote certain perspectives but it can also be seen as symbolic structures of the world that is socially shared and persistent in time (Durfee, 2006; Reese, 2007). Framing can in addition be a process at an individual level or at a societal level (Scheufele, 1999). It is accordingly a research concept utilised in a diverse set of research traditions (Van Gorp, 2005) including studies of the media (Scheufele, 1999; Berinsky & Kinder, 2006; Tewksbury & Scheufele, 2008).

In this thesis, framing is used as a concept to understand processes of how risk issues are made sense of and meaning constructed in media. It views framings in media as a shared societal process linking cognition and culture (Van Gorp, 2007) and offers a conceptualisation of the power of the text (Entman, 1993). Framings are therefore not best seen as an extension of agenda-setting theories of how the amount of media attention to an issue influences its salience among audiences, or priming theories that suggests that the public's evaluation of an issue is affected by media coverage (Scheufele & Tewksbury, 2007).[19] Instead, framing theory highlights how framings

[19] Agenda-setting and priming research will not be reviewed here but the interested reader can turn to McCombs and Shaw (2006) and Iyengar and Kinder (1987). Scheufele (2000) and

organise and make sense of knowledge and experience as shared practices (Reese, 2007). From this perspective framings are virtually impossible to separate from culture, and as such hard to define and delimit (Van Gorp, 2007); in addition, they are never neutral (Berinsky & Kinder, 2006).

Even so, framings can be identified in the text through framing devices, for example word choice (Tewksbury & Scheufele, 2008), word order (Van Gorp, 2007) or metaphors, images, exemplars, descriptions or arguments (Gamson & Lasch, 1983; Pan & Kosicki, 1993). Framings, using framing devices in relation to (news) events, define problems, diagnose causes, make moral judgements and suggest remedies – but do not have to perform all four functions (Entman, 1993). The position that framings are defined by culture but identifiable by framing devices means that journalists can utilise framings in their representation of events in media, unconsciously or not (Van Gorp, 2007). This indicates an interesting dynamics of framings. It may be that existing framings have a great influence on what the media coverage of a risk issue looks like, thus highlighting certain aspects and leaving out others. But it may also be that particularities of the risk issue are decisive in what framings can be used and are seen in media.

Framing theory when used to study media communication emphasises that framings also function as interpretative schemas at an individual level. According to sociological perspectives, framing is a process by which people "process complex information in their everyday lives by reducing social perception to judgments about causal attribution" (Tewksbury & Scheufele, 2008, p. 18). Sociological perspectives of framing also refer to how people rely on broader culturally interpretative schemas. Thus, people when subject to complex information both use socially stable frameworks and attribution of causality to make sense of issues. Psychological perspectives on framing rather emphasise that individual judgements and perception always occur within frames of references. Since responses to an issue differ depending on which frames of reference are applied to it, it is also possible to influence perceptions by the way an issue is presented (Tewksbury & Scheufele, 2008). But it also implies that it may be difficult to anticipate responses to the way issues are framed due to individual framings (Van Gorp, 2007).

Framings can be found in any communicative endeavour or arena, but especially highlighted in framing research are NGOs (Klintman & Boström, 2004), political

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Scheufele and Tewksbury (2007) provide overviews of agenda-setting, priming and framing research.

settings (Chong & Druckman, 2007b) and media (Scheufele, 1999). The mass media are identified as one of the most important arenas of information carriers and opinion shapers (Buhr & Buhr, 2010) and are also suggested to be a main actor in the construction of risk (Stallings, 1990; Beck, 2001; Durfee, 2006). This is neatly put by Adam in the following quotation: "At one level, the news media remain mere channels of information, at another level they define the parameters of the issues and, at a further level still, they are the constructors of knowledge and risk" (2000, p. 122). The media are subsequently pointed out as particularly relevant for issues of late modern risk (Hansen, 2011), and are also the public arena analysed for framings of risk in this thesis. Following that, this chapter aims at first describing the arena – media in general and in Sweden – and the implications the arena has for risk framings, followed by a discussion of considerations when analysing framings in media. Lastly, the creation of three *a priori* analytical categories will set the scene for the upcoming empirical analysis.

5.1 Media systems

In this thesis, in relation to risk framings in society, media are "understood as complex, often contradictory, cultural reservoirs of images, meanings, vocabularies, and definitions" (Hansen, 2002, p. 10). In this view the media are best understood as shaped by the political and social context in which they operate, forming *media systems*. As such they "create a structural bias in favour of different political information environments" (Aalberg, van Aelst, & Curran, 2010, p. 258). Media systems differ between countries (Shehata, 2007; Christians, Glasser, McQuail, Nordenstreng, & White, 2009) but also within countries (Gamson & Wolfsfeld, 1993; Hadenius, Weibull, & Wadbring, 2011). There is no consistent definition of media systems, but in the light of this thesis some relevant factors will be mentioned. These can be divided according to *formalised* (political, legislative), *economic* (market, ownership) and *organisational* influences (types of newspaper, orientation of coverage, sources, journalism).

The *formalised* influence on media is identified here as the political climate and the legislation guiding media. There are a number of alternative models that suggest how the political climate of a country influences the media operating in it (perhaps most famous is the Four Theories of the Press that was developed in the 1940s), and all of them can be criticised for being limited in political, geographical and historical scope (Christians, Glasser, McQuail, Nordenstreng, & White, 2009; Hadenius, Weibull, & Wadbring, 2011). One recent suggestion about the political influence on media in democratic societies divides media into four broad types depending on whether the society can be viewed as based on consensus or plurality (of power, religion or

culture) and the participatory degree of the democracy (Christians, Glasser, McQuail, Nordenstreng, & White, 2009).[20] In terms of legislation there are (national specific) laws that protect (or prohibit) the right of journalists and media. In Sweden, some examples of legislation surrounding media are freedom of the press, which states the right to express and communicate opinions and information through media channels, and freedom of speech, which states the right to speak freely. Other types of rights exist, such as the right of any citizen to start and publish a paper and to not be censored. In addition, there are requirements of the media such as a publisher that takes legal responsibility for the publications, and restrictions on content that can harm the country's security or defamation of individuals, and on the publishing of personal details (Hadenius, Weibull, & Wadbring, 2011). There are also industry-initiated guidelines regarding media ethics, in both national and international versions (Hadenius, Weibull, & Wadbring, 2011; McQuail, 2005).

The *economic* influences on media can be divided according to markets and ownership. One market for media is society at large (media are supposed to contribute to democracy), with a second market being owners, advertisers and investors (Strömbeck & Jönsson, 2005) but also readers and circulation (Hargreaves & Ferguson, 2000). For some media outlets, especially the commercial media, the second task is more important than the former. But even for the non-commercial media, changes towards a more commercialised and immediate media have been seen (Strömbeck & Jönsson, 2005). This means that over time the differences in style between different types of print media (i.e. the daily press and the tabloids) have become increasingly smaller. The ownership of media has an influence on its activities. Three broad categories of owners, albeit with large internal variations, can be identified: commercial firms, private non-profit organisations (trusts or political parties, for example) or the public sector. Even if there is an ideal separation between the ownership and the content of media, this distinction is rarely upheld. Commercial media for example, have to make profit and have a vested interest in the capitalist system (McQuail, 2005). In addition, advertisers are suggested to influence how media works, which also has been a major criticism of the commercial media versus public broadcasting in Sweden (Hadenius, Weibull, & Wadbring, 2011).

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[20] The corporatist model has high societal consensus and high centralisation of power, the libertarian model has low societal consensus and a low degree of centralisation of power, the social responsibility model has a low level of societal consensus and a high level of centralisation of power and the citizen participation model has a high level of societal consensus and a low level of centralisation of power.

The *organisational* influence on a media system is here identified as what national media look like, external sources and how journalists operate. Examples of indicators of media constitution are the type of media (e.g. television or paper, tabloid or elite newspaper), its political orientation (Scheufele, 1999), the impact of national or local papers (Shehata, 2007), ratios of value/entertainment-oriented news, foreign/domestic coverage and commercial/public broadcasting (Aalberg, van Aelst, & Curran, 2010). Gamson and Wolfsfeld (1993) identify more ideological issues, such as drivers behind the news reporting (entertainment or value), the purpose of news (to sell papers, to promote parties or opinions, or as public service), the emphasis of news (visual or text) and target audience (elites or general public). There are also external sources of influence that exert power over issue framings in media, for example political authorities or interest groups. These groups are sometimes viewed as a nuisance to serious journalism while others acknowledge the key influence of individuals or groups in society that aid in identifying news but also are a huge part of how news is covered, by taking active part in the creation of news (Pan & Kosicki, 1993; McQuail, 2005). In addition to elite groups, the audience is also considered to have an influence on media content (Scheufele, 1999; McQuail, 2005; Durfee, 2006). The individual level of the journalist is then affected by individual, journalistic and social norms, by organisational pressure and by ideologies/values and routines (Scheufele, 1999; 2000). To somewhat ensure unbiased coverage, ethical rules, professional associations and set paths for how to become a journalist are often part of the trade (Hadenius, Weibull, & Wadbring, 2011). But there is also a debate that suggests that journalists perhaps serve democracy better not by being neutral but rather by being engaged and active in promoting different perspectives (McQuail, 2005).

Two current trends have been suggested to have the ability to change media systems – the internet (in particular social media) and its effect on audiences, and changing economic conditions (McQuail, 2005). First, the internet provides its own opportunities in both accessing and creating news and information. Social media have become an important part of many (especially younger) people's lives where events, topics and issues are debated. These arenas thus have potential to become important channels for political communication and are something that the media have to respond to – for example by their own online presence (Hughes, Kitzinger, & Murdock, 2006; Hadenius, Weibull, & Wadbring, 2011). The introduction of (portable devices for) internet and social media has moved media use out of the home. As an effect of this the pattern of media use has changed towards higher fragmentation and individualisation. The individualisation of media use mean that the positions held by the audience may diverge to an increasing extent, creating a more heterogeneous audience (Hadenius, Weibull, & Wadbring, 2011). However, the initial promising power of social media as a political arena has also been muted since social media are still rather stratified, unequal and unstable, at the same time as

political issues are not necessarily more accessible or reaching beyond the already political interested (Hughes, Kitzinger, & Murdock, 2006; Christians, Glasser, McQuail, Nordenstreng, & White, 2009). It is therefore not clear whether new and social media better serve democracy than more traditional types (Christians, Glasser, McQuail, Nordenstreng, & White, 2009).

Second, the deregulation and commercialisation of media since the 1990s has been accused of causing lowering standards of journalism. This is supposed to lead to an increasing presence of human interest articles at the expense of unprofitable but information-heavy political news. The public service aspect of media production has thus diminished due to a different focus of the news. Even the dailies are allegedly succumbing to the commercialisation of media, indicating that the general quality of news has been lowered (Strömbeck & Jönsson, 2005; Christians, Glasser, McQuail, Nordenstreng, & White, 2009). An effect of this would be that the public is less concerned with political issues. But it is important to note that there is no consensus on this phenomenon. Instead, others argue that society has changed to other forms of political participation and that the news production follow suit – it is rather the normative perceptions of what media does that are obsolete (Christians, Glasser, McQuail, Nordenstreng, & White, 2009).

Even considering the "threats" to traditional print media, they still dominate as an information channel and the general public is highly dependent on the media for the formation of reference points (Hadenius, Weibull, & Wadbring, 2011). Media (not only print media) penetrate every aspect of Western life, making imprints in people's everyday practices, "as citizens, consumers and private individuals to a large extent are addicted to media" (Hadenius, Weibull, & Wadbring, 2011, p. 418, my translation). The print media will also likely keep their dominant power for yet another while due to a "resistance in the system", that is, in people's habits around media and how life still dictates when and how media are used – even if the use is and will be changed by increasing mobility (Hadenius, Weibull, & Wadbring, 2011).

The Swedish media system

In Sweden, there were 164 newspapers in 2010 that published in at least one issue per week.[21] These can be divided according to how often they are published, place of publication, how they are mainly sold (subscription or single copies) and type of content. This gives five large groups of newspapers in Sweden: national dailies,

[21] All numbers are taken from Hadenius, Weibull, & Wadbring (2011) unless othewise stated.

tabloids, regional/local dailies, low-frequency dailies and free papers.[22] The big city dailies and the local press dominate in terms of circulation, with 1 million and 1.5 million copies per day each, mainly sold via subscriptions. The national daily and local press cover different topics and issues, with the big city dailies having a greater focus on national and international (political) events while the local press focus on events/issues that are of local concern. The tabloids focus on entertainment-oriented news but also have serious ambitions with quite a large proportion of opinion material as compared to, for example, the UK counterparts. The different types of papers are often complementary in terms of their contents and a large part of the audience read more than one type (Hadenius, Weibull, & Wadbring, 2011). In Sweden, almost 80 per cent of the population read one or more paper every day (less at weekends when the local papers are not distributed) – free papers excluded.[23]

In Sweden the three most important tasks of media have been suggested to be to inform, critique and to be a forum for debate (Hadenius, Weibull, & Wadbring, 2011; Christians, Glasser, McQuail, Nordenstreng, & White, 2009). Thus, in the Swedish context there is less emphasis on the communicative and the "watchdog" roles of media that often are present in accounts of media tasks (Christians, Glasser, McQuail, Nordenstreng, & White, 2009). The Swedish media system is a mix between the libertarian and the social responsibility ideology that values free press and the social responsibility of the press (Hadenius, Weibull, & Wadbring, 2011; Christians, Glasser, McQuail, Nordenstreng, & White, 2009). The libertarian ideology means that the press should be free from censorship by the state or other actors – the right to publish opinions and create debates is essential. From the social responsibility perspective is it important for media to cover issues that may not be apparently sellable due to moral obligations for the development of society. This has rendered a rather unique press in Sweden where its organisation is established in law (Christians, Glasser, McQuail, Nordenstreng, & White, 2009). It is also clear, however, that there is not one media system in Sweden but several – especially considering the increasingly diverse media landscape (Hadenius, Weibull, & Wadbring, 2011).

Since the 1980s the market for newspapers in Sweden has been described as increasingly dire and the circulations has decreased even if the total use of media has

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[22] A more general division can be according to party-political press, prestige press and popular press (McQuail, 2005).

[23] http://www.dagspress.se/images/stories/Mediefakta/tu%20svensk%20dagspress%202012.pdf, accessed 25 February 2013.

stayed the same – mainly due to free papers and media on the internet (for example online papers) (Hadenius, Weibull, & Wadbring, 2011). In the Swedish context, the economic pressure has increased since the mid-1990s, with greater commercialisation as a result. To handle the changing conditions several papers have joined forces and are sharing editorial material. There has also been a general editorial make-over of the Swedish press, which has often meant a growing local focus (Hadenius, Weibull, & Wadbring, 2011). In addition, the media have become increasingly privatised, owned by a handful of actors. There is thus a perceived problem with ownership concentration and changing contents (Hadenius, Weibull, & Wadbring, 2011) that can lead to a homogenised (and perhaps biased) media depending on the interests of owners (McQuail, 2005) and the perceived interests of the public.

5.2 Framings in media

The roles of media in (democratic) societies can be summarised in five tasks: to inform about events and their contexts, to comment on (and be a guide to) events, to be a forum for diverse views, to be a two-way channel between citizens and government, and to critique and hold the government responsible. The purpose is thus to contribute to a democratic public discourse (Christians, Glasser, McQuail, Nordenstreng, & White, 2009). This emphasises the media as a link between the political (rulers) and the citizens but also reinforces the role as a communicator of issues of public interest – such as risks. Below, I will first discuss framings in media and risk, second effects of framings in media and third risk framings in news and non-news.

Framings in media and risk

Given the tasks of media above, when it comes to risk, the media are a source of information about risk events and issues, but also put risks into contexts, explaining the causes, effects and possible solutions. In addition, the media can be an arena for criticism of how risks are managed and give room for voices not otherwise given a mass audience (e.g. NGOs, marginal stakeholders). When it comes to late modern risks, the media have been suggested to be of particular importance since the public have few other sources of information regarding the risks (Durfee, 2006; Hansen, 2011). It is therefore crucial for people in developing understandings and responses to risk (Hughes, Kitzinger, & Murdock, 2006).

A moderating factor for the media's relationship to risk is that the logics of the two are suggested to differ (Nelkin, 1995; Hargreaves & Ferguson, 2000), by showing

different approaches to e.g. time and language – for example, whether the most interesting thing for the public is the discovery or the scientific fact, and whether the human angle or the scientific aspects are the most important (with media favouring the former in both examples) (Hargreaves & Ferguson, 2000; Strömbeck & Jönsson, 2005; Hughes, Kitzinger, & Murdock, 2006). In addition, the risks focused on by media are sometimes blamed for being the ones that resonate with the audience rather than the most severe risk according to other (scientific) criteria (Hansen, 1991; Cottle, 1998; Hughes, Kitzinger, & Murdock, 2006). Aspects that matter to the media when reporting on risk issues as news have been identified as: how fresh the piece of news is, its attention-creating ability, its proximity to the reader, if it has a human touch, if it is negative, simple, polarised and if there is a current event to write about (Olofsson, 2009). Other aspects are whether there are personal accounts, whether there is someone or something to blame and whether there are representations of the "other" (Hughes, Kitzinger, & Murdock, 2006). In addition to this, we can find fascination value, the size of the natural audience, and the importance (Allan, 2002). For risks, then, the media are said to focus on events rather than issues, meaning that both the scientific and societal processes behind risk issues are invisible (Allan, 2002). In short, risks must be found newsworthy to be put in a paper. Articles on risk are thus in competition with other articles (Hargreaves & Ferguson, 2000) and many risks therefore need to be promoted by organisations, predominantly NGOs or official sources, to get media coverage (Hughes, Kitzinger, & Murdock, 2006; Hansen, 2011).

Environmental risks require longer and more persistent reporting to gain the public's interest (Allan, 2002). A way of increasing coverage in media is to use different framings for the same information, for example to use framings of health and environment. This can prolong the attention, and hence the awareness, the public gives to an issue (Chong & Druckman, 2007b). Therefore, the issue-attention cycle[24] can be extended – in particular when it comes to environmental issues (Thögersen, 2006). However, with an increasing tendency to focus on one set of issues, i.e. health risks, this effect can be questioned (Maibach, Nisbet, Baldwin, Akerlof, & Diao, 2010; MacKendrick, 2011). On a more positive note, the increasing coverage of entertainment-oriented news, may mean that risk issues, among them chemical risks of consumer goods, fit better with media logic (see below).

[24] This refers to the observation by Downs (1972) that people's attention rarely stays focused on the same issue for very long. The hypothesis is that after a while of focusing on one social issue, people's attention to it decreases. Environmental concerns, however, have a great staying potential on the public agenda.

The media clearly have conflicting tasks – giving the audience what interests them and what is in their interest (Lewis, Inthorn, & Wahl-Jorgensen, 2005). If this tendency is related to previous discussion about the citizen-consumer and about the media's tasks in society, it implies that the media should aid both consumers and citizens in their activities. In terms of consumerism, this entails providing material that enables people to make (good) judgements about what to buy. This goes beyond product tests, for example, to also include aspects of what the product value chain looks like and the effects that production/consumption has nearby and far away. Christians, Glasser, McQuail, Nordenstreng and White (2009) suggest that the media can promote the citizen by enhancing the quality of public life and contributing to deliberative forms of democracy and to civil society. This is done by promoting dialogue among its audiences about issues that engage them and that they take active part in – thus the media not only report on issues or events but also seek to contextualise them in a manner that is conducive to citizen engagement. It is also suggested that political journalism generates virtuous circles where political interest is enhanced by political news – even if this in general only holds for already politically engaged citizens (Lewis, Inthorn, & Wahl-Jorgensen, 2005).

Two critiques can be levelled against the media's responsibilities toward the citizen-consumer. First, the media have been accused of increasingly replacing the concept of the citizen with the concept of the consumer. This has in its turn been said to make the public less interested in political issues, although the position that the public can only be interested in politics or entertainment is difficult to uphold – most people are interested in both (Lewis, Inthorn, & Wahl-Jorgensen, 2005). Second, it is also argued that there is a danger in prescribing any role of the media in an overtly idealistic manner that has little connection with the journalistic practices in place (Christians, Glasser, McQuail, Nordenstreng, & White, 2009). Even so, the media aid in shaping understandings of what it means to be a citizen or consumer and how to be one in respect of risk issues. The effects of these framings will be elaborated on below.

Effects of framings in media

> Frames are shaped *by* social structure, but the point is that they also shape the social structure. (Bengtsson B., 2011, p. 235)

Even if a causal relationship between media content (framings) and behaviour cannot be assumed, there is still a consensus on some sort of media effect (Cottle, 1998; Allan, 2002; Thögersen, 2006; Hansen, 2011). Framing can go beyond establishing what issues should be on the agenda and influence the opinions (Durfee, 2006) or the actions (Hansen, 2011) of the readers. Reese emphasises the dynamic nature of

framings with their "ability to project knowledge ahead as they guide the structure of incoming experience" (2007, p. 150). Thus framings have both projecting and structuring power – they suggests both how issues should be interpreted and also how knowledge relating to the issues is understood.

A framing is most likely to be effective if it comes from a credible source, expresses common values and does not contradict strong prior beliefs (Chong & Druckman, 2007a) – in other words, when framings draw attention to aspects that are seen as relevant (Durfee, 2006) and thereby make new beliefs acceptable (Chong & Druckman, 2007b). But it is also said that audiences seek the media messages with positions to which they are already inclined and that they interpret and retain the messages accordingly (Durfee, 2006; Hughes, Kitzinger, & Murdock, 2006; Chong & Druckman, 2007a). Others highlight the level of sophistication of the reader, indicating that the more sophisticated a reader is, the more likely she is to understand the framing, but also less likely to be influenced by it as she already has an opinion (Nelson, Oxley, & Clawson, 1997; Tewksbury & Scheufele, 2008). Framing effects are hence less likely to be effective on established issues (Chong & Druckman, 2007a), even if these can be re-framed into new issues, for example by changing how the basic issue is represented (Chong & Druckman, 2007b).

People are however rarely subject to only one framing but instead are exposed to multiple framings at the same time (Van Gorp, 2007), even if these framings can be of relative strength (Chong & Druckman, 2007b) or loudness (Chong & Druckman, 2007a). For instance, almost all public debates and controversial technological developments consist of competing framings and counterframes (Benford & Snow, 2000). Some of these framings may be counterproductive if they manage to create opinions against their own framings. This can happen, for example, when a controversial framing pushes other actors to go against it simply not to be perceived as holding the same opinion (Ideland, 2002b). Framing effects, therefore, do not necessarily draw on the amount of coverage (Scheufele & Tewksbury, 2007) but rather on what that coverage evokes in the reader (Van Gorp, 2007).

An example of this is master frames that are applicable across issues and are broad and generic in their scope. Master frames are thus inclusive and flexible, allowing many topics to be represented and understood under the same umbrella (Benford & Snow, 2000). Master frames can be so effective that they actually need not be communicated; rather they can be implicit in the text and still have an impact on how issues are understood (Van Gorp, 2007). Master frames are thus highly effective when used in the media – but can also be suggested to reduce the number of alternative framings visible in the media.

Framings can also go beyond affecting the individual and have an impact on policy (Tewksbury & Scheufele, 2008). From this perspective, political debate takes place within the boundaries set by framings – they are functional in the way they suggest

what policy can do (Reese, 2007). Bengtsson (2011), for example, showed how stakeholder framings had an impact on policy outcomes regarding GMOs in the EU. How media framings influence policy directly is less studied, but since framings are suggested to have an impact on society it is likely that policy makers are influenced, if only indirectly, by public opinion (Entman, 2004).

Framings of risk in news and non-news

In academic research about framings in media, the term generally refers to news media, most often newspapers (see for example Gamson & Lasch, 1983; Pan & Kosicki, 1993; Durfee, 2006; Chong & Druckman, 2007a; Shehata, 2007). When comparisons of different types of framings are made, news is also the focus in terms of national settings (Dimitrova & Strömbeck, 2005), types of media and/or channels of media (Strömbeck & Kiousis, 2010), the impact of new media (Zhou & Moy, 2007) and different types of news articles (Gamson & Modigliani, 1989) to mention a few. Often this is done for political news but also quite frequently for environmental issues/risks (see for example Wilson, 2000; Durfee, 2006) and for sustainable consumption (Kolandai-Matchett, 2009). But many of the characteristics of risks are not necessarily easy evaluated according to the criteria of risks as news, as already discussed above (Adam, 2000). Risks often fall under the category of entertainment-oriented news – that is, that the time of publication does not matter so much. They have a long shelf life (Adam, 2000) since they are sensationalised, dramatic and of human interest (Baum & Jamison, 2006).

This means that articles other than news also are interesting for analyses of framings in media, although this has not yet been sufficiently studied (McComas, Shanahan, & Butler, 2001). Hughes, Kitzinger and Murdock (2006) go as far as to say that non-news media are pivotal to the public's understandings of risk. The point is that different types of framings can be identified in news and non-news since they cover topics differently (Nilsson, Reitan, Tönnessen, & Waldahl, 1997). The contribution by non-news articles to understandings has been discussed in the case of breast cancer (Henderson & Kitzinger, 1999) and in the case of eco-protesters in the UK (Wykes, 2000). Non-news television programmes and fiction have been investigated for their content of environmental messages (McComas, Shanahan, & Butler, 2001) and for public perception of human (genetic) engineering (Allan, 2002, pp. 177-205). The contribution of fiction to the understanding of the biomedical sciences (Glasner, 2000) and of advertisements to the way the public perceive tanning (Coupland & Coupland, 2000) have also been investigated. In sum, feature articles, opinion articles as well as different types of news and popular culture all contribute to understanding and image of risk, its origin, consequences and solutions (Henderson & Kitzinger, 1999; Hannigan, 2006).

So far in this section, I have discussed media, in general and in Sweden, and within what contexts and how framings operate. Next, I will move on to framings when used as a tool to analyse media content.

5.3 Analysing framings in media

Framing analyses of media sometimes aims at identifying generic news frames that news can be attributed to, e.g. economic framings and progress framings (Gamson & Modigliani, 1989; Scheufele, 1999; Benford & Snow, 2000). Another common type of research identifies issue framings, which are framings that are only concerned with particular issues (even if they can be applied to other issues as generic news frames). But framing research can also investigate how framings affect the understanding of an issue varying in content, outlets or sources for example (Kolandai-Matchett, 2009; Durfee, 2006). In this case, framings are explicitly created to provoke different outcomes in interpretation and responses (Kahneman & Tversky, 1984). A final example of how framings can be used in news analysis is to identify already existing framings in the public and political debate and apply these to a sample of articles (Van Gorp, 2005).

Following the different types of framing analysis just introduced, framings can be seen as (consciously or not) used and created, part of collective culture or as a research tool (Van Gorp, 2005). In the first meaning, a framing would be a suggestion of how to read and understand a message. In the second meaning, it would suggest that framings are socially constructed and cannot be separated from culture. In the third meaning, it would say that researchers use their own predispositions (in itself a process of framing) to achieve order in some material. However, precisely how the concept of framing is used and under which assumptions is rarely specified in research. For example, two highly used references in framing research, Van Gorp (2005) and Entman (1993), show very different, but not extreme, assumptions about the fundaments of framing. They differ on how they define a frame, how they see the frame in the text and how they view the frame as interpreted or utilised by the individual. However, they do agree that an event does not have an inherent framing – it is created or utilised by actors in society.

Framings in this thesis

The assumptions about conditions for framings matters for how research is done. But the practical consequences when using framing as a central concept in research must not be overestimated. Since I investigate how risks are constructed *in* but not *by*

media I can utilise the position held by all framing researchers – that framings are socially constructed and that they can affect how the public perceives issues (Tewksbury & Scheufele, 2008). However, it may therefore be extra important to specify under what assumptions this research is done so that readers can judge the usefulness for themselves. In this thesis, the assumption is that framings exist in the text. They exist both at the level of factual content and at a general problem-defining level. Framings can thus function as explanatory devices derived from the topic or as structuring devices originating from the social world – and often do so simultaneously. How they are interpreted is influenced by both individual and cultural factors – although it should be acknowledged that it is difficult to distinguish between them. The interpretation of framings varies between individuals but more so between (sub-)cultures since most framings are cultural and rather stable in time. Similarly, framing effects can be found both individually and at an aggregate level. Framings can be actively promoted by journalists or other actors (in editorials or press releases, for example) but also utilised, consciously or not, for presenting a perspective. Finally, framings are not found only in texts or in news but in any type of media or information type or outlet that people are surrounded by. In this thesis, this position is manifested by the way that opinion articles (debate articles, editorials, columns and letters to the editor) and feature articles, in addition to news, are included in the empirical material in order to broaden the conception of what shapes the public debate.

In this thesis it is also a position that risks have real elements that framings can refer to (even if these claims cannot be said to reflect "reality", see Chapter 2). Gamson (1989) says that facts have no intrinsic meaning and that the informational content can only be used to distinguish between framings. Zhou and Moy, however, refute this by specifying one function of frames as the "clarification of key facts related to the problem" (2007, p. 80). With that as a premise, it can also be claimed that not all framings are equally valid and even that some framings can be refuted, depending on how the informational content is represented (Anderson, 1997). Thus, comparisons can be made between and across framings to evaluate them. Some are more convincing and provide a holistic encompassing, *yet constructed*, picture of the risk at hand. This is also the reason why the approach of framing rather than discourse analysis has been used. Even considering the "discursive turn" in discourse analysis, the approach usually stays rather close to the text (Johnston H., 2002). My interest is rather in putting the text into a wider context where it becomes part of an arena where framings are constructed, negotiated and communicated. Framing analysis allows me to go beyond the construction of the coverage and to look at the content and the meaning (see MacKendrick, 2011).

5.3.1 Substantive, procedural and citizen-consumer framings

One problem with many framing studies is that they assume that framings are long-term and fairly stable but empirically investigate only immediate effects (Tewksbury & Scheufele, 2008). A second problem is a tendency to treat the concept rather intuitively without being specific about definitions, for example (Reese, 2007). A third problem is how case-specific identification of framings can lack a broader relevance to other issues. At the same time is it clear that framings are case-specific as they often refer to particular informational content regarding issues. In this thesis I try to come to term with these problems, by searching for stable framings, and useful analytical tools, by creating three *a priori* categories of framings, but being sensitive to the particularities of each case by allowing for analytical themes to emerge from the empirical material within these three categories, acting as *in vivo* categories.

As a point of departure for this thesis (see Chapter 2), chemical risks are suggested to have their origin in science and technology and the effects of risk can be framed in media using scientific definitions as a basis for risk judgements. At the same time, risks are socially constructed and managed, with the technical assessment of risk being but one part. Other aspects include political and market mechanisms but also broader cultural interpretative schemes, for example. Framings in media of chemical risks can thus include aspects of science, of governance and of shared cultural meanings.

According to Boholm and Ferreira (2005) a social science theory of risk should be able to account for three analytical dimensions: the scientific/technological dimension, the actor's dimension and the cultural/symbolic dimension. Distinguishing between substance and procedures can be a means of handling these analytical issues. This has been done, for example, when investigating political events (Entman, 2004) and when analysing frames in food safety governance (Bengtsson B., 2011). Both researchers define substantive and procedural framings differently according to the purpose of the research. To achieve the aim of this thesis the division of framings into substantive and procedural is used, with the former relating to the use of aspects of knowledge (not necessarily scientific) as a basis for risk judgements in framings and the latter to the use of societal processes in framings related to risk. This distinction is useful and applicable to other framing analyses as well, since there are risks that cannot be related to by people's normal experiences – they use scientific definitions and discourses (Boholm & Ferreira, 2005) and complex societal mechanisms to be perceptible. These framings will be defined below.

Substantive framings in this thesis denote framings that include aspects of knowledge claims and experience (scientific or non-scientific) about chemical risks as a basis for risk judgement and governance. This thus includes representations of chemical properties and how a hazardous property becomes a risk, as well as uncertainties about the effects of risk. These framings also include how risks are compared and

positioned in terms of effects (health/environment) or in terms of other risks (climate change), for example. What is central is that expertise is utilised (although not necessarily scientific), there is a use of quantitative numbers (e.g. threshold levels) or judgements of risk effects (e.g. highly toxic). It should also relate risk objects causally to objects of risk, for example by pointing out who/what is at risk, why and under what circumstances.

Procedural framings in this thesis denote framings of risk that draw attention to the societal aspects of judging and governing risk. How society manages risk by legislation or other means, what other actors or mechanisms are relevant for the risk or what societal consequences are at stake are examples of issues that can be analysed using the concept of procedural framings. Thus, procedural framings include ideas of cause and responsibility, both at an actor's and at an institutional/mechanism level, with a focus, not on properties that may cause adverse effects but on how risks have been allowed to manifest themselves (e.g. globalisation, market economics) and the consequences it has. It also includes framings of how society can come to terms with risks and how this should happen and at what societal level.

According to Beck (1992), the risk society's second phase involves individualisation and reflexivity as an effect of when the social manifestations of the self-destruction express themselves. In order to protect themselves, the public need information about risk (often from the media) as it can be re-translated into messages about how to live and consume (Coupland & Coupland, 2000). From a democracy perspective the media view readers as citizens while the market perspective offers reader as consumers (Strömbeck & Jönsson, 2005). This is visible in the media's attention to the citizen-consumer who needs information to make good choices regarding the product she buys (Korthals, 2001). Media thus aid in the socialising of political consumers as they inform about what to buy and how to value ethical claims (Keum, Devanathan, Deshpande, Nelson, & Shah, 2004). In accordance with that, a third framing category is created that focuses on the citizen-consumer.

Citizen-consumer framings are defined here as framings of how the public is present in the media material as part of risk issues ranging from consumers to citizens, and any hybrid thereof. Issues included in these framings are what activities are attributed to each role (e.g. consuming, voting), and what perspectives are applied to consumers or citizens in relation to risk (e.g. altruistic, individualistic). To this category belong framings that express effects of citizenship and consumption at an individual level and how these effects should be mitigated and solved. It thus analyses framings of actions in relation to different public roles. Finally, this category analyses how the public's awareness and knowledge about risk is viewed in respect of these roles and how it is built.

Above, after discussing media and framings, I defined three *a priori* analytical categories that are utilised in the empirical analysis. This analysis will come after the next chapter that describes the methods used in this thesis.

6 Methodology and empirical material

In this section, I will first discuss the method used in this study, case studies, and the selection of cases. I will also discuss the actual research conducted and material obtained originating from these choices.

Given the research aim and questions, the chosen literature and the assumptions held, this thesis follows the qualitative research paradigm. Further, as has been visible throughout in this thesis where risks, images of the public and media representations are suggested to be constructed by actors in society (even if there are aspects of risk that are based on scientific definitions) this research also follows the anti-positivist research tradition.

6.1 The cases in this thesis

The purpose of this thesis is to analyse framings in media for how the chemical risks of consumer goods are co-constructed and what implications this has. Given the ambition to provide a rich material and an analysis of a complex and context-dependent topic, on which little research has previously been done, case studies have been chosen as the main method. A case study is a "rich, empirical description of particular instances of a phenomenon" (Eisenhardt & Graebner, 2007, p. 25) that enables an in-depth understanding and description of the issue at hand (Patton, 2002a). The case study approach is therefore useful for building context-dependent knowledge of complex social phenomenon (Flyvbjerg, 2006).

A case study can involve single or multiple cases, where each case has a phenomenon of some sort in focus and acts as a unit of analysis (Miles & Huberman, 1994). The question of how to sample is important since the ambition is to gain the most possible information about a research problem (Flyvbjerg, 2006), and that each limitation that is made to the sample also influences what conclusion can be drawn (Miles & Huberman, 1994). It also matters since case study research often aims to contribute to theory building, with each case being used as an experiment or

analytical unit (Patton, 2002a). The sampling should therefore be based on aspects of finding information-rich cases to illustrate the research questions and not on the basis of representativeness (Patton, 1987; Flyvbjerg, 2006). Patton calls this purposeful sampling and states that cases should be selected on the basis what we can learn from them: "The logic and power of purposeful sampling lies in selecting *information-rich* cases for study in depth. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry […]. Studying information-rich cases yields insights and in-depth understanding rather than empirical generalizations" (Patton, 2002b, p. 273).

Multiple cases add confidence to a study by strengthening the precision and stability of findings as they increase the understanding of each other (Miles & Huberman, 1994). The research is then seen as more robust, increasing the validity of research (Miles & Huberman, 1994; Eisenhardt & Graebner, 2007). With purposeful sampling the number of cases can be quite small (even single cases can be sufficient) and still produce trustworthy research; "what would be 'bias' in statistical sampling, and therefore a weakness, becomes the intended focus in qualitative sampling, and therefore a strength" (Patton, 2002b, p. 14). The choice of cases is then based on more strategic reasons with the number and type of cases depending on the purpose of the study and available resources (Patton, 2002a) but it can also include aspects such as complementarity and extension of theory (Miles & Huberman, 1994). Either way, one has to be careful to escape the selection bias that can happen when choosing cases that are too different or ignore cases that seem to contradict a theory, for example (George & Bennet, 2005).

In this thesis three cases were chosen to give me a larger corpus of empirical material that can be analysed from more angles and also contrasted against each other. The cases are thus selected on the basis of what they can contribute to the research aim (Flyvbjerg, 2006). This purposeful sampling can in addition be viewed as a combination of criterion sampling – the cases should fulfil a number of criteria – and variation sampling – the cases show both similarities and differences to facilitate comparison (Patton, 1990)

Following the discussions above, a number of requirements were set up for selecting the cases.

- They needed some media coverage (over time) in order to provide information-rich material
- They needed to be current and ongoing to provide dynamics of framings rather than static "end-framings"
- There needed to be a lot of "chemistry" in the cases including several parallel framings of risk

- They needed to be close to the everyday life of the public to enable a diverse view of the public and a broad definition of consumption that also include practices
- They needed to be complementary, meaning that the context of the cases should be different

The three chosen cases and a description and justification for these choices follow.

1. The chemical risks of *textiles* have been prominently featured in the media over the past few years in particular. Several chemicals have been in focus, showing different properties and varying scientific consensus. People are surrounded by, use and buy plenty of textiles and are also involved with the daily maintenance of them. Further, there is traditionally, and still, little legislation surrounding textiles. Hence, it may be expected that the framings particularly in this respect target the uncertainty about risk effects.
2. The chemical risks of *toys* have a longer history of media attention. There is an abundance of toys in Western societies. Children are also a group with particular status in society when it comes to protection. This finds expression, among other things, in legislation surrounding toys. Hence, the chemical risks of toys are likely to be more institutionalised in terms of how risk is governed and framings are likely to emphasise procedural aspects.
3. The chemical risks of *paint* show both historic and contemporary characteristics with periodical media attention. The public awareness surrounding chemical risks of paint should be considerable (perhaps with the exception of current discussions). Legislation surrounding paint and scientific knowledge is extensive since it is a chemical product. Paint is thus legally treated as consisting only of chemicals. This means that the framings will most likely differ from the other two, contributing complementary framings.

The three selected cases imply that fairly up-to-date risk topics and events are focused on. A potential bias of the sample may thus be that current explanations are over-emphasised at the expense of older types that have set conditions for today's construction of risk in the media. But it is likely that the history of risk issues in relation to the three cases is perceivable in the current framings as well. In addition, the paint case is included, which has a longer history. Another potential problem could be that the cases are too different to be comparable – paint in particular is perhaps the deviant case. However, it is held more likely that the differences between these cases will highlight the particularities of each case, enabling an analysis of how the chemical risks of consumer goods are made into societal concerns.

Patton suggests that by comparing cases the uniqueness of each one is illuminated. Each case should however be able to stand on its own, as an entity, before

comparisons can be made (Patton, 1990). This is done by first analysing each case separately before searching for cross-case similarities and differences (Patton, 2002a). This thesis thus first analyses each case before comparing them. This can be done since the cases show similarities to make them comparable – they are all consumer products, intended for everyday use and have received a fair amount of media attention regarding the chemical risks associated with them. But they are also dissimilar enough for differences to emerge from the analysis. Using these cases I can thus contrast framings of the "chemistry" of the risks against framings of societal aspects of risk within and across the cases.

6.2 The empirical material

This thesis utilises print media articles as its empirical material. The main reason for this is that the media coverage can be used to analyse framings of the public debate. Given the topic of the thesis it could have been innovative to use social media as empirical material. Social media are increasingly prominent and important in people's daily lives and have the potential to be an important public arena for debate (Hadenius, Weibull, & Wadbring, 2011). However, this has not been done for a couple of reasons. First, the media are still dominant as the public's source of information (in particular for risk issues) with an explicit ambition to contribute to public debate (Hadenius, Weibull, & Wadbring, 2011). Second, the sample needed to be accessible, known and stable over time in order to identify framings in the coverage. This would be much less achievable with a sample drawn from social media as, given the huge amount of material available online, I would have to restrict the sample to a few forums or blogs, for example, not being able to view the audience of this material as the general public. In addition, social media have particular problems as regards sampling and the stability and storability of the empirical material (Bryman, 2008).

Another source of empirical material – how risks are visually imaged in media – would also have been interesting to study. At times these images can be used to underline what is present in (or not) in the text (Thelander, 2000). Risks tend to be dramatised with images of risk (for example see cases in Allan, Adam, & Carter, 2000) that are used to communicate emotions, expectations and what cannot be expressed in the text (Thelander, 2000). To focus on images would however imply different research questions as images may be less successful in expressing highly complex stories or causal connections (Thelander, 2000). Given the complexity of the risks that I want to analyse, the framings are therefore more appropriately found in texts. So, in order to say something about shared meanings (i.e. framings), I have chosen to analyse print media articles. This section aims to describe precisely how the

research was done. As such it informs the reader about how the empirical material was collected and what analytical tools have been used.

The media material

To ensure that the data collection is comprehensive and systematic (Patton, 2002a) the same procedure was followed for all three cases. Searches were made in Swedish databases and online resources using key words. The main database used was *Retriever Research*. It consists of about 300 different newspapers (national, regional/local and tabloids), magazines, industry press, material from news agencies and press releases. Thus not all print media is searchable in it – this is especially true for magazines, although these have less relevance for this thesis. *Retriever Research* does not conduct searches at the original source but rather in its own database (meaning that the articles do not necessarily appear as the original article did).[25]

One major limitation of the database is that most of the local dailies are only included from the mid or late 2000s.[26] This means that there is a potential underrepresentation in the number of articles from local press before the sources were added to the database (that is, before the mid-2000s). For national or regional dailies this is less of a problem because they have been included in the database from at least the early 1990s. To come to terms with this, separate searches were made in national and regional/local newspapers' online archives. These are also limited – especially in time – but acted as an important complement to the databases. However, the underrepresentation of the regional/local dailies is likely to be minor since the risk events mainly in focus in this thesis are based on events taking place after the regional/local dailies were added to the database.

The resulting sources are of very different characters, for example national and regional/local dailies or tabloids but also niched material such as community and industry press. This reflects the Swedish media system that is quite varied but with a few large national dailies, a strong regional/local press and quite ambitious tabloids (Hadenius, Weibull, & Wadbring, 2011). One implication of this is that the framings in these papers can be expected to differ due to the different dynamics involved in selecting and writing about issues in different types of media (Hillgartner & Bosk, 1988). For example, different types of media (e.g. dailies versus tabloids) and in different geographical belongings (e.g. national versus regional/local) work in

[25] http://www.lub.lu.se/index.php?id=650, accessed 25 February 2013.

[26] According to the media lists that can be obtained from *Retriever Research*.

different ways and focus on different types of news/issues (Anderson, 1997; Hadenius, Weibull, & Wadbring, 2011). This means that the sample includes possibilities for different types of framings. The potential audience for all this material is the Swedish citizen, given that the material covers all types of papers from free papers to regional/local and national dailies. This also allows me to use the material as an estimate of the public debate in Sweden regarding the chemical risks of consumer goods.

The key words were chosen according to general terms such as textile* AND tox*, or toy* AND chem* or chem* risk AND paint*, resulting in a lot of material. Another type of key words was more specific and targeted to current media discussions, for example nonylphenol ethoxylates, phthalates or TBT. Consequently, as a result both of the limitation of the database and the risk issues in focus, the selection of articles naturally concentrates on publications over the second half of the 2000s, but in the cases of toys and paint also with some coverage during the 1990s. It is important to note, though, that the key words used in the coverage of chemical risks of consumer goods are likely to change over time (cf. Dalquist, 1998). This could mean that by not being sensitive to how key words change over time, some of the sample would be lost. By including key words that are more generic and by trying a large number of different key words, measures have been taken to avoid this. Searches at *Retriever Research* can also be unstable over time and not always complete. To control for this the same searches were made at different times and the search results only showed minor differences.

The empirical material covers articles written up until 2009 (from 1996 for textiles, 1995 for toys and 1994 for paint). There was no time span set beforehand but there is a natural lower limit, even if material has not been excluded because of its age. There are few articles discussing the chemical risks of consumer goods written before the mid-1990s, and most are expected to be found between, 2000–2009. For example, an article written before Sweden entered the EU is not so relevant for the analysis, since EU legislation is part of the context describing the current risk, even though it can be interesting (and hence is included) for background purposes. It was also important to include early publications to avoid a snapshot picture (a potential discrepancy between early and late articles will be discussed below). It is curious to note that not all chemical risks of consumer goods are captured by *Retriever Research*. Examples are the risks of lead and organic solvents in paint during the 1970s and 1980s. The reason is probably the internal time limits of the database. It is not a major flaw of the method, however, since the ambition is not to analyse historical risk framings but rather to analyse recent framings of chemical risks of consumer goods as late modern risks and as concerns for the public.

Out of the total sample (437 articles in total, broken down to 114 for textiles, 194 for toys and 129 for paint) a regional daily *GöteborgsPosten* accounted for 19% of the

articles. The tabloid *Aftonbladet* and the national daily *Svenska Dagbladet* accounted for 9% and 8% respectively of the sample, while the news agency *Tidningarnas Telegrambyrå*, the regional daily *Sydsvenska Dagbladet* and the national daily *Dagens Nyheter* accounted for about 6% each. The prominence of *GöteborgsPosten* can be explained by their large consumer focus. For example, they conduct their own product tests and also frequently cover consumer issues that are then relevant for the chemical risks of consumer goods. The total number of sources in the total sample amounts to 70. A large number of sources, however, contribute very few articles – 50 sources add just one or two articles to the sample (representing 15% of the sample). Many in this group are local papers – even narrowed down to community papers. This could be interpreted as showing that the contribution by local papers and therefore the geographical spread of coverage is limited. But this would be misleading as many of the articles in the local press are published in several papers with a subsequent regional reach (but are only included once in the total sample). The local press may however also be underrepresented in the sample due to limitations in the *Retriever Research* database and the paper's own web pages as already discussed.

Looking into each case separately, the textile case is in the total sample mainly covered by the regional daily *GöteborgsPosten* (22%), the tabloid *Aftonbladet* (10%) and the regional daily *Sydsvenska Dagbladet* (10%). Interestingly enough, the coverage by the local press is very low in this sample – indicating that the issue of chemical risks of textiles is not seen as a local problem or that the resources directed towards issues that not yet are salient are few in the local press.

In the case of toys, the regional daily *GöteborgsPosten* (15%) is again the most prominent source, but with the second and third most used sources almost as common – the tabloid *Aftonbladet* (14%) and the national daily *Svenska Dagbladet* (13%). The regional/local dailies are more prominent in this material – arguably due to the perceived relevance of toys for all citizens. Also, the even distribution between the three top sources indicates a case of general interest.

Finally, the case of paint can perhaps be interpreted slightly differently from textiles and toys. The regional daily *GöteborgsPosten* (19%), the news agency *Tidningarnas Telegrambyrå* (11%) and the national daily *Dagens Nyheter* (7%) are the three most prominent sources, indicating the national relevance of the chemical risks of paint. However, these three main sources are followed by regional/local dailies, indicating that the risks are also seen to have a local character. The weight of *GöteborgsPosten* can also be attributed to that the west coast region (which is the paper's audience) has been heavily burdened with harbour pollution.

Figure 5 below shows the distribution of the total sample of articles per year per case. For the case of textiles we see a very sudden rise in the number of articles corresponding to the emerging media coverage in 2007. For the case of toys there is more consistent, albeit low, reporting before 2007 when there was a very high

increase in the coverage of toys due to a large product recall. In respect of paint, here too an increase in reporting can be seen over the past few years, due to reports on environmental damage from anti-fouling paints. Again, 2007 is a breaking point when water tests were commissioned by the EU.

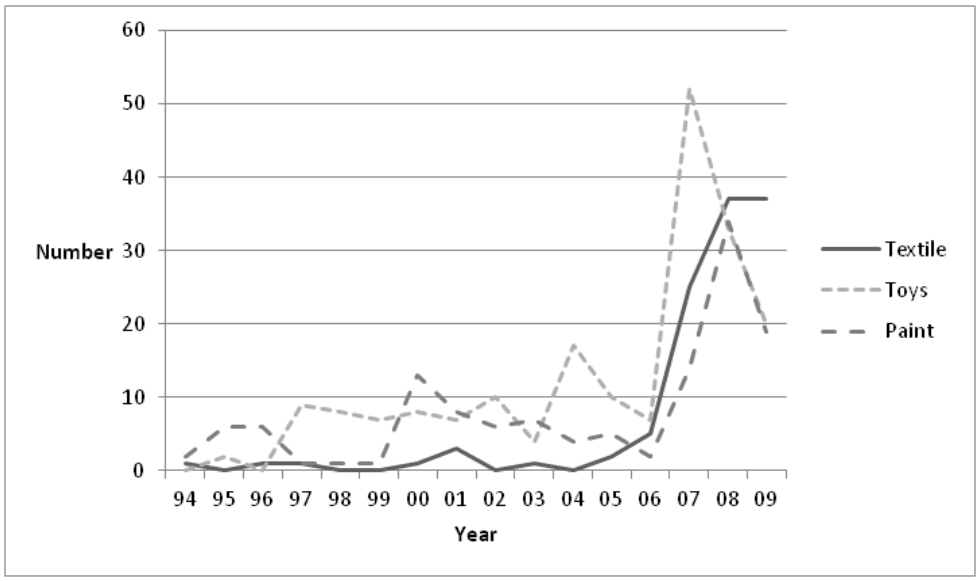

Figure 5 Distribution of the total number of articles per case per year

Due to the apparent huge leap in articles, I have analysed the material for discrepancies using 2007 as a breaking point.

In the case of textiles there are very few articles before 2007. Some of these cover how consumers can change the way textiles are produced. The rest discuss the REACH legislation and its impact on textiles. Given the small number of articles prior to 2007, the framings of chemical risks of textiles can be said to not have started before 2007.

In the case of toys the focus is related to events – especially the 2007 toy recalls and the EU election in 2009. However, the political voice is present throughout the material and so are product tests that find inappropriate or prohibited chemicals in toys. Certain chemicals are in focus throughout the analysed period – for example allergens or softeners – while others are more related to events (i.e. product recalls). Phthalates are the chemicals that triggered the early coverage but they are also present later in the coverage. Legislation is also covered throughout the analysed period as it evolves and is put in place, but the framings of legislation remain similar.

In the case of paint there is no clear difference in the coverage before and after 2007. There is a similar focus on the scientific parameters and effects of risk, especially from anti-fouling paints. The reason could be that the scientific consensus about these risks settled before the start of this empirical material and any discrepancies about the science of the risk is thus not visible in this material. Other topics are consistently covered over the analysed period – such as the functionality of paint or recycling as a local effort. What has changed since 2007 are new risks or topics – for example the newer anti-fouling paints or risk events that are reported on. There are thus different events that triggered the coverage before and after 2007. However, these are not in essence differently framed from the older risks.

The rather consistent framings of toys and paint can possibly be attributed to the context within which these framings are found. Toys are aimed for children, which preconditions how things are expressed (this will be much elaborated on later) while paint is a chemical product that is highly regulated and risks are thus attributed to laws and science. What changes in the coverage is what chemicals and events are in focus.

I have also made simple searches in *Retriever Research* to see whether the media attention directed to the chemical risks of textiles, toys and paint has persisted. In general this seems to be the case. For textiles the coverage peaked in 2009 or 2010 but still remains at a much higher level than before 2007. For toys the coverage seems to be increasing since 2007. For paint the coverage peaked in 2010 but has remained at higher levels than before 2007. This means that the framings of the chemical risks of textiles, toys and paint still are part of media coverage – and probable even more so than for the time-period this thesis has analysed.

The analysis of the empirical material

All articles in the total sample were printed out, read through several times and underlined and comments were written in the margins. This was in order to become familiar with the material (Connolly & Prothero, 2008). The number of articles was subsequently reduced according to whether they were identified as analytically interesting for the research questions. Criteria for this selection were that the articles should cover different aspects and provide more than a snapshot of the risk issue, giving me a rich body of material. In view of the aspiration for rich material the articles were subsequently chosen according to whether they were dynamic and whether different perspectives were visible in them. To aid the analysis of the selected sample, a number of questions were formulated for each *a priori* category (see Appendix A). This was to ensure that the material was diverse and covered the analytical ambitions, to enable a consistent analysis over the cases and to help in focusing the analysis on a number of manageable aspects that were identified by the

theoretical background (see Chapters 3–5) and by the particularities of the cases (see Chapters 7–9). Thus the selection process meant identifying events, actors, references of knowledge claims to risk and risk situations, controversies, tensions and different opinions as well as risk consensus that could contribute to answering the research questions.

In line with the selection process, articles were also rejected. This was done for very short articles (for example press items) *unless* they showed dynamic framings to analyse (cf. Dalquist, 1998). In the case of duplicates (material originating from news agencies, debate articles sent to several papers, or articles in local press, for example), only one has been included. In the case of news originating from news agencies, the longest article has been chosen (cf. Ideland, 2002b). The sample is thus chosen to be selective, and as such not representative of the total sample, since the ambition is not to do an impact analysis but to analyse content.

One way of analysing the empirical material is by using abduction – allowing theory and the empirical material to interplay and influence each other. Fereday and Muir-Cochrane (2006) define this as allowing theory to influence deductive thematic analysis while allowing analytical themes to emerge inductively from data. This means that the friction between theory and empirical material allows for a richer analysis (Van Maanen, Sörensen, & Mitchell, 2007) and has been promoted as especially important for case study research (Dubois & Gibbert, 2010). In this thesis, the abduction combines the use of *a priori* categories and analytical themes emergent from the empirical material. The three *a priori* categories were created with the aid of the research questions and the theory (see Chapter 6.2). Within each *a priori* category the cases were allowed "to speak for themselves", thus effectively using *in vivo* categories as well (Dalquist, 1998). This was done by inserting quotations from the selected sample into a separate document, thematically grouped. The groupings that dominated and contributed to the aim of the thesis formed the empirical base for the analytical themes under each *a priori* category in the analysis. Quotations from these analytical themes have been interwoven in the analysis, and the media material is also referred to in the text. The quotations have been translated from Swedish to English. This, of course, potentially makes it more difficult for the reader to fully appreciate the analysis. A translation of necessity processes data and involves issues of meaning and connotation, for example (Marshall & Rossman, 2006). Nuances or wordings in the Swedish language are not perfectly translatable to English. Since this analysis is concerned more with meanings than with precise words, the aim of translation has been to preserve the meaning of the quotation (Marshall & Rossman, 2006). In addition, the analysis was performed using the Swedish quotations, so at least even if nuances and meanings are lost in translation the analysis is not.

Figure 6 below shows the analytical procedure. It demonstrates how theory aided in creating three *a priori* categories that were applied to the cases. In each case's

empirical material, in turn, topics and issues are visible that turned into analytical, *in vivo* categories. From these *in vivo* categories framings are drawn, using theory, that are related to the cases, to the empirical material in general and back to theory.

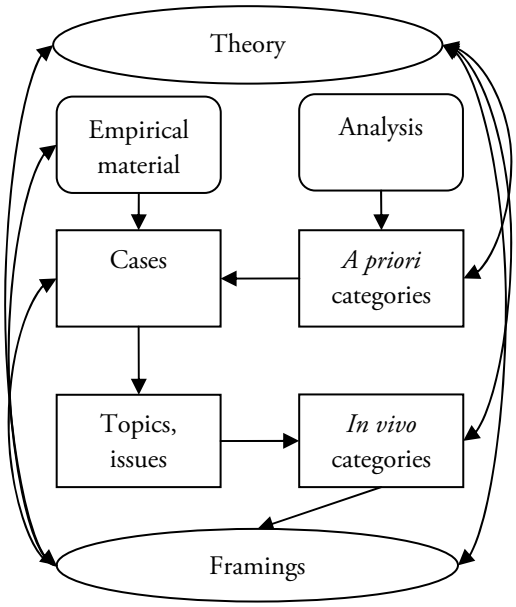

Figure 6 The relationship between the theory, the empirical material and the analysis

When analysing the text material I have at times contrasted claims visible in the texts. This is appropriate when the qualities of a text, given a context, are the purpose of the analysis. Texts can for example be judged according to how they fulfil the purpose of translating information or creating opinion/awareness in the audience. One can also look at the way the text is written (emotional, informative, convincing, for example) (Hellspong, 2001; Vasterman, Scholten, & Ruigrok, 2008) or what the text is supposed to evoke in the reader. From a framing perspective this is granted legitimacy by the view that not all social constructions, in this thesis framings in media texts, have the same validity since not all claims are of equal weight or legitimacy (Shrader-Frechette, 1991; Anderson, 1997). I cannot determine what is "real" or not (see the discussion in Chapter 2) – but I can value what is seen as facts or positions promoted in media texts and compare this to other contrasting views of risk (some of which might be more convincing, well grounded or valuable). Framings in media, as already discussed, are not neutrally constructed but based on aspects of media organisation, of the message itself, of the readers of the message (Gamson, Croteau, Hoynes, &

Sasson, 1992) and, in this case, of the risk itself. These are characteristics that can be valued even if the reality of the claim cannot.

Unlike many analyses using media as empirical material, I also include quotations from people that are present/quoted in the articles. I do not maintain any difference in principle between what is presented as text and what is presented as quotations in the text. There are a few reasons for this. Quotations in articles are equally constructed and used to polarise and exemplify in risk issues (it is not necessarily even a strict quotation from someone but may nevertheless be presented as such). To me, is not only the text crafted by the journalist but also opinions expressed by different actors that are important for the analysis, since I am searching for framings *visible in* media – not *shaped by* media. The next chapters move on to these framings.

7 The chemical risks of textiles

Cotton fabrics originating from India were amongst the first commodities sold along the roads connecting Asia to Europe around 2,000 years ago, especially along the Silk Road. The fabrics were exclusive and expensive due to the time and risks involved in bringing them to Europe. In the fourteenth century cotton fabrics started being produced in Manchester, England, but it was the first industrial revolution that triggered the process that has led to the modern manufacturing of textiles. The mechanisation and automation of machinery was particularly suited for cotton and has since spread to other fibres. Technical developments include spinning machines, weaving machines and other machines that enabled mass production in factories and in homes. This meant the introduction of a new class of labour, mainly women and children, who did not own the raw material or the machines, and whose homes were turned into sweatshops (Mokyr, 1990). The notoriously bad working conditions, i.e. work-related risks, led to the introduction of work safety legislation by the end of the nineteenth century. The first unions in Sweden were established around the same time and the conflicts mainly related to wages and working conditions (Cele, 2007). Textile manufacture has been the introduction to industrialisation in most countries, but along with the textile production come problems such as working conditions, social problems and environmental consequences of the industries – still risks in focus today (Ander, 2010).

In 1969 an environmental protection law was established in Sweden that was the starting point of the Swedish textile industry's restructuring to production methods that considered the environment. These considerations only in part concerned chemicals but were nevertheless focused on substituting hazardous chemicals, and on reducing both pollution and the amount of chemicals used in production (Naturvårdsverket, 2004). Today, when virtually all manufacturing of textiles is outsourced to the developing world, the relatively high Swedish domestic responsibility for the environment is addressed by codes of conduct and lists of restricted chemicals (Fransson, 2012). In reality, though, these measures are difficult to uphold and working conditions and health and environmental protection are usually subject to national laws, if there are any. There is no general EU law that covers textiles, and the restrictions that exist are related to individual chemicals or to other laws, especially to REACH where textiles are regarded as "articles" (Fransson, 2012). Textiles are thus fairly unregulated for their chemical risks. The focus of risks

of textiles in media has long been on the working conditions and environmental effects in countries of production, but recently, perhaps as a result of the implementation of REACH, the chemical risks of textiles have also been covered.

This chapter analyses media articles that cover the chemical risks of textiles. As described previously (Chapter 6.2), media articles were gathered doing searches in databases and websites. After the sample was reduced, articles or part of articles were identified and assigned to *a priori* defined categories of substantive, procedural and citizen-consumer framings depending on the main impression. To be considered substantive, framings proceed from knowledge claims and experiences as a basis for risk judgements. To be considered procedural, framings focus on the causes, effects and solutions at a societal level. Finally, citizen-consumer framings include discussions at the individual or the public level, again relating to causes, effects and solutions. Within the substantive, procedural and citizen-consumer framing categories, the empirical material has been allowed to speak for itself, resulting in *in vivo* categories. The analytical themes are thus drawn from the material. The analysis is then conducted via abduction in order to situate the empirical material in a broader context. In the analysis quotations from and references to the empirical material are therefore related to other empirical instances or theoretical contributions.

First, in this chapter, there is a section describing the media coverage of the chemical risks of textiles. The following three sections analyse the media material and highlights topics and issues of particular concern, corresponding in turn to substantive, procedural and citizen-consumer framings. The final section summarises and concludes the analysis and the case.

7.1 Media coverage

Starting in 2007, several product tests of the chemical content of textiles have revealed that clothes, towels and other textiles are full of hazardous chemicals. At times these chemicals are prohibited and at times they are questionable. For textiles, chemicals and knowledge claims as a basis for risk judgements are highly visible in the coverage of the risks associated with them. At the same time, societal mechanisms are prominently held up as problematic in media. For example, there is little legislation that restricts textiles as a product group, and the import of textiles is to a large extent uncontrolled for its chemical content (Fransson, 2012). The emergence of chemical risks of textiles as a new media topic means that the definitions of risks are not settled in media or society and many perspectives of risk contribute to the discussion of chemical risks of consumer goods in the media. Thus, the case of textiles is interesting to analyse for diverse framings on a risk issue that is not yet solidified.

For the case of textiles, 114 media articles were collected using the method described in section 6.2 (see Figure 7). Sixty-seven of those were selected for the qualitative analysis (see Table 1).

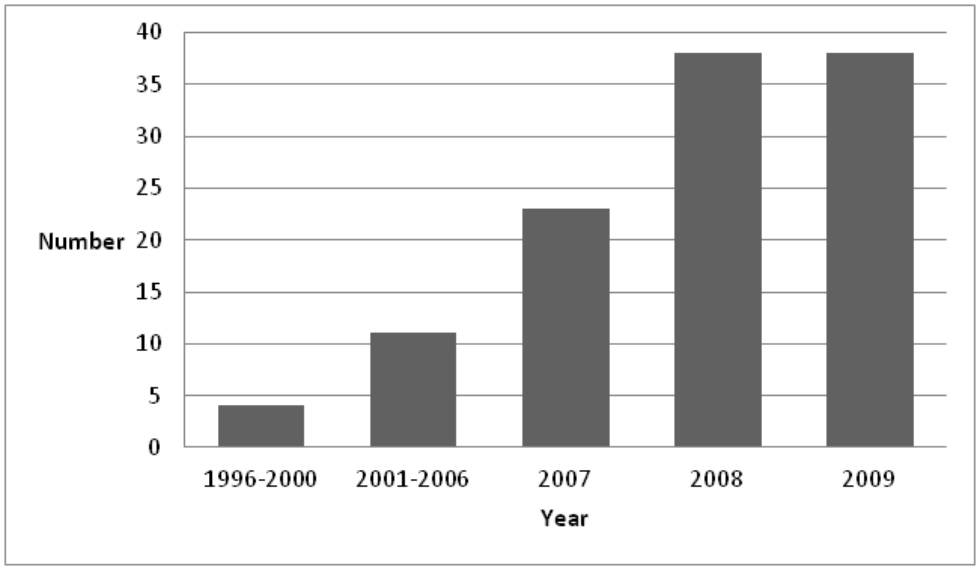

Figure 7 Media coverage of chemical risks of textiles, 1996-2009
Note: The numbers in the years before 2007 are aggregated due to the very small number of articles.

The distribution of the total sample of articles (114) over time is visible in Figure 7. It shows that the coverage of chemical risks of textiles was minuscule in media before 2007, when there was a huge increase in media articles. However, the textile industry as such has been covered, with the media articles from the second half of the 1990s referring to working conditions – for example child labour, working hours or pay.

Table 1 Distribution of selected textiles articles, 1996-2009

	Year														
	96	*97*	*98*	*99*	*00*	*01*	*02*	*03*	*04*	*05*	*06*	*07*	*08*	*09*	*Σ*
Articles used	1				1			1		2	2	16	22	22	67

Table 1 shows the selected sample specified per year. The same tendency as in Figure 7 is visible, with very few articles before 2007 and even with no articles for certain years. The articles before 2005 have nevertheless been included so as to capture articles from early media material as well.

Discussing the media material, there is one type of event that generated plenty of media coverage. These articles concern product alarms and the findings of chemicals in clothes and textiles. Many of the alarms originate from inspections conducted by NGOs – mainly the Swedish Society for Nature Conservation (SSNC). The focus by, for example, SSNC on textiles may be a strategic choice due to the newly implemented chemical legislation, REACH, that perhaps for the first time enables chemical risks of textiles to be referred to as breach of legislation in a systematic manner. Thus, the product legislation in REACH may have enabled a greater focus on consumer goods and chemicals, by for example politicians and NGOs, and indeed, by media as they now can report on events (Hughes, Kitzinger, & Murdock, 2006).

The chemicals in focus of the product alarms are nonylphenol ethoxylate/nonylphenol (NPE/NP), dimethyl fumarate (DMF) and phthalates. NPE and its degradation product NP in textiles and clothes, which is used as a detergent and cleaning agent in the manufacturing process of textiles, was found in two separate product analyses (T-shirts and towels) by SSNC.[27] DMF, which is used as an anti-mould agent during transportation was found in jeans in a product test commissioned by two programmes on the Swedish public service television.[28] Finally, phthalates are used in soft prints on T-shirts, and the occurrence and risks of them were tested and reported by SSNC.[29] These three chemicals/topics are the reason for the massive increase in media coverage on the chemical content of textiles and therefore act as key events (Vasterman, 2005) and rich empirical examples.

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[27] http://www2.naturskyddsforeningen.se/upload/Foreningsdokument/Rapporter/Handla%20miljj%C3%B6v%C3%A4nligt/rapport-t-trojor-med-ett-smutsigt-forflutet.pdf and http://www2.naturskyddsforeningen.se/upload/Foreningsdokument/Rapporter/handdukar_rapport.pdf, accessed 22 January 2013.

[28] See page 21 in http://www.kemi.se/Documents/Publikationer/Trycksaker/Rapporter/Kartlaggning_kemikalieanvandning_i_klader_2010-03-17.pdf, accessed 1 February 2013.

[29] http://www2.naturskyddsforeningen.se/upload/Foreningsdokument/Rapporter/miljogifter/rapport_mjukatryckhardakonsekvenser_080922.pdf, accessed 22 January 2013.

There are also other types of articles that are more concerned with what the individual can do or with broader perspectives on the textile industry. The discussions are then about a collective consciousness of the global effects of the textile production, but also how to protect oneself from harm. These articles are often more contextual, describing what is the problem and why it is a problem, in addition to how individuals can (help to) solve them.

Another characteristic of the sample that is of interest for this thesis is what type of articles it is based on, since they are believed to frame issues differently and focus on different themes or issues. Therefore Table 2 below shows the number of news, opinion and feature articles specified for the selected sample.

Table 2 Distribution of selected textiles articles per article type

	Type of article			
	News	*Opinion*	*Feature*	*Σ*
Number of articles	39	10	18	67

As expected, news articles are in the majority. After all, media report on events – such as the product alarms about chemicals in textiles – that typically generate news. In this case, however, the dominance is rather weak – news account for less than 60 per cent of the selected sample of the media material. This means that by including other types of articles than news, the empirical material allows for a more holistic analysis. The implication of this will be more discussed in Chapters 10 and 11, but for now a working assumption can be that since news and non-news cover things differently, the aggregated media coverage of chemical risks of textiles may be less focused on events and news production and more focused on context and more complex framings while simultaneously offering space for multiple framings. One reason for the varied coverage could be that the chemical content of textiles is a rather new topic in the media, suggesting that the framings have not yet solidified into persistent meanings of what issues are constructed to be at stake (Entman, 1993). Some aspects of the coverage of chemical risks of textiles will be analysed in detail below, starting with substantive framings.

7.2 Substantive framings

Substantive framings of the chemical risk denote coverage that use claims of knowledge and experience of chemical risks (scientific or non-scientific) as a basis for risk judgements. As will be seen below, for the case of textiles the suggestions and

claims in media of the "chemistry" of the risks are rather contended and diverse opinions prominently seen. The analytical themes that will be discussed in this section are as follows (for the selection of analytical themes see section 6.2): *How safe is safe enough? – threshold values* analyses how threshold values are examples of socially negotiated risk management. *Redefining risks – from environment to health* analyses how representations of risks move from being about the environment to being about human health. *Who and what is at risk – risk definition up for grabs* discusses how actors dispute at the very fundamental level of definitions about risks.

7.2.1 How safe is safe enough? – threshold values

In this section "how safe is safe enough?" will be analysed by discussing how threshold values of chemical exposures are constructed and disputed. They are illustrative examples of how risk management is science based at the same time as threshold values are not sufficient to manage modern risks since they are socially negotiated (Beck, 1992; Klintman & Boström, 2007).

It is a recurrent pattern in the analysed media material that threshold values and other measured values are discussed, since they are used as an estimate of when something is safe enough (cf. Schenk, 2010). One example of this discussion can be seen in the following quotation from a news article that discusses findings of chemicals in T-shirts. The event triggering the article was an analysis commissioned by SSNC of the chemical content of T-shirts. In particular NPE was discussed as a result of the findings and this is also the chemical discussed in the quotation below.

> In order not to harm the environment the Swedish Society for Nature Conservation and the Swedish Water & Wastewater Association recommend a level between 20 and 50 milligrams per kilogram of textiles. The measurement of Cheap Monday's T-shirt "Bruce" was 940 […] Today the maximum permitted limit is 1,000 milligrams per kilogram of textiles in the EU. (Petersson, A. (2008, 23 April). Klädkedjornas plagg förgiftar våra vatten. *Aftonbladet*.)

In the quotation one measured value and two threshold values are mentioned. Only one of them is set by a regulatory body, namely the EU. The other one is a recommendation from SSNC together with an industry association (The Swedish Water & Wastewater Association). The measured value is the analysed concentration of NPE in the T-shirt well above the firm's internal threshold value of 100 milligrams per kilogram of textiles (this value is found elsewhere in the article, leading to three threshold values in the same media piece). Other threshold values can also be

imagined, for example, other industry associations can have recommended highest values [30] or member states could have stricter legislation than the EU (see the case of biocides for example (Eklund & Karlsson, 2010). Also, some countries can be expected not to have a threshold value at all (hence enabling the import of textiles containing chemicals that are restricted in the EU) (Bengtsson G., 2010; Bucht, 2010).

The quotation above is an example of how threshold values in the analysed media material illustrate problems that are connected to chemical risk governance in general. First, that legislation (the EU-determined threshold value in this case) often lags behind more proactive work by NGOs but also by firms and by industry associations. This has been suggested in risk research (Beck, 1990) and is visible for technologies such as nanotechnology (Renn & Roco, 2006) and biotechnology (Scott D. N., 2007) but also more generally for chemical regulation (Iles, 2007). One reason for this is that the risk governance process in the EU is based on risk assessments where limits are scientifically set (cf. Bucht, 2010). This can be difficult for substances where no clear causality can be determined or where there is not enough data to generate statistical evidence (Rudén, 2004).

Second, the discussions in the analysed material hint at a tendency to greater generalisability – that threshold values are not always enough from a risk perspective since they lag behind society's discussion and definition of risk (Rudén & Gilek, 2010). One example of this is that contextual aspects are taken into consideration when establishing threshold values. Risk management is explicitly based on other concerns than the chemical effect, for example the socio-economic impact (Karlsson, 2010). Expertise is thus not only based on science but instead is often a compromise between scientific results and the considerations of the practicalities (argued or real) of industry (Klintman & Boström, 2007). This opens up for a strong industry lobby that resists legislation and influences policy (Bengtsson G., 2010).

Third, as an implication of how threshold values are set, they are disputed. Even if set through risk governance processes it is not necessarily seen as sufficient to follow them for protection (cf. Rudén & Gilek, 2010). This means that there is no best threshold value and it can in many cases be argued that the legislated value is too high and hence in effect is no level (see for example the wide span of threshold values and the reason for their enforcement in work environments in Europe (Schenk, 2010). For example, in the quotation above the concentration of NPE in the T-shirt is lower

[30] For example, the Textile Importers' Association in Sweden recommends their members a threshold value of 250 mg/kg textiles. This is lower than the legislated values but considerably higher than that of SSNC, or the firm mentioned in the quotation.

than the permitted EU level, but is still seen as too high by the firm, even if they could have argued that the concentration is legal (provided the T-shirt was imported from outside the EU). This also implies that it is difficult for the audience to know how, and by whom, the threshold values are set, and what threshold values are most relevant for the risk. When is something "safe" and when is something a "risk" is a discussion that is visible in the media material. Threshold values are therefore a good example of "creating safe" (Nyers, 2009), where the actions of creating security actually do not create safe but rather points out the threat that exists (de Wilde, 2008).

7.2.2 Redefining risks – from environment to health

This section aims to analyse a tendency in the analysed material for how risks to the environment are reframed into risks to human health, which is suggested to be a general tendency in society (Szaz, 2007; MacKendrick, 2010). I will do this by analysing what the coverage of NPE in textiles looks like and start by quickly introducing three quotations to illustrate differences in the emphasis of the risk.

The first quotation below, in one sentence, describes how and why NPE is dangerous to the environment. The quotation is taken from a feature article about a product test that a newspaper did of children's overalls, among other things looking for chemicals in the final product. They found NPE and subsequently described the effects of NPE as follows:

> Nonylphenol ethoxylates that are metabolised in the environment form nonylphenol which is highly toxic to aquatic organisms and may cause adverse effects in the aquatic environment. (Bergling, M.; Nejman, F. (2007, 13 November). Barnoverallerna allt sämre – dessutom innehåller de miljögifter och bör tvättas innan användning. *Värmlands Folkblad*)

The following two quotations come from articles covering two other product tests of towels and T-shirts, that SSNC did to analyse them for chemicals, among others NPE (see 7.1). Two SSNC experts express their opinions about the toxic substance in question. First, a quotation from a news article covering the product test of T-shirts. The article discusses the problems with NPE – both as a chemical and as a governance problem – and why there is NPE in textiles even considering its restrictions. An SSNC expert is quoted:

> "We might ingest the poison with food with the same consequences as for the animals," believes Andreas Prevdovnik, administrator at the Swedish Society for Nature Conservation.

> "It is not unreasonable and the risk should be investigated," he continues. (Karén, A. (2008, 24 April). Miljögift hamnar i svenska vatten. *Råd & Rön*.)

Finally, there is a quotation from a news article also written as a result of a product test, this time of towels. Another expert from SSNC than in the first quotation above is cited at the start of the article where the hazardous substance in question and the effects it has on people are discussed.

> A poison that can give birth defects has been found in several brands of towels. The poison is an endocrine disrupter and is stored in human tissue. "It affects the foetus if a pregnant woman is exposed to it," says Frida Hök at the Swedish Society for Nature Conservation. (Nannini Nilsson, D. (2007, 11 September). Gift i handdukar kan ge fosterskador. *Aftonbladet*.)

What can be seen in the three quotations above is that they discuss the same chemical, NPE, in textiles (although not the same type of product). But they apparently do so in very different ways. The first quotation relates to the mechanism by which the chemical is a threat to the environment. The second quotation brings the chemical into the sphere of human health by saying that it is likely that something that is hazardous to animals is harmful to humans as well and stressing that the possibility needs to be investigated. The final quotation, however, takes this line of reasoning further by saying that the chemical is toxic to humans as well by being an accumulative endocrine disrupter. The tone is different in the three quotations, with an increasing focus on human health and with a seeming ambition to evoke an emotional response (talking about pregnant women and unborn babies). In previous research on stem cells this has been found to give another meaning to the text (Ideland, 2002a), with subsequent differing audience responses (Hughes, Kitzinger, & Murdock, 2006; Tewksbury & Scheufele, 2008).

The three quotations are examples of an identified tendency in research that risks originating in the environmental sphere are increasingly transferred to aspects of human health (Brown, Zavetoski, McCormick, Mandelbaum, & Luebke, 2001; MacKendrick, 2010; 2011). This is a consistent pattern also in the analysed material regarding the chemical risks of textiles. What is quite interesting in this case is that the actor expressing concerns for human health, SSNC as an organisation, has the environment in focus[31] but in this case uses arguments targeting human health. This could be seen as meaning that the NGO adapts the prevailing risk frame (Scott D.

[31] See http://naturskyddsforeningen.se/in-english/About-us/, accessed 18 June 2012. This page has been changed since but it still highlights the environmental concerns of SSNC.

N., 2007) that some would argue today consists more of health issues than of the environment (Szaz, 2007). The reason for this prevailing risk frame could be that issues of health are perceived as easier to mobilise actions against than issues of the environment (Brown, Zavetoski, McCormick, Mandelbaum, & Luebke, 2001). MacKendrick (2010) views the shift in focus from environment to health as a discursive transfer from the state being responsible for societal problems, to the market as a corrective mechanism. This then fits with neo-liberal notions of the consumer and, by extension, the problem of chemicals as a lifestyle problem that can and should be solved individually. Szaz calls this "inverted quarantine" and claims that this type of consumption does not aim to change modes of production, thus it is not political, but rather is a means of protecting oneself and loved ones by "shopping our way to safety" (Szaz, 2007) (note however that this can be defined as political consumption, cf. Klintman, Boström, Ekelund, & Lindén, 2008). This will be discussed more in the section on citizen-consumer framings later.

7.2.3 Who and what is at risk – risk definition up for grabs

This section analyses how actors can differ in opinions and views taken when risks are being defined. They interpret findings differently, and also highlight different aspects of risk. However, the actors stay within a "technical" risk frame, meaning that there are no alternative risk perspectives visible of, for example, culture or ethics (Scott D. N., 2007). This has been demonstrated to be true even for organisations that could stress other values, such as NGOs, and the "technical" risk frame has, at times, proven to be an inefficient means of communicating as it is not enough to create risk discourses among the general public (Iles, 2007). Beck, Bonss and Lau, however, note that when actors define risks differently it also has more to do with interests than with interpretation, indicating that the risk is constructed by the ambitions of actors (2003).

During the autumn of 2009 two programmes on the Swedish public service television, the news programme *Rapport* and the consumer programme *Plus*, conducted a product test of jeans (see 7.1). They analysed a number of pairs of jeans from different denim brands for their chemical content. The result of the analysis found several heavy metals, detergents and, most prominently, the allergen DMF (an anti-mould substance). This caused extensive media coverage of the event for a couple of weeks. Among other things, there was a discussion in Swedish newspapers contrasting denim brands' recommendation not to wash raw denim jeans for at least six months after purchase (and after that as rarely as possible) for aesthetic reasons, and experts' opinions of this being bad from a health and sanitary perspective. Thus the risk claim becomes binary (Ekberg, 2007) – attractive design or unwanted

consequences – and indeed about specific (non-)risks or general risks, as will be seen below.

The unfolding of the product scandal is visible in the analysed media articles. From the articles it can be seen that the manufacturing firm whose products were questioned (and other firms facing similar allegations) maintain that there are no problems with not washing one's jeans. They claim that it gives them a personalised and better finish at the same time as the jeans last longer. It is also said that in respect of chemicals there is nothing to worry about as the manufacturing process is safe, organic and free from chemicals. In this case, the firm withdrew the specific line of denim but they did not remove the general recommendations of not washing one's jeans. Later they also said that not many customers choose to return their jeans, to support in some way their claim that this risk need not be taken seriously. Thus in this case the chemical content of the jeans becomes a specific risk that the individual does not need to worry about since it is not a "real" risk. This is visible in the quotation below, taken from a news article one month after the product alarm, where a representative of the denim brand declares that it is absolutely necessary not to wash raw denim jeans.

> That means that Nudie does not find any reasons to remove the advice to wait with the first wash of the jeans.
>
> "Absolutely not. A huge point of the material would be lost. It is precisely because indigo is such a special colour and behaves in a particular way that jeans become so beautiful. It is based on actually not washing one's dirty jeans," says Joel Lindefors. (Olsson, T. (2009, 12 October). Kritik mot tvättråd för jeans efter giftlarm. *Svenska Dagbladet*.)

However, despite the industry's response, experts recommend that people wash all their textiles before coming into contact with them. The suggestion is that chemical exposure in general can pose a risk to people's health and should be avoided. It is seen in the quotation below where a scientist at a research institute says this.

> As an expert, she always advises washing all fabrics before the body is exposed to them for the first time. This is so that the skin will not be unnecessarily exposed to potential risks from residues of chemicals in the material. This applies to sheets as well as underwear and jeans. (Strömberg, L. (2009, 12 October). Tvättråd kan vara farligt. *GöteborgsPosten*.)

The claim in the quotation above concerns possible risks that are accumulated over time and are at a general level. It also suggests generalised risk-reducing strategies that are aimed at the public. As such they are very different from the manufacturer's position that concerns individual jeans and consumers. Representatives of the denim

brands talk about one particular risk, even narrowed down to a garment for the individual consumer. The advice from the manufacturer thus becomes an individualised recommendation on how to wear your jeans. Any potential risks with following the advice are played down as irrelevant to the individual (cf. Klintman, 2002). The expert in the second quotation, on the other hand, refers to general risks due to an aggregated exposure (as in work environment issues, see Rudén, 2004). Thus the expert and the firm here frame risk as being general versus specific/individual and effectively talk about different aspects of risk (cf. Klintman & Boström, 2004; Klintman, 2006). Ideland (2002b) found that discussing different aspects as if they referred to the same thing, as specific versus generic risks, creates difficulties in enabling a relevant public debate defining the issue at stake. The definition of risk, and whether there is a risk at all, is open precisely because of the nature of the risk that enables contestation and disparate definitions (Beck, Bonss, & Lau, 2003). Regarding DMF in jeans, this means that the discussion is no longer centred on the findings of a chemical that is inappropriate for humans but is instead focused on whether there is a risk at all to be concerned with.

In another quotation the generalisation of risk similarly is juxtaposed with the specificities of risk. The quotation comes from an article that is a result of a report by SSNC that, apart from looking into the chemical contents of T-shirts, also investigated the prints on them.[32] They were found to contain phthalates among other things – both prohibited and legal ones. In the quotation below two seemingly opposing views about phthalates in textiles are visible, one from an expert at SSNC and the second from a university researcher.

> "We think that phthalates should not be present in textiles at all," says Andreas Prevdonik, textile administrator at the Swedish Society for Nature Conservation. In spite of that Kenneth Tingsvik, at the Swedish School of Textiles, remains calm. "There is probably no reason to believe that these clothes pose an immediate threat to the user," he says. (Hedberg, A.; Englund, P. (2008, 19 September). Larm om giftiga tröjor – Höga halter av cancerogent ämne i storsäljande tröjtryck. *Borås Tidning*.)

This quotation illustrates what happens when the general and the specific are contrasted. The first statement – that phthalates should not be in textiles at all – relates to a general risk issue of a group of chemicals in textiles, and the second statement – that there is no immediate threat to the wearer – to a specific issue of risk

[32] http://www.naturskyddsforeningen.se/sites/default/files/dokument-media/2008sept_miljogifter_mjuka_tryck_harda_konsekvenser.pdf, accessed 22 January 2013.

for the user. In the quotation above this indicates that it is possible to say, at the same time, that a garment containing phthalates does not pose a threat to the user and that phthalates should be forbidden in clothes – general and specific risks are thus not always contradictory. The reason for this is that a chemical might not pose a risk in a specific isolated context but should nonetheless be subject to legislation because of other factors (Rudén & Gilek, 2010; Karlsson, 2010). For example, chemicals that people are exposed to frequently through many exposure channels need stricter legislation because of aggregation (Rank, 2005; Bengtsson G., 2010) – as often emphasised when it comes to phthalates (Schettler, 2006). However, the problem of discussing the same risk at different levels has been identified as that they are impossible to put against each other – one does not disagree with either claim (Ideland, 2002a).

7.3 Procedural framings

Procedural framings of the chemical risks of textiles refer to framings of societal mechanisms in media as part of the cause, effect and solution. Procedural framings in the case of textiles draw attention to the many different societal mechanisms that contribute and fail to manage the chemical risks of textiles. In this section the following analytical themes will be discussed (for the selection see section 6.2): *The industry – risk, blame and trust* analyses events of claimed findings of chemicals (illegal or not) in textiles. *Industrial patterns of globalisation – the good old days* analyses perspectives of current patterns of consumption contrasted against perceptions of how it used to be. *Product labels – visualising risk* analyses how and whether labels are seen as a sufficient control mechanism.

7.3.1 The industry – risk, blame and trust

How does a firm responds to allegations about chemicals in clothes? Even if this theme analyses one firm, the same patterns of behaviour are visible in the analysed material for other firms facing claims about hazardous chemicals in their products. In the literature on crisis management, similar patterns are often suggested to be the reaction to product scandals (Benoit, 1995; Regester & Larkin, 2008).

Below I will exemplify a "product scandal" using the coverage of when NPE was found in underwear from a popular brand. The articles are mainly from *GöteborgsPosten*, a west coast daily that has a big focus on consumer issues. The analysed articles are part of a story written between August and December 2008. The first article is about a consumer who had an allergic reaction when using a new pair of

underwear. The person subject to the allergic reaction claimed that upon contacting the firm he was met with questions and excuses. The newspaper then decided to conduct their own chemical analysis of the underwear as a result of the allergic reaction. They failed to find the allergens they were expecting, but did find NPE. This finding was the basis for the first couple of articles, the one mentioned above where the person reacting to the underwear told his story, and an article presenting the findings of the chemical analysis.

Confronted with the analysis by and articles in the paper, the firm claimed to have increased its measurements to ensure safe products. The quotation below is a response by the brand's product manager where she assures that the firm takes the findings seriously and that they will expand their tests of the product in question.

> "I do not know what has happened here, but we take it very seriously. Apparently something isn't working right. Our suppliers do tests in the Far East and we also send our own samples to the textile-leather lab. Now I will send additional samples of the black underwear for testing to get to the bottom of this," she says. (Ekstrand, L.; Grahn, M. (2008, 19 August). Borg-kalsonger 08. *GöteborgsPosten*.)

When the results of the analysis were announced the firm claimed to have made changes in their own testing procedures and expanded the amount of fabrics they test to include virtually all fabrics used. But they also said that the results of the newspaper's initial analysis had not been confirmed. And according to the private individual with the allergic reaction, the firm failed to take responsibility for the allergic reaction he had, claiming that it was not a result of their underwear.

The pattern above is recurrent for product scandals in the analysed material. It has also been identified in the literature (Benoit, 1995) and can be seen as a result of, first, a lack of information control due to effects of globalisation (Fransson, 2012) and second, the way that risks can be challenged and downplayed (Beck, Bonss, & Lau, 2003). Starting by discussing how the effects of the long and global value chains of textiles, it seems to be rather clear that there are several reasons for the lack of information. In the textile industry, the way that firms most often control chemical use is through lists of restricted chemicals. These mainly concern the chemical content of the final product, as this is what can be controlled via laboratory tests. In addition, firms usually place demands on their suppliers, leaving the sub-suppliers apart. This means that the firm's supervision or inspection, if it exists, only extends to the next business up-stream (Fransson, 2012; Fransson & Molander, 2012).[33] Since

[33] Of course there are firms that are in touch with the whole value chain but this is an exception to the much more common pattern of relations only to your closest suppliers.

the textile industry is a highly complex value chain with several sub-suppliers, this often creates a lack of control over what chemicals are used in the manufacturing process (Fransson, 2012). As a result of this practice manufacturers trust their suppliers but also by extension trust sub-suppliers to comply with their requirements (or expect suppliers to control them). However, the incentives for suppliers and sub-suppliers to comply with any requirements are low considering the lack of supervision and sanctions (Fransson, 2012).[34] So, when a chemical is found in a garment it is difficult for the firm to know where in the process it has been added (Carlsson-Kanyama, Lindén, & Lundell, 2006). The actual content of the garment is unknown, not only to the consumer, but also to the firm that manufactures and sells, in this case, the underwear.

When a product scandal is revealed, firms risk losing their reputation and consumer trust (Falkheimer & Heide, 2010) and therefore are not only at risk of decreasing sales, but also of losing a brand in which they have invested a great deal (Regester & Larkin, 2008). What then seems to happen also as a result of the uncontrolled manufacturing process is that responsibility and blame can be put on someone else (Giddens, 1999; Spaargaren & Mol, 2008). In this case, as could be seen in the empirical material, the firm eventually refused responsibility for the allergic reaction. There is thus something about a globalised complex manufacturing process that enables a lack of responsibility (Giddens, 1999; Spaargaren & Mol, 2008). The firm can refuse responsibility by saying that they only make demands of their closest supplier, and this leaves ample of room for chemicals to be included elsewhere in the manufacturing process (Fransson (2012) identified six steps). Beck calls this "organized irresponsibility" and uses the concept to explain why actors in society have to acknowledge the reality of the event – the risk – while simultaneously denying its (general) existence, covering its origin and preventing compensation and control (Ekberg, 2007; MacKendrick, 2010; Boström, Börjesson, Gilek, Jönsson, & Karlsson, 2012).

The very nature of risks, that they are defined collectively, also means that firms can challenge them (as was seen previously when analysing the coverage of DMF in jeans). This is a recurrent pattern in the analysed media material and has been suggested to be quite typical when firms are accused of selling risky products (Regester & Larkin, 2008). The risk can be challenged on the basis of definition – the firm complies with some definition of risk (for example legislation or internal threshold values) (Beck, Bonss, & Lau, 2003; Rudén & Gilek, 2010). But it can also

[34] Other researchers suggest that it is rather easy to exercise control over one's suppliers as they do not want to lose their customer (Carlsson-Kanyama, Lindén, & Lundell, 2006).

be contested altogether. This is apparent in the quotation below where the brand concluded that their product contained no unsafe levels of NPE.

> Björn Borg AB told GP that it took the results of GP's analysis very seriously and commissioned their own tests. According to the firm, these did not show levels of nonylphenol ethoxylate above the industry's own benchmark. (Grahn, M. (2008, 29 December). Avslöjande gav ny policy. *GöteborgsPosten*.)

By establishing that the products are safe, all other claims are reduced to insignificance by the firm. Thus, the firm is given space and power in establishing definitions of risk. This means that actors have different relative power (Dietz, Stern, & Rycroft, 1989). What is also interesting is that it is still unclear what chemical substance in the underwear caused the allergic reaction (the newspaper did not find what they were looking for and the firm did not find anything at all). There was no event to further report on so media attention faded (Hughes, Kitzinger, & Murdock, 2006; MacKendrick, 2010), leaving the public with the firm's reassuring testimony. It is more difficult to say whether this was an intended strategy on the part of the firm, but the implication for the audience of the event is that they have to choose which version to believe (Regester & Larkin, 2008). Trust thus replaces knowledge in the case of long global value chains (Spaargaren & Mol, 2008), what Giddens have called faceless trust (Ekberg, 2007). This, as will be shown soon, also extends to the consumer.

7.3.2 Industrial patterns of globalisation – the good old days

Many modern global risks have effects that are difficult to estimate and control. In the analysed media material; modern manufacturing methods are opposed to the safer production methods of pre-globalised times. An example of this discussion can be seen in the quotation below where the recommendation not to wash raw denim jeans is related to modern manufacturing methods that cause risks that previously would not need to be considered.

> A cowboy would probably not have reacted to the advice not to wash new jeans until after half a year of use. Hand-woven denim and other manufacturing methods did not impose the same health risks on consumers as today's industrial production. (Strömberg, L. (2009, 12 October). Tvättråd kan vara farligt. *GöteborgsPosten*.)

The quotation above illustrates a tendency seen in the empirical material that consumers have to relate to their product differently than before as a result of manufacturing processes that have become invisible and distant (Spaargaren & Mol, 2008). It is the modern way of life that causes risks (Beck, Bonss, & Lau, 2003). The

good old days – safe methods and cowboys – are used as illustrations of late modern risks. Whether it really is the case that products were safer before globalisation or late modern times can of course be disputed. Already in the 1960s, before the current implications of globalisation, the Naderist movement in the USA was promoting product safety (Johnston, 2008). But it is clear that consumers are surrounded by *more* products (Mont, 2004) and globalisation reinforces the increasing distance between the consumer and the producer (Spaargaren & Mol, 2008). Globalisation has also been suggested to have increased the chemical risks of textiles by the amount of chemicals involved in the manufacturing process (cf. Fransson & Molander, 2012). This is a perspective of risk that is visible in the analysed material, where the chemical content of textiles is suggested to be a consequence of globalisation – for example, substances are added to enable transportation or detergents that are not allowed in the EU used in the global manufacture of textiles.

As suggested above, it is visible in the analysed material that the amount of hazardous chemicals in use in society is an effect of the way that people in the Western world lead their lives. Globalisation means that the risks manifested in countries of production and countries of consumption are different – and more severe where the products are manufactured (Bengtsson G., 2010). There is thus a trade-off in what people want from their lives and how environment- and health-friendly one can be (cf. Maniates, 2001). This means that people have to accept and justify certain levels of risk in order to preserve the level of comfort (Beck, 1992). This also suggests why risk assessment and governance are important practices and strategies to come to terms with how much risk can be accepted (Klinke & Renn, 2010).

Even if clothes can be seen to pose new risks to the environment and health, trust in manufacturers relies on historical circumstances (Mol & Spaargaren, 1993; Spaargaren & Mol, 2008). Scientific claims are not enough to threaten the trust – the individual, day-to-day experience of the consumer means that experts can be ignored (Lidskog, 1996) and says that jeans, in this case, are not a threat to his or her health. This is because judgements are based on prior knowledge (Visschers, Meertens, Passchier, & deVries, 2007; Macgill & Siu, 2005). That products that were safe before can pose new risks because of modern manufacturing and global value chains is not taken into consideration (Beck, 1992). Clothes have not been a risk to people (Fransson & Molander, 2012) but have instead protected and helped in shaping an identity – which will be analysed soon.

7.3.3 Product labels – visualising risk

In the analysed media material, the topic of product labels and how they will enable a reduction of (chemical) risks of textiles is frequently seen. Here I analyse how

labelling is used for managing the chemical risks of textiles, and whether there are any conflicts associated with labelling clothes.

The problems individuals have in determining the benignity of their clothes were visible in the previous analytical themes and are also visible in the quotation below. It is taken from an article that discusses the finding of NPE in T-shirts resulting from an investigation by SSNC. In the article, the chairman of SSNC, Mikael Karlsson, says that consumers cannot know the chemical content of the clothes they buy.

> Can we as consumers decide whether a garment contains the chemical?
>
> "No, the only way to orient oneself in the chemical quagmire is to choose eco-labelled products. Under their rules nonylphenol ethoxylate is not allowed at all." (Svensson, N. (2008, 24 April). 16 av 17 t-tröjor innehöll giftig kemikalie. *GöteborgsPosten*.)

It is thus suggested that consumers cannot determine, by its properties, whether a garment contains NPE. For some other chemicals, the presence in textiles can be judged. The textiles can smell of chemicals or bleed colours, but for most chemical substances human senses are not enough to judge the existence of hazardous chemicals (Kraus, Malmfors, & Slovic, 1992). This is because the chemical risks of textiles, to a large extent, are invisible and imperceptible (Beck, 1992; Ekberg, 2007). Hence, people have to rely on external factors to evaluate whether clothes contain hazardous chemicals or not. One way to reduce the chemical risks of textiles is to seek a label that is meant to convey specific information about the final product or about the entire production process that will guide consumers in their choices (Klintman, Boström, Ekelund, & Lindén, 2008). A label, however, is always a reductionist method – in general it focuses on one or a few ethical claim(s) – health, environment, labour conditions or climate, for example. Labels take into consideration certain aspects, leaving out others (Leire & Thidell, 2005; Massey, Hutchins, Becker, & Tickner, 2008).

Articles in the media material suggest that eco-labels are a good tool for consumers to choose the right product. Labels can thus be used to distinguish between safe and unsafe products (MacKendrick, 2011). However, a problematisation of the labelling of textiles is also seen when highlighting, for example, the multitude of labels or brands' own labelling systems indicating better choices. In the case of textiles there are many labels – over 100 globally – that inform the consumer about different properties of the product. One of the most commonly used, the Oeko-Tex 100 label, for example, is used to guarantee that the final product is free from restricted chemicals. The label, therefore, does not inform about which chemicals have been used throughout the manufacturing process. Other labels take the larger manufacturing process into consideration, such as the EU Flower or the Nordic Ecolabelling, but they have other restrictions. In addition, many retailers use their own labels,

indicating a better choice in terms of, for example, organic cotton or more sustainable materials such as lyocell (Fransson & Molander, 2012). In a study of environmental politics and clothes, Carlsson-Kanyama, Lindén and Lundell (2006) found that eco-labelled clothes (in contrast to the number of eco-labels) are still rather uncommon due to short product life cycles and the financial and administrative burden it entails to license products. In addition, they found that consumers are not very interested in eco-labels but prioritise price, function and design. This leads them to conclude that the awareness among consumers is too low to make it interesting for producers to label clothes and thus the future of eco-labelled clothes is weak – even if there are indications that this might be changing (Boström, Börjesson, Gilek, Jönsson, & Karlsson, 2012).

This means that the logic of labels – that they should communicate what is better about a particular product and impact purchases – can be difficult to uphold for textiles. The plethora of different types of labels conveying different messages may reduce their information-carrying capabilities – there may not be a understanding of what the labels stand for (Leire & Thidell, 2005; Carlsson-Kanyama, Lindén, & Lundell, 2006; Fransson, 2012). It could also lead to a situation where a label does not mean anything since everything can be labelled. Utilising a label can thus be a way to put responsibility for the evaluation of benignity on someone else, settling for the fact that one purchase is better than another. Labels are then a means for consumers to come to terms with their own responsibilities when shopping (see how labels can be confusing in the case of a food retailer Johnston, 2008). On the other hand, a reduction in the number of labels would also mean that the parameters for risk would be defined – perhaps impeding the push of stricter product criteria. Thus labelling can be critiqued for transferring the regulating mechanism from the state to the market and increasingly to individuals as consumers (Scott D. N., 2007; Spaargaren & Mol, 2008). This will be analysed in the next section.

7.4 Citizen-consumer framings

Citizen-consumer framings refer to framings of the role of the public ranging from citizen to consumer, or any hybrids thereof, as part of the chemical risks. The framings in this case suggest that the public is part of risk issues through what they consume but it also extends into citizenship by framing everyday practices – the citizen-consumer is recurrently part of framings. In this section the analytical themes are as follows (see section 6.2 for how the themes were selected); *Citizens and consumers – ambivalent perspectives* examines how the consumer and citizens are present in the material and how these roles are framed. *Citizen-consumer – shopping in order to make change* analyses how the idea of consuming, but doing it well, replaces

other responsibilities. Finally, *Shaping identities – making the citizen-consumer visible* analyses the media material for perspectives of the perceived necessity of and desire for clothes and textiles and thus problematises consumption.

7.4.1 Citizens and consumers – ambivalent perspectives

In the analysed media material ideas of consumerism are very much present. It is not explicitly stated that market forces will be sufficient in managing chemical risks of textiles, but as will be seen the market ideal is often present either explicitly or when reading between the lines. This can of course be because the market mechanism is the current economic order and as such a hidden assumption (Seyfang, 2005; Kolandai-Matchett, 2009). In line with that the media can be seen to mainly protect the current order (Durfee, 2006) it is therefore more surprising when the idea of the market is put into question (cf. Livingstone, Lunt, & Miller, 2007).

The quotation below illustrates the difficult position consumers have when it comes to choosing better products. The quotation comes from an article that discusses how the textile industry has changed and will have to respond to ethical demands. The view of the consumer is expressed by a consultant in corporate ethics.

> "Consumers should take more initiatives. It is not very common to ask for environment-friendly clothes when shopping. But it is perhaps not surprising. Consumers do not know what the production conditions are like or how the textile industry operates. Instead, fashion companies must take more responsibility and inform their customers. (Sjödén, K. (2008, 4 June). Råvarupris och etik gör kläderna dyrare. *Sydsvenska Dagbladet*.)

In the quotation the unengaged consumer is emphasised first but the consultant goes on to say that this is understandable considering that the process of manufacturing and the industry is unknown to consumers. This quotation is an example of a tendency of media to show ambivalence in the role of the consumer – at the same time bearing responsibility but also unable to execute it. In the quotation above the responsibility for informing the consumer is put on the fashion industry. In this case, the consumer is not framed as responsible for what he knows about the products he buys. Actively knowing about manufacturing conditions (and letting this affect purchasing decisions) turns into being informed about them. It also becomes a problem of production by emphasising the firm's responsibility to provide information. However, in the media material another point of view is also visible where it is implicit that the consumer should have knowledge but where the processes of accessing information are less discussed. There is therefore a parallel discussion promoting the responsibility of consumers. This rather ambivalent view of the consumer is recurrent in the analysed media material.

In the literature on citizen-consumers, examples of how to be a citizen are often limited to suggestions to join an NGO, sign petitions or vote for parties that have environmental questions high on their agenda. This is a rather limited view of the citizen where no real actions are required (Maniates, 2001). In accordance with this is there a tendency in the analysed media material to represent citizens as receivers of societal and political activities, for example legislation. One article says that it is uncertain what good the EU chemical legislation REACH will do EU citizens until it is implemented. The legislation is thus for but not of citizens. This is an example of how framing citizens and measurements aimed at them as uncertain could mean that citizenship becomes hard to define and passive (Korthals, 2001; Livingstone, Lunt, & Miller, 2007). The greater political perspective that people can act as citizens by putting political pressure on the state or other bodies to change society is almost non-existent in the analysed media material. No actions are proposed, as if citizenship is a taken-for-granted activity that people just do when included in a societal context (cf. Park, 2007).

However, there is a pattern in the analysed material to illustrate citizenship without any political implications. It is enough to be a "good person" and this is suggested to be as much an attitude or a mental process as about practices or activities. There is hence a rhetorical claim of the "good person" that is recurrently made in the analysed material. This implies that it is not necessarily the actions that make for good citizenship but that citizenship is something that is executed in the private realms of life (cf. Soper, 2004). Some researchers would say that these motivations are sufficient to be rendered political while others mean that there is a need for intent and frequency for people to turn political (Stolle, Hooghe, & Micheletti, 2005; Klintman, Boström, Ekelund, & Lindén, 2008). But even if being a "good person" could be seen as a political stance, it is still a narrow act of citizenship as it only addresses the situation associated with private life/use and ideology rather than the greater political perspective. Perhaps there is an individualisation of citizenship where people are supposed to do the right thing in their own back yard (Maniates, 2001). But it could also be argued that everyday practices are where the politics happens when it comes to consumer products as it is the *practices* and not the *products* that link citizens to politics (Sandlin, 2004; Spaargaren & Mol, 2008). This agrees well with both the individualisation processes and the increasing tendency of politics to emerge in traditionally non-political areas (Beck, 1992; Sassatelli, 2006).

Thus, both as consumers and as citizens, there are ambivalent perspectives in the analysed material. This can of course have to do with that the idea of the consumer and the citizen are ideal types – no one is just one or the other – and as such perhaps difficult to manage in the media. In what way are active perspectives of the public then represented in media? This will be analysed next.

7.4.2 Citizen-consumer – shopping in order to make change

Media attention is sometimes given to issues where consumer practices are tied to certain social problems. These social problems are often related to globalisation, as will be more discussed later, for example when an academic researcher expresses the opinion that people want to consume but to do so in a responsible manner.

> "The environment and social responsibility is the new trend in clothes. We want to do right but without living in a hut in the forest. Be responsible but still consume," says Marcus Gianneschi, researcher in consumer studies in Gothenburg. (Ritzén, J. (2007, 19 February). Klä dig – för en bättre värld. *Aftonbladet*.)

The quotation above is one example of when the idea of the market is implicit in the media material. It could be understood to mean that people want to make changes to influence the society around them but that it should not impact on their lives or consumption habits in any substantial manner (Allen & Kovach, 2000). The message that is put across is that people should not stop consuming but rather do it in a conscious way (Sassatelli, 2006), as democracy and the market need one another (Scamell, 2000). The quotation below is more explicit in its promotion of consumerism and illustrates the perceived problems of not shopping. It is taken from an article that discusses political consumption, where a representative of Fair Trade expresses his position on shopping politically.

> "If we stop shopping we will really cause problems for people. I don't believe in boycotts of firms either, but it is an issue of making the right choices," says Daniel Sommerstein. (Ritzén, J. (2007, 19 February). Klä dig – för en bättre värld. *Aftonbladet*.)

The quotation above exemplifies a recurrent pattern in the analysed material which suggests that it is important, from a political perspective, to consume but to make sure that the money ends up in the right pockets. There is thus a *right* way to consume. By extension the right way to consume then leads to effects at a social level. That the consumers start the process of change in the marketplace is the point of departure of the bulk of the literature about the citizen-consumer (even if the authors sometimes are critical of it) since firms will not change unless their customers do (see for example Allen & Kovach, 2000; Halkier, 2001; Stolle, Hooghe, & Micheletti, 2005; Shaw, Newholm, & Dickinson, 2006). Following the focus on the consumer, it is rarely argued that better products actually have to be available to choose (not consuming is not always an option, as will be discussed later). Applying this perspective would mean that companies should take responsibility for the effects their business has on society and introduce cleaner products as this will lead consumers to demand them (cf. Jubas, 2007). Some have suggested that this would comply with

firm logics in order to create and expand their markets (Sassatelli, 2006; Lockie, 2009).

However, the issue of political consumption cannot easily be divided into issues of supply and demand since the market itself is a complicated mechanism. In addition the market is steered politically through, for example, environmental standards, meaning that the market is not only controlled by the producer and consumer (Allen & Kovach, 2000; Sassatelli, 2006; McDonald, Oates, Thyne, Alevizou, & McMorland, 2009). Rather than focusing on the market, the public debate can be put in focus – it is because issues are raised as political that health- or eco-friendly production or consumption can happen (Stevenson, 2002). The question of what should come first is then of less concern. Instead, it becomes important what factors are valued as political enough, in part through public debates, to affect both supply and demand (McDonald, Oates, Thyne, Alevizou, & McMorland, 2009). This has implications for media in how it is part of constructing issues as salient or not in society (Hansen, 2011). It has been suggested that eco- and health aspects are not among these issues when it comes to textile consumption (Carlsson-Kanyama, Lindén, & Lundell, 2006). Even if this research seems to imply that this is about to change (see also Boström, Börjesson, Gilek, Jönsson, & Karlsson, 2012).

However, in addition to a small demand, another problem with textiles is that consuming differently may not be enough. In the analysed material it can sometimes be seen that better patterns but retained levels of consumption are not sufficient from a health and sustainability perspective but, more importantly, changing perceptions of what it means to consume are required. In line with that, it has been suggested that consumption can also be thought of as the process of using, taking care of, and disposing of the product instead of narrowly defining it as purchasing, thus highlighting the daily practices of people (Halkier, 2001; Spaargaren & Mol, 2008). In the analysed media material this tendency is visible as the notion of consumption is expanded by also stressing different types – buying less but of higher quality, buying second-hand, borrowing, or swapping clothes. In addition, activities related to the reduction of consumption levels – redesigning clothes or taking good care of clothes and textiles – are seen in the analysed material. Through activities such as these, the act of using shifts from consumerism to citizenship. This can be seen as a move away from the consumer end of the citizen-consumer hybrid as they take into account different aspects of ecological and sociological responsibilities beyond the market (Klintman & Stenborg, 2011) and thus the citizen-consumer becomes a more inclusive concept (Seyfang, 2005). So, the critique that individual acts of consumption, also seen in the aggregate, cannot change what is a collective and political problem (Maniates, 2001; Jubas, 2007) can be challenged by an alternative interpretation of "consumption", moving it beyond the market (Seyfang, 2005). Practices link the individual to the political (Sandlin, 2004; Spaargaren & Mol,

2008).[35] This could be one way to make the concept of the citizen-consumer more useful and practically achievable.

7.4.3 Shaping identities – making the citizen-consumer visible

Textiles have long been essential in people's daily lives. In accordance with this, the consumption (of textiles) has been suggested to be both empowering and identity-shaping (Trentman, 2007; Stevenson, 2002; Johnston, 2008).

According to a report by SSNC, every Swede buys 24 kilograms of textiles per year.[36] The vast majority of this is likely to be something that is not needed in the purest form of the word. It is not there to fulfil a basic requirement (such as not to be cold), but to satisfy needs of identity-shaping and of consumption. This is a perspective that is highly visible in the analysed material and can be exemplified with the quotation below, which captures this position neatly by saying that clothes go beyond telling things about people's identity to also tell others what they feel and are concerned with.

> Your clothes say not just who you are, but also who you care about. Today there are more and more organic and ethically produced clothes for those who are both fashion-conscious and environmentally aware. (Åkerman, O. (2007, 6 October). Ekomode & gamla gardiner. *GöteborgsPosten*.)

In the quotation above there is no contradiction in being fashionable and caring for the environment. The ideas of a visual form of political consumption are rather different from the idea suggested above where consumption should be incorporated into existing practices. Consumption in this way, and more frequently seen in the analysed material than ideas of practices, involves ideas of status and differentiation (even if only superficial). The increasing number of organic and ethical labels means that people can create an image that informs others of what they see as important in their own lives. Some researchers view this tendency as that people belong to subgroups that aid in the management of risk as individuals (Lupton & Tulloch, 2002). Thus, by being a political consumer choosing certain brands, people communicate what group in society they belong to. Even if someone's identity is to

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[35] For example, the idea of being frugal has had a renaissance in the UK in tune with the economic crisis.

[36] http://www2.naturskyddsforeningen.se/upload/Foreningsdokument/Faktadokument/pdf-textilfakta-mvv.pdf accessed 2013-01-23.

have an "anti-identity" it still requires some consumption of textiles – and a lack of consumption can also be seen as part of identity-shaping (Klintman, Boström, Ekelund, & Lindén, 2008). Shopping thereby becomes empowering in the sense that it aids consumers in their identity-shaping – no matter what identity that is (Jubas, 2007). People define themselves through the goods they buy and own (Warde, 1994).

The following quotation pushes the purpose of shopping even further, claiming that it is the new religion – but not religion as in something spiritual but in the sense that shopping enables consumers to move beyond identity and show a political standpoint. The quotation is taken from a feature article and in it a trend analyst, Henrik Mattson, expresses his view of what shopping will look like in the future.

> "Shopping is not something that will go away – on the contrary, it might become even more important. Today we buy clothes because we want to look a certain way and belong to a particular group, but shopping can become like a religion in which we also express political messages. We show where we stand ideologically by showing where we choose to buy our clothes, and in what way. In medieval times the church was the centre of power for man, but today shopping has taken its place. Hallelujah!" (Fredrikssson, E. (2007, 8 September). Förr samlades vi i kyrkorna. Nu möts vi i modebutikerna. Är shoppingen framtidens religion? *GöteborgsPosten*.)

What the above quotation suggests, and this is a recurrent pattern of individualisation aspects of the textile consumer, very much supports the view of the increasing importance of consumption that becomes political by being visual. Going well beyond the aspects of shopping as identity-creating, it presents shopping as "self politics" where political standpoints are communicated by how people look (Jubas, 2007). This can be argued to be an extension of the citizen-consumer into the citizen sphere. It is not about being an invisible citizen by joining an NGO, signing petitions or voting for parties. Instead, it is about being a visible citizen-consumer where consumption choices show what one stands for politically. Thus, this way of consumption would contribute to the public debate about political issues simply by being visible (cf. Lockie, 2009). It is one way of visualising the risks of modern society (Ekberg, 2007). The thought is intriguing and also addresses the invisibility problem of the correcting market mechanism and instead draws on changing social institutions (Mont & Pleyps, 2008). By being explicitly visual, the market mechanism becomes politicised and consumerism becomes citizenship.

7.5 Summary and discussion

The media coverage in the case of textiles is quite varied. A majority of news articles cover product alarms and findings of chemicals and are instrumental in defining and negotiating the risks as issues of concern in society. But there is also a quite high frequency of feature articles that suggests the context for risks but also how the public should behave in terms of risk. The feature articles then often focus on practices such as consumption but also on other aspects of use. The opinion articles look quite similar to the feature articles, with suggestions about the context of risk but also what the public can do to reduce and manage risk. There is thus less of a collective political perspective in the coverage of textiles, rather focusing on the definition and individual management of risk.

Substantive framings of chemical risks of textiles do not in general converge around one single issue. Media framings tell the story from many perspectives, including many risk objects and objects of risk. Even if there is a focus on the health risks of consumers or users and the environmental effects in Sweden, it is not uncommon that the risks are viewed from broader perspectives, such as the global or the developing world's. Mixing of levels and risk perspectives is common in the analysed material – for example whether exposure should be seen in isolation or in aggregation, or as general or specific, is a prominent feature of the substantive framings of risks.

Certain actors are given predominance in the *procedural framings*. Notably, NGOs and other "exposing" actors are given ample media space while the state has less prominence in this case. On the other hand, industry and fashion brands are allowed to utilise media space to their advantage, relatively undisputed. The procedural framings in the analysed media material focus on the role of globalisation and on the responsibility of industry to provide safe goods. Labels are another procedural framing that is found in the analysed media material. In this case they are represented as the only way the public can know what is in the product and whether it is safe according to some criteria, but it is also suggested to be a problematic tool.

In the case of chemical risks of textiles, the *citizen-consumer framings* are quite focused on individualistic perspective. In the analysed media material there are no representations that the public, by citizenship activities, can change the textile industry. There are subtle framings of being a good person and that this would be beneficial for the world in general through people's lifestyle choices rather than consumption choices. The framing of the consumer is also absent but it is easy to find the idea of the market and the necessity of it for welfare. For example, being socially aware is something that should affect purchasing choices but it should not impact people's lives as such. A final framing found is that textiles are essential. They are needed both for basic needs but also in order to create identities. And this identity can

coincide with more sustainable everyday practices and also with putting opinions on display – a framing of the citizen-consumer.

Absent framings in the case of chemical risks of textiles are other chemicals than those highlighted by product investigations targeting specific chemicals. It is not clear why the chemicals that are visible in the media are in focus. Is it because they are especially prominent or because they are particularly hazardous? A report has found that over three kilograms of chemicals are used to produce a kilogram of cotton (for a T-shirt) and nonylphenol ethoxylate (which is one of the prominently covered chemicals in the analysed material) is number 15 on the list of most used chemicals over a T-shirt's lifecycle (Swerea, 2009). Hence, the reasons why these chemicals are in focus and not others are less than clear.

There is also a heavy focus on cotton as material and not on other textile materials. Synthetic fibres predominantly carry a chemical burden and these are not often visible in framings in media.

An absent procedural framing is the small focus on what the state can do to prevent chemical risks of textiles. For example, there are no discussions about a possible harmonised EU directive on textiles. And there is little focus on the role of legislation in providing safe products. Instead textiles have arguably come into focus as a result of REACH, which, to some extent, regulates these products without product directives aimed at them. One reasonable question could be whether this is enough to reduce the chemical content of textiles.

Three framings that stand out for the chemical risks of textiles will finalise this conclusion.

One remedy for the global problems that is frequently suggested in the investigated media material is that consumers should buy eco-labelled textiles. That there is no harmonised certification for organic cotton or that not all labels are comprehensive in their requirements, for example, is then rarely problematised. Buying approved goods is framed as a way to change society. A framing commonly used is: If *we* do not buy it *they* will not produce it and hence it is a citizen's duty to demand benign products that can be consumed. Environmental risks are transformed to problems of production and consumption (Shaw, Newholm, & Dickinson, 2006). A consumer *only* has to think about what he buys and subsequently his shopping decisions will have a political impact – which is a very restricted view of citizenship. Thus, the change towards more sustainable textiles is put on the market and especially on the consumer, who is supposed to know enough about the chemical risks of textiles to make wise choices. For industry the responsibility lies in knowing and controlling the information flow regarding the chemical content of their products. This is difficult in most global value chains and perhaps even more difficult in the case of textiles where

the production of cotton, the main focus of this discussion, from plant to garment is virtually impossible to trace.

One prominent feature when discussing the chemical risks of textiles in the analysed media is the mixing of levels. For example, aspects of specific and general, individual and aggregated, and health and environment risks are mixed in the same articles. The scientific basis for risk judgements is quite often visible in discussions of what poses a risk and what are the health or environmental effects. In addition, threshold values are often included in the coverage of risk, but in addition to when something is "safe", threshold values are also utilised to demonstrate the unorganised management of risk. Risk claims and positions are often polarised against each other. These positions may be contradictory, but not necessarily relying on definitions of hazards or risk. It may thus make it more difficult to define the risks since the media coverage could seem confused and unspecific. There thus appear to be difficulties in balancing framings of claims/understandings of the chemicals behind the risk; this also means that the definitions of risks are under constant questioning.

The risk perspectives seen in the framings are quite diverse in that the framings also include global perspectives and a rather diverse set of actors. Even so, the majority of the framings represent implications from a Swedish perspective. Since there is very little textile manufacturing in Sweden the risks are thus mainly framed for the consumer and/or user and for the health rather than for the environment. This also means that it is the actual content of the garment or textile that is under discussion. Chemicals in the final product are thus framed as health risks to the individual wearing or using (and occasionally working with) the textile. Chemical risks at other locations or for other objects of risk are thus in relatively little focus.

8 The chemical risks of toys

The modern history of toys started with the second industrialisation and urbanisation in the mid nineteenth century (Lönnqvist & Silvander, 1999). Toys have of course always existed but few have been preserved, because of the material they were made of and their lack of status in society. There is also a discussion of what toys say about a society, as they represent the adults in it rather than the children. Toys can thus be seen to function as socialising and educational artefacts but also represent a view of society at large (Brown K. D., 1996; Lönnqvist & Silvander, 1999).

The industrial revolution enabled the toy industry in two ways. First, it granted more people the income to buy toys for their children (Lönnqvist & Silvander, 1999) (even if it is disputed whether all children really had toys or even played at all, see Brown K. D., 1996). Second, the increasing mechanisation, especially of the steel industry, reduced the prices of toys (Brown K. D., 1996). But the industrial revolution also introduced risks in connection with toy manufacturing. The initial focus was on working conditions, wages and child labour (Brown K. D., 1996), very much as for any other industry at this stage.

The toy industry in Europe was mainly based on steel and fine mechanics, which means that the introduction of plastics in the 1950s was one of the triggers for the restructuring of the toy industry that took place over the following decades (Brown K. D., 1996). Globalised production patterns, new materials (including electronic toys) and short product life cycles are therefore characteristics of today's global toy market. Today, most toys are manufactured in South-East Asia, are made of plastic, and sold under known brands such as Mattel and Hasbro (EU Market Survey, 2005). Even so, risks have not in general focused on effects in countries of production; the vast majority relate to the safety of toys for children. In the EU this finds expression in the Toys Safety Directive, which was first implemented in 1988, focusing on the physical safety of products *intended* as toys. This was replaced some twenty years later, and to be fully implemented by July 2013, with an increased focus on the chemical risks of

toys (Becker, Edwards, & Massey, 2010).[37] The risks of toys may thus to a greater extent be viewed as chemical in the near future.

This chapter analyses media articles that cover the chemical risks of toys. As described in Chapter 6.2 key word searches were made in online databases, yielding articles that covered the chemical risks of toys. The sample was subsequently reduced and the selected sample analysed. Articles, or parts of articles, were identified and attributed to *a priori* defined categories of substantive, procedural and citizen-consumer framings depending on the main impression. Substantive framings have their point of departure in knowledge claims and experiences as a basis for risk judgements. Procedural framings focus on the causes, effects and solutions at a societal level. Finally, citizen-consumer framing includes discussions of the public in relation to risk issues. Within the substantive, procedural and citizen-consumer framing categories, *in vivo* categories have emerged from the empirical material. The analytical themes are thus drawn from the material. The analysis is therefore conducted via abduction in order to situate the empirical material in a broader context. In the analysis quotations from and references to the empirical material are therefore related to theory and to other empirical settings.

First in this chapter is a section describing the media coverage of the chemical risks of toys. The subsequent three sections analyse the media material and highlight topics and issues corresponding to substantive, procedural and citizen-consumer framings respectively. The final section summarises and concludes the analysis and the case.

8.1 Media coverage

As said above toys have for a few decades been evaluated and restricted due to risk claims. Examples include the regulation of small loose parts or noise levels through the Toys Safety Directive. More recently, however, the chemical content of toys has been in focus. The presence of, for example, toxic or hormone-disrupting chemicals in toys has been brought to people's attention, manifesting very different risks from the ones already in focus. The chemical risks of toys are thus increasingly regulated by the implementation of the new Toys Safety Directive that also rules that articles do not only have to be intended as toys to be subject to legislation. Because toys are a highly regulated product group the procedural framings ought to be in focus,

[37] http://ec.europa.eu/enterprise/sectors/toys/documents/directives/index_en.htm, accessed 13 February 2013.

meaning that it is an interesting case to analyse due to a (perceived) high degree of governance. In addition, everything related to children is seen as particularly relevant in society and therefore quite a large coverage of the chemical risks of toys can be expected.

For the case of toys 194 articles were gathered that concerned chemical risks (Figure 8 below). One hundred and four of these were selected for a qualitative analysis (see Table 3). This section introduces the media coverage of the chemical risks of toys.

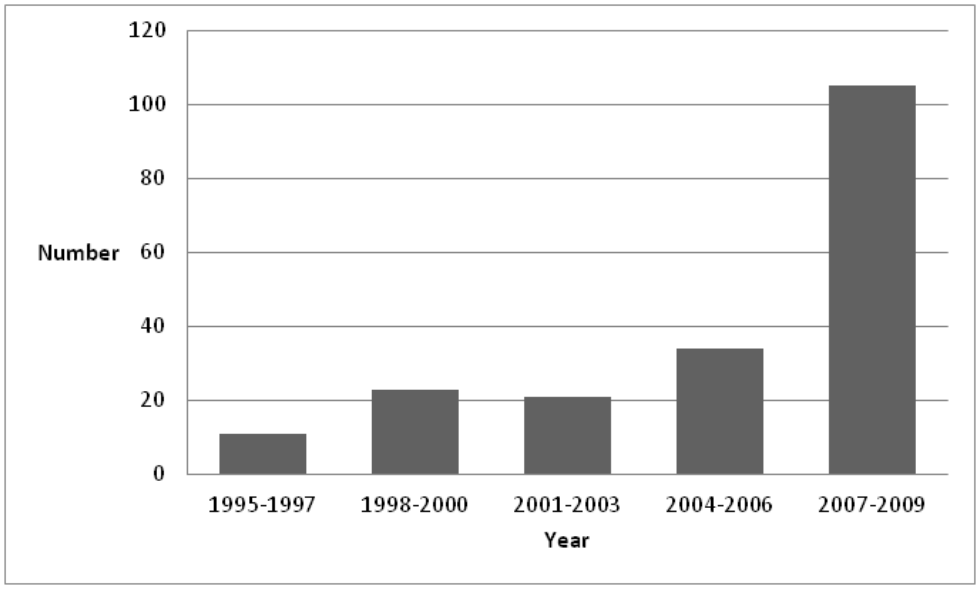

Figure 8 Media coverage of chemical risks of toys, 1995-2009

The distribution of the total sample (194 articles) over the analysed period is visible in Figure 8 above. It shows that media coverage of chemical risks of toys started to increase in the late 2000s, although there was a small, yet consistent, focus before the increase as well. The large increase in articles starting in 2007 corresponds to the toy company Mattel's product recalls. Since then, the general coverage of chemicals in toys seems to have persisted.

Table 3 Distribution of selected toys articles, 1995-2009

	Year															
	95	*96*	*97*	*98*	*99*	*00*	*01*	*02*	*03*	*04*	*05*	*06*	*07*	*08*	*09*	*Σ*
Articles used	1		4	4	5	5	3	5	1	10	4	4	22	20	16	104

Table 3 shows the selected sample specified per year. The same tendency as in Figure 8 is visible in the table, with a high increase in the number of analysed articles from 2007. Before that, the number of articles is a handful per year with a few exceptions – for example, there is only one article in 2003 and none at all in 1996.

The coverage during the 1990s was dominated by phthalates and the potentially harmful properties they have. The first event reported on was a campaign launched by Greenpeace that used the visual image of Barbie dolls to highlight that plastic toys in general contain harmful chemicals. The Danish and Swedish Environmental Authorities were put forward as pushing the development towards safer toys. The media focus was subsequently on the political and scientific discussions over the following years. In the media it was suggested that the industry resisted legislation. In the early 2000s there was a new focus in the media on the scientific claims of the risks of phthalates and the associated risks of toys. By the mid 2000s the legislation became more stringent but the media still focused on how legislation fails to come to terms with the problem of phthalates in toys.

Articles concerning more general aspects of the chemical risks of toys started emerging in the early 2000s. The first articles from these years were a result of a focus on the chemicals present in people's and children's everyday lives. For the remainder of the 2000s it was mainly different product investigations by different actors that triggered media coverage. Supervision projects executed by the state (predominantly Sweden and Denmark), consumer organisations and eventually political parties were given media space as they found illegal or unsuitable substances in children's toys every time. Procedural aspects, such as the legal classification of products or an insufficient labelling system, were discussed in media, as were the revision of the toys directive and other means of legislation at the EU level.

Two topics in the media material are of particular prominence. They caused news waves that dominated the media for an extended period, and become useful for framing analysis, since it creates a definition of social problems (Vasterman, 2005). The first topic is the problems the toy brand Mattel had with lead paint used on some toys. The lead scandal thus makes an interesting topic to analyse and the interested reader can turn to Appendix B for a presentation of the Mattel toy scandal at the end of 2007. The second topic, phthalates, as described above, is a group of softeners in plastic that are very common in children's toys and articles. This topic has been seen

in media over the full course of the analysed material, although coverage has decreased as legislation has been implemented.

In the 2000s citizens-consumer framings also became visible in the media material. The discussions are mainly about difficulties in making consumer demands due to a lack of knowledge and a toothless labelling system. But there are also claims that toys should be safe in themselves. The citizen dimension of the right to safe toys is prominent. During 2008 and 2009, the elections to the EU parliament was in focus. This election included nominating individual representatives in addition to choosing a political party. Hence, there was a great focus on the past achievements and future ambitions of individual politicians.

Also interesting for this analysis is what type of news, opinion and feature articles are included in the analysis. Table 4 below shows the distribution of article type in the selected sample. The implications of the distribution will be discussed in Chapters 10 and 11.

Table 4 Distribution of selected toys articles per article type

	Type of article			
	News	*Opinion*	*Feature*	*Σ*
Number of articles	81	16	7	104

The majority of articles in the case of toys are news stories. There could be several reasons for this. One is that anything that can harm a child qualifies, according to the media logic, as news. Another is that there have long been regulatory and legal mechanisms in place to guarantee the safety of toys, even if they have not been directly aimed at the chemical content. This means that the perceived need of individual action against the chemical content of toys might be regarded as low. A third reason may be that media coverage of toys come about as a reaction to an event – such as a product recall or a product test – and hence qualifies as news. Although focused on news, other types of articles contribute to the public discussion of the chemical risks of toys. Opinion material is especially present in the coverage of the chemical risks of toys, indicating that it is a political topic.

Some aspects of the coverage of chemical risks of toys will be analysed below in four sections, starting with substantive framings.

8.2 Substantive framings

Substantive framings include what knowledge claims and experiences (scientific or non-scientific) are visible in the media as a basis for risk judgements. For the case of toys there is a narrow focus on a few aspects in the analysed material suggesting that it is mainly who the product containing hazardous chemicals is intended for that influences how it is covered in the media, but also what scientific and public status a chemical has. The analytical themes that will be analysed in this section are as follows (for the selection see 6.2). *Contrasting risk descriptions – lead and phthalates* analyses how two chemicals in toys are represented in the media and suggests why they differ. *Who and what is at risk – the special status of children* analyses the level and type of risk description that is visible and how one group in society is exclusively held up as the ones at risk. Finally, *Modern toys – new and different risks* analyses how chemical risks of toys are suggested to be a modern occurrence.

8.2.1 Contrasting risk descriptions – lead and phthalates

Risks are treated differently in terms of topics that are brought to light and issues that are focused on (Cottle, 1998). Some receive a fair amount of substantive attention, with space being dedicated to what constitutes the risk and why. For other chemicals, the risk in itself – but also aspects such as dose or exposure – is left untold and perhaps procedural framings are more visible. This discrepancy is not necessarily due to the possible severity or seriousness of the risk as identified by experts or environmental organisations, for example (Hansen, 1991; Anderson, 2010). Instead it can be based on other factors such as what is considered a salient issue (Nelkin, 1995), what emphasis the dominant framing has (Schäfer, 2008), who is allowed to have a voice in constructing the framing (Lidskog, 1996; Chong & Druckman, 2007b) and how the framing evolves over time (Chong & Druckman, 2007b), to mention a few aspects. This is exemplified below using coverage of the presence of lead and phthalates in toys, and how they differ, as examples.

Lead in toys as a non-described risk

When analysing the media material on the topic of lead in toys it is difficult to find descriptions of the health and environmental risks of lead. These could be expected since aspects of chemical risks such as mechanisms of exposure and effects are usually part of the news (Pan & Kosicki, 1993). But the lack of coverage of substantive content of lead has been found in previous research as well, where newspaper coverage

in terms of health effects, exposure and abatement methods was weak (Brittle & Zint, 2003).

Even though the investigated media material draws attention to that it is toxic to be exposed to lead, there is rarely any mention of what happens when an individual is exposed to lead or how much lead is hazardous. The articles generalise risks such as that lead is "toxic" or a "major health hazard". In one article it is even claimed to be "lethal" for children to suck on a doll with high concentrations of lead in the inside weldings – which is not necessarily even a risk if there is no exposure to the weldings. The exposure route is the one thing that in general is specified as ingestion and then as children putting toys in their mouths.

In respect of the Mattel toy recalls I have only found a few articles even mentioning more precise risk effects of children's exposure to lead. The quotation below is one of the few examples where these risks are discussed. A risk assessor at the Swedish Chemical Agency is interviewed with the particular aim of finding out what the risk alarm is about. The article covers toys cars that were painted with lead paint and the risks of exposure.

> "The problem with lead is that it damages the brain's development. It simply affects the mental development of our children. So it's very inappropriate to expose children to lead and that is why lead is prohibited in toys," says Katarina Lundberg, who are a risk assessor at the Swedish Chemical Agency.
>
> But how worried should I as a parent be about the lead scare?
>
> "I do not think you need to be overly worried, especially if the toy is not broken. But to be sure of avoiding exposure, you should return the toys to where you purchased them."
>
> Who is most vulnerable?
>
> "It is the very youngest children. The brain's development is the most rapid then. Small children often put toys in their mouths and suck on them and that makes the very young a high-risk group." (Vidlund, S. (2007, 6 September). Hotet mot barnen. *Aftonbladet*.)

The mental development of children, said to be at risk above, is just one way in which lead is hazardous. Other ways lead can be harmful are by physical effects (e.g. hearing impairment), behavioural effects (e.g. ADHD) or death (Brittle & Zint, 2003). There may be a few reasons why only one risk, i.e. mental impairment, is focused on. It could be considered the most important risk, if it is the one that is most likely to manifest itself. It is also likely to be a condition that resonates with the audience

(Hughes, Kitzinger, & Murdock, 2006). Another reason for the media focus on mental development is that attention from the audience can be expected because of what is historically known about the effects of lead paint on professionals. This is something the audience can recall (Hughes, Kitzinger, & Murdock, 2006; Scheufele & Tewksbury, 2007). Finally, it could also be the risk that is most easily put within the context of the article. To discuss a chemical cause of behavioural disorders may be seen as a controversial topic in itself that could move the focus from the manifestations of risk to more general discussions about the actual existence of risk. This has been seen in the case of the long societal debate about the risks of the measles, mumps and rubella vaccine, where some have argued that the public focus on one risk, autism, effectively reduced other risks such as loss of herd immunity (Burgess, Burgess, & Leask, 2006; Smith, Yarwood, & Salisbury, 2007). Since the link between autism and the vaccine was controversial, in effect, the discussion came eventually to focus on the very existence of risk instead (Hughes, Kitzinger, & Murdock, 2006).

It is suggested in the quotation above that parents do not have to worry too much about lead-painted toys. This is because the lead is chemically bound to the paint and ingestion is unlikely unless the paint peels. But the risk assessor in the article also suggests that, to be on the safe side, the toy should be returned to the store. Thus, parents should not ignore the risk but need not to be particularly concerned about it. This indicates that the perceived risks and the actual risk can differ (Kasperson et al., 1988). But it also highlights a need to take people's concerns seriously (Klinke & Renn, 2010). The two related phenomena can be explained by how social factors shape the perception of risk, with some risks being highlighted to the detriment of others. The amplification process can take place at several stages and places, the media being one such "station" (Kasperson et al., 1988). In this case, another amplification process could be that lead has a long tradition of being singled out as a risky substance and that the public's collective and individual memory therefore informs that lead is hazardous (cf. Egan Sjölander, Wolanik Boström, & Ögren, 2010).

Phthalates in toys as a contradictory risk

The analysed media material on the risks of phthalates in toys is usually quite specific in the problem framing, especially in the late 1990s and early 2000s. Often the political and scientific processes of risk governance are in focus and not always the issue of the risk in itself, indicating that the risks of phthalates can be governed – or at least be perceived as if they can. In this section, however, I will focus on the substantive coverage of phthalates that is visible in the analysed media material.

In the analysed material there is also extensive coverage of the scientific aspects of the risk of phthalates. In part this is due to the recurrent use of infoboxes, often

originating from news agencies, meaning that the same text is printed in several articles. But the media also produce their own coverage of phthalates. The quotation below, taken from an article about a bathing toy test, illustrates this.

> Phthalates in PVC and other things is suspected of being carcinogenic, hormone-disrupting and impairing the ability to have children. The dangerous substances are released and transmitted through saliva when the child sucks on soft plastic toys for long periods of time. (Lindström, P O. (2002, 13 June). Giftiga ämnen i badleksaker. *GöteborgsPosten*.)

In the media coverage on phthalates in toys, substantive aspects important to risk, such as threshold values, dosage, and specifications of which phthalates are discussed most, are often missing. At times phthalates are even treated as one chemical instead of as a group of chemicals. This may be problematic since some phthalates are forbidden but some are merely restricted, using threshold values in certain applications while others are still not restricted at all. There is little discussion about threshold values for phthalates in toys even if, at times, exposure or dosage is mentioned but still in an unspecified way. The quotation below is taken from an article discussing the dangers for children (the article highlights phthalates as particularly dangerous) in their homes, originating from a Danish report on chemicals in children's everyday lives.

> It is enough to be exposed to high levels of endocrine-disrupting substances a couple of times for it to be a serious risk for a two-year-old, the researchers write in the report. (Stengård, M. (2009, 20 November). Barn får i sig en cocktail av gifter. *Aftonbladet*.)

The quotation above, and similar phrasings seen in the analysed media material, can perhaps create more questions than it answers. What are high levels? Are there high levels of endocrine disrupters in children's toys or in homes? How are they avoided? Hence, it is not very successful at representing substantive aspects of risk as it does not aid in the understanding of the risk or what could be done to avoid it. But it could be seen as a contribution to creating awareness of the general risk of endocrine disrupters (i.e. phthalates). To some degree, the coverage of phthalates in toys can thus be viewed as part of agenda setting and priming rather than framing, as the articles suggest what to think about rather than how to think about it (Scheufele & Tewksbury, 2007). The topic becomes more accessible because of media coverage of it (Tewksbury & Scheufele, 2008), but since the structures of meaning and relationship of risks are not yet solidified it can be argued that the topic for the analysed time-period not yet is subject to framings (Reese, 2007). As seen in the analysis above, the risks of phthalates are often rather unspecified in terms of exposure/dosage, threshold levels and what phthalate the risk relates to. One reason for this lack of specificity could be that there simply is a lack of substantive knowledge

about these matters among experts and/or politicians (Schettler, 2006). A question could be what it means for the audience when this type of uncertainty is visible in media. Some would argue that it is not a very good communication strategy as it allows for the neglect of risk (cf. Hargreaves & Ferguson, 2000), and others would say that it contributes to the perception of dread, meaning that the risk, for example, is seen as dangerous to future generations and uncontrollable (cf. Boholm, 1998). However, some would say that the audience has the capacity to digest this type of information as well, since uncertainty is part of any effort to communicate risk (Johnson & Slovic, 1998) and the public is used to this (Ideland, 2002a).

Differences in the substantive coverage of lead and phthalates in toys

As regards toys, it is interesting to note that lead and phthalates have not been treated similarly in the media. Is there something about the actual chemical, and people's perceived knowledge about it, that can account for the differences? What implications do procedural aspects have for the substantive framings of lead and phthalates?

One reason why lead is not often substantively framed could be that there is a belief about a common knowledge that lead poses a risk to humans (cf. Szaz, 2007; Egan Sjölander, Wolanik Boström, & Ögren, 2010). Perhaps the understandings of the risk of lead as taken for granted could be due to the discussions in the 1970s and 1980s in Sweden, and globally, about the risks of lead (cf. Brittle & Zint, 2003). That there is a public debate, however, does not necessarily mean that people are concerned about the risk or think it affects them (Brittle & Zint, 2003). It has repeatedly been shown that human responses to risk are, perhaps more than expert estimates of risk, determined by other factors, such as prior knowledge of the risk or associations aroused by it (Kasperson et al., 1988; Slovic, 1999; Renn, 2004). Whether or not these factors attenuate or intensify the perception of risk depends on their combined effects (Kasperson et al., 1988). For the case of toys with lead paint, the perception of risk can then be based both on what people already know about lead (since there is little substantive coverage) and on whether they believe that the risk is relevant to them.

Lead is one of the heavy metals with the highest political salience in Sweden. The long tradition of risk regulation of lead means that there is plenty of scientific knowledge about the risk as well as both scientific and political experts on the topic. There is thus likely to be sufficient substantive knowledge about the risks of lead among scientists/experts and politicians. Politically, however, this discussion is still being held, as no general ban is in place, for example, at the EU level, and Sweden is

working actively to prohibit or limit lead in products.[38] Therefore the existence of lead in toys, even if it is not a major health hazard considering the individual child's play, still provides an example of a great societal risk. It is a political failure if lead is present in toys. But perhaps this is also the main reason why there are few substantive framings of the risks of lead. Framings on already established societal issues are less efficient (Chong & Druckman, 2007a). Considering the political discussion surrounding the risks of lead, based on that the risks are well established, substantive coverage is seen as less needed.

The risk of phthalates is a topic that has been continuously discussed from a health perspective since the mid-nineties (Iles, 2007). This is not as long as lead has been part of the public debate but long enough to create awareness of the risks via repeated exposure of risk claims (Chong & Druckman, 2007a). However, there are recurrent patterns of including scientific aspects of risks meaning that the public knowledge of the risks of phthalates does not seem to be taken for granted (Tewksbury & Scheufele, 2008). It could be a possibility that when the risk information is complex and even partial or contradictory, it becomes harder for the public to embrace the substantive information. The information about phthalates would then require digestion, processing and sorting (cf. Renn, 2005b) at the same time as the risks of phthalates compete with other risks fighting for the public's attention (Hillgartner & Bosk, 1988). The cognitive availability of risk is thus important for the general awareness of it (Chong & Druckman, 2007a), meaning that repetition of risk claims is important, especially for more complex risks.

Another complicating factor for the public awareness of phthalates as harmful components of plastic is that everyone (at least in the Western world) is surrounded by soft plastics. What distinguishes a risky soft plastic toy from a safe plastic bag? It is difficult to make lay risk assessments since the products appear the same (Darby & Karni, 1973; Renn, 2005). In addition, the chemical names of these phthalates may not signify anything (Tyshenko, Phillips, Mehta, Poirier, & Leiss, 2008). They are probably not part of people's vocabulary or directory of risks – it is not a "household name" (Szaz, 2007). The names of the toxic phthalates do not resonate with people's prior knowledge of the risks of plastics – making risk awareness more difficult (Slovic, 1999). However, there are distinctions that can be made. Legislatively, only some phthalates have been identified and regulated as risky. Also, some of the EU-regulated phthalates are only prohibited or restricted in defined applications, indicating that some phthalates are risky only in certain circumstances, and furthermore some

[38] See http://kemi.se/Innehall/Fragor-i-fokus/Bly-i-varor/, accessed 7 February 2013, where lead in products is an issue in focus.

phthalates are assessed as not posing a risk at all (cf. Eklund & Karlsson, 2010). That means that *some* phthalates would need to be substantively covered as risky – DEHP and DBP, for example. The problems with risk definitions and boundaries, and a complex risk situation, could be an obstacle to the communication of risk (Tyshenko, Phillips, Mehta, Poirier, & Leiss, 2008; Klinke & Renn, 2010).

Finally, there is also a similarity in the substantive framings of lead and phthalates – both are relatively weak. However, they are weak for very different reasons. Lead is not substantively covered because of an assumption of public knowledge about the risk and because the risk is procedurally managed (via scientific consensus). Phthalates, on the other hand, are not substantively framed because there is a lack of knowledge and because the issue is more complex both for individuals and for experts/politicians.

8.2.2 Who and what is at risk – the special status of children

There is a very strong, permanently underlying, pattern in the analysed media material that children constitute a particular group in society that deserves special attention and protection, which taints virtually all media discourse on the chemical risks of toys. Through their behaviour with toys, the way they investigate the world via their mouth and also by being small – they are closer to the ground – they are more exposed to risk. It then functions as a master frame that acts as a dominant and persistent precondition for how topics or issues are viewed and sets the conditions for any other framing visible in media (Benford & Snow, 2000; Reese, 2003; Tewksbury & Scheufele, 2008). This framing is so powerful that it only needs to be implicit in the text (Van Gorp, 2007).

In the analysed media material a claim sometimes seen is that certain risks are viewed as not only natural but also crucial for a child to develop life skills. Children, almost by definition, are thus subject to some risks. However, these risks stand in stark contrast to risks that are not crucial to the child's development, that can pose lasting harm and that they are exposed to rather than actively engaging in. According to Scott, Jackson, & Backet-Milburn (1998), it is a general view that children are vulnerable, that adults are responsible for them and that children do not have the power or ability themselves to express concerns or needs related to dangers. It is however a question beyond debate to protect children from manufactured risks – albeit according to adult logics. Park (2007) extends this by arguing that childhood is seen as a protected space that is separated from the adult world. This view is also endorsed by the natural sciences that identify children as special regarding toxic chemicals because of their heightened sensitivity (Stone & Delistraty, 2010) and by authorities that grant children particular attention (see Scott, Jackson, & Backet-Milburn, 1998 for illustrative examples). The focus on the risk for children also agrees

well with what is known about how people value risks that are geographically and emotionally closer as more important than distant ones (e.g. children) (Scott, Jackson, & Backet-Milburn, 1998; Hughes, Kitzinger, & Murdock, 2006; Olofsson & Öhman, 2007). Hence, the perspective on children and the chemical risks of their toys very much follow experts and the scientific view of children at risk as well as a public consensus on the special status of children.

The quotation below identifies children as extra sensitive and more exposed to chemicals than adults. This view is expressed by a Member of Parliament representing the Social Democratic Party in a debate article about the political necessity of coming to terms with the chemical risks of toys. The quotation connects the image of the vulnerable child to everyday activities and thus brings the risk close to home.

> It is unfortunately so that our children are most vulnerable to the environmental impact that we allow ourselves. It is the small person who sits at the same level as car exhausts, who sucks on the rubber duck, plasticised with environmentally toxic phthalates, and climbing furniture containing toxic brominated flame-retardants. (Nilsson, C. (2004, 30 July). Barnens hälsa viktigast i miljöarbetet. *Helsingborgs Dagblad*.)

This isolation of the child not as one at risk but as *the* group at risk goes beyond the rhetoric of toys aimed for children. It is interesting to ask what this demarcation of the group of "children" means for other groups in society. This will be discussed below, first in terms of who is included in the group of children and second whether safety actually is created. That every act of inclusion also entails acts of exclusions is visible in this discussion (Nyers, 2009). By creating safety for some, unsafety is created for others.

One interesting example of the creation of being safe that arises from the example above is that the concept of children is left undefined (see a similar problem for the concept of youth in Wall, 2009). Who is a member of the group of "children"? The legal definition of a child in Sweden is someone that is under 18 years of age but at that stage they do not have to be protected against chemicals in toys. So, what children are referred to when the heightened sensitivity is discussed or the risks that they are passively exposed to? It is the younger children that are seen as exposed to the largest risks in the analysed material. There is a recurrent pattern of children as the ones who play with everything, subject to risks to which others (parents predominantly) expose them, and most vulnerable and sensitive to chemical exposure. This is also seen in the official or scientific sources visible in the analysed material, which generally discuss heightened chemical sensitivity from the prenatal stage until

children are a few years old.[39] This is relevant also according to scientific research – the youngest children are most sensitive to adverse chemical effects for a number of reasons, including higher metabolism and rapid growth and development. Certain legislation is also targeted at children under three, as this is the age when children are claimed to stop putting things in their mouths (Becker, Edwards, & Massey, 2010). Generally, though, the age of children at risk is left undefined, perhaps because "children" is a concept on which there is supposed to be very strong social agreement about what it means (Scott, Jackson, & Backet-Milburn, 1998). Therefore young children are utilised to claim who is at risk (cf. Hughes, Kitzinger, & Murdock, 2006). But this age limit is not sufficient, as is obvious in the case of the Mattel recalls, where toys were recalled that targeted older children than that. So, the practical upper age limit of the concept of "children" when discussing the chemical risks of toys seem to be the age when they stop playing with toys. This age is suggested to be around ten, with individual variations (Almqvist, 1991). In the new EU Toys Directive this is acknowledged by aiming at toys for children under the age of fourteen.[40] This is not explicit in the media material, which limits the use of "children" to focus instead on the very young and pre-school children.

Apart from that age defines who is a child and how this affects the way risks are handled – and thus safety constructed – other perspectives are that these risks could be a question of "toys" rather than "children". One can think of several groups in society that come into contact, or even play, with toys on a regular basis. For example, other people in Sweden that are exposed to the chemical content of toys, such as retailers, care-givers, parents or waste workers are not once mentioned as objects of risk in the analysed media material. Not even the chemical risks for workers in the countries of production are mentioned – if risks for workers are discussed the focus is on working hours and pay. That the risks for these people are not discussed, not even for work-related issues that have legislative support, is explained by the master frame that dominates all discourse in media (Benford & Snow, 2000; Van Gorp, 2007; Tewksbury & Scheufele, 2008). Thus the master frame of the children totally dominate the media coverage reducing all other perspectives in the analysed material.

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[39] See for example http://www.kemi.se/Documents/Publikationer/Trycksaker/Rapporter/Rapport1_07_Barn_och_kemiska_halsorisker.pdf, accessed 7 February 2013.

[40] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:170:0001:0037:SV:PDF, accessed 7 February 2013.

One final interesting note that will be discussed more in a later section but brought up here is that toys are *not* safe. The labelling system is toothless, the Toys Directive obsolete and the EU legislation system concerning products ineffective. This stands in very stark contrast to the framings of children as protected by definition and the holders of a special status in society. This contradiction will be seen throughout the analysis below in terms of the labelling system, the legislation and also the citizen's right to a safe market. Another aspect, the risk modern toys impose, will be discussed below.

8.2.3 Modern toys – new and different risks

In certain media coverage, the joint impact of several chemicals in toys is acknowledged. Accordingly, a single chemical substance or toy does not pose a threat to a child – rather it is the aggregate exposure that constitutes the risk. This is a position also held by the international secretary of the Swedish Consumer's Association. He is quoted as a result of a test of 80 toys from ten countries, where the toys were selected on the basis of popularity and reasonable price.

> "It's surprising how many toys in the investigation contained hazardous and inappropriate substances, but that is what it looks like. Children today are surrounded by hundreds of toys and that also contributes to the overall exposure to environmental poisons. It is perhaps not an individual toy that is dangerous to your child but the whole range of dangerous chemicals in many toys," says Jens Henriksson. (Svensson, P. (2004, 13 November). Leksaker för barn innehöll farliga kemikalier. *GöteborgsPosten*.)

The abundance of toys in people's homes and daily lives are thus described in the media material as a giant experiment. The problem of toys is particularly salient as children play with so many of them – at the same time as children are implicitly suggested to be powerless when choosing them in the analysed media material.[41] The objects of risk are thus not the ones creating it (Beck, 1992). Some of the problems with chemicals in toys is that they are difficult to control as the content of the toy is by no means certain and since measures to control them may be insufficient. This is confirmed by market inspections that often detect prohibited chemicals in toys (Becker, Edwards, & Massey, 2010). Threshold values that can be set to manage

[41] This is an oversimplification of children's rationality as they are active, albeit constrained, in their own lives (Scott, Jackson, & Backet-Milburn, 1998). Apart from the very young, children have great influence on what toys (and other things) are bought and played with (Hogan, 2007).

chemical exposure may not be sufficient since they cannot fully account for the aggregation of exposure (cf. Schenk, 2010). Further, cocktail effects are the result of the combined effect of chemicals and are thus difficult to assess since the possible combinations are indefinite (Greim, 2010). The abundance of toys, and the lack of knowledge about what is in them, means that the risks are difficult, if not impossible, to control.

The unnatural status of children's toys is highlighted in an article with the headline "Joel's binoculars escape EU legislation".[42] In it, children's imagination in creating their own toys and playing games is discussed and opposed to the procedures that surround (un)safe manufactured toys. The failure of the existing Toys Safety Directive is opposed to the new Directive that is to be implemented by 2013. But the bulk of the text is devoted to Joel and his imagination when playing and making his own toys. Hence there is a somewhat romantic notion of the way it used to be – the good old days are contrasted against modern times (Beck, Bonss, & Lau, 2003; Spaargaren & Mol, 2008). The imagination and creativity of a child are contrasted with the highly regulated toy legislation that controls every risk from packaging to the chemical content.

In contradistinction to home-made and "safe" wooden toys (even if there have been recalls of wooden toys as well), plastic toys are usually pointed out as troublesome in the analysed media material (cf. Mulder, 1998). Dolls of different shapes and sizes, baby toys made of plastic, bathing toys, toy cars, crayons or toy jewellery are often used as examples of risky toys. The toy serves as an illustration of the risk and the risk is thus generalised (gene technology (Öhman, 2002) and the BSE crisis (Adam, 2000) are other instances where this has happened). This means that *all* toys are, in the articles, implicitly (and sometimes also explicitly) suggested as potentially harmful even if there is a focus on plastic toys. The prevalence of plastic toys could be explained by the dominance of phthalates in the media material throughout the analysed period, but also perhaps by the way plastic, as opposed to wood or cotton, is presented as an unnatural, and therefore a more problematic, material in general (cf. Mulder, 1998) – and not only in respect of children's toys. The new materials and the problems they pose, and the abundance of them through modern market-driven processes of globalisation and consumption, mean that both what the toy is made of and the amount of toys children have are claimed to set parameters for risks.

[42] Leijnse, E. (2009, 18 May). Joels kikare slipper EU-krav. *Sydsvenska Dagbladet*.

8.3 Procedural framings

Procedural framings refer to coverage on societal mechanisms in the media as part of the cause, effect and solution of risk. In the case of toys the (chemical) risks are seen as managed – rightly or not. In the media material there are thus tensions visible between the context surrounding toys and mechanisms in place to protect children. The following analytical themes will be analysed in this section (for the selection of analytical themes see section 6.2): *The industry and the state – resisting and enabling change* analyses how firms and retail brands react to propositions about chemicals in their products. *Industrial patterns of globalisation – "Made in China*" analyses what implications globalisation is suggested to have in the case of toys. *Product labels – insufficient and uncontrolled* analyses how (and whether) labels are treated as a control mechanism. Finally, *Legislation on toys – gaps and problems* analyses how the media represent legislation and problems with it

8.3.1 The industry and the state – resisting and enabling change

In the analysed material, it is a common suggestion that the resistance to legislation on toys is substantial. Here, two actors in particular – the (supra-)state and the industry – and the relationship between them will be discussed using the example of legislation on phthalates in toys. In the quotation below, Åsa Westlund (representing the Social Democratic Party), a member of the EU parliament from 2004, is interviewed about consumer rights within the EU. One of her primary areas of concern has been consumer issues.

> "Most people agree that phthalates in toys should be banned. But the industry refuses with the strangest arguments. If phthalates are banned in toys they would be banned here and there where they are needed, in hospitals, for example. That is an argument that does not hold water." (Farm, C. (2009, No. 4). Konsumentfrågor heta i parlamentsvalet. *Råd & Rön*.)

In the quotation above, and in the media material, there is a claimed fear on the part of industry that restrictions will spread to other product groups since phthalates are a very prominent group of chemicals with many applications. Industry is affected by legislation more than most other actors (cf. Fransson, 2012) and often claims to have

to bear the cost of environmental legislation (cf. Brown J. V., 2003).[43] It could thus be argued that they have a justified fear in that restrictions could both spread (Heyvaert, 2010) and become stricter (Gilek, Eriksson, & Rudén, 2010). This would of course impose costs on industry by enforcing substitution.[44] In addition, legislation can be pre-empted by public concerns that has the potential to impact industry considerably. For example there are national restrictions that go beyond EU legislation on bisphenol A in baby bottles (Brewer & Ley, 2011) or phthalates in toys for children under three (Iles, 2007) that originated in public concern. Thus, industry has to relate to both legislation and to public concern. One way that is recurrently suggested in the analysed material is by heavy lobbying to prevent the restriction and subsequent substitution of phthalates. It is therefore also a reasonable interpretation that industry resists legislation for purely economic reasons (Brown J. V., 2003).

The conservative streak of the (supra-)state is visible in the analysed media material where there is a recurrent suggestion that the EU is close to industry and rarely proactive when it comes to legislation. This is seen, for example, when the media cover the new Toy Safety Directive that will replace the old directive after 20 years of use, but where the work with it is said to not only to have been going on for ten years, but also heavily influenced by industry. Other examples taken from the empirical material concern how the more recent restrictions on phthalates were delayed due to the commission's reluctance to go against industry, and how the commission proposes exceptions to legislation such as that only the parts that come in contact with children should be restricted. So, even if one of the EU's main tasks is to protect its citizens (through regulation of toys for example), another vested interest, as suggested in the media material, is industry. Risk regulation becomes a trade-off between policy areas where the economy is viewed as a protected area driven by production and consumption (Spaargaren & Mol, 2008). Some would then say that the public is the party that most often suffers losses from these policies (Karlsson, 2010).

The state and the industry, however, are not only claimed to be conservative forces in the quest for safer toys. A rather frequent topic in the investigated media material is the suggestion that Sweden is a driving force in the development of safer toys by being a forerunner in both health and environmental issues. An example used in the media material is the ban on toys targeted to children under three that were intended to be put in the mouth was expanded to toys that *could* be put in the mouth. This

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[43] These costs, however, can be seen as "unbearably light" and instead create a competitive advantage (Hollander, 1995).

[44] This is not necessarily negative for the competitiveness of firms as being a forerunner offers advantages as well (Porter & van der Linde, 1995).

widening of legislation was later picked up by the EU (Kemikalieinspektionen, 2005). Certain state authorities are often active in the demand for stricter legislation, in the media material most notably the Swedish Chemical Agency and the Swedish Consumer Agency. Experts, lawyers or other employees at these authorities are, in the analysed material, often reported as asking firms to practise the substitution principle and to be proactive in general. They also call for stricter chemical legislation at the EU level – which was partly realised in 2007 with the implementation of REACH. Also, authorities admit to their own limitations in terms of lacking supervision or the necessity to focus on a few risks at any given time.

In the analysed material there are thus rather simple suggestions of the actors' rationality as "good" or "evil" (Klintman, 2002; 2006). However, industry is not one actor and neither is the EU or Sweden. Each "actor" consists of many different actors and of tensions and conflicts regarding how to handle, in this case, the chemical risks of toys. The tension between the way different risk actors are represented and the variety of their real-life activities means that not only are the actors simplified but cause, blame and solutions are likewise represented as less complex than they are.

8.3.2 Industrial patterns of globalisation – "Made in China"

In the analysed media material it is at times claimed that there are problems with toys that are produced in China. This is with regard to, especially but not only, the Mattel toy recall (see Appendix B). Rapex, an EU alert system for dangerous consumer products, saw more products than ever in 2007, over 1,300, being warned against. Many of them, 400, were toys and the majority of those were imported from China.[45] There is thus a tendency visible in the analysed media material that suggests that products made in China are inferior to other products.

The Chinese view, even while to some extent acknowledging the problem of lead, draws attention to the fact that the majority of the recalled Mattel toys had loose magnets, which was a design flaw originating in the US. This is emphasised in the quotation below, where a member of a Chinese state agency questions the focus on lead paint on toys instead of the loose magnets that constituted the vast majority of the recalled toys.

[45] http://ec.europa.eu/consumers/dyna/rapex/rapex_archives_en.cfm, accessed 13 February 2013.

> According to Li, head of the Agency for Quality Control, Inspection and Quarantine, 85 per cent of the 20 million recalled toys were wrongly designed. "The other 15 per cent were subject to the toxic lead that has been in the news," says Li.
>
> "So I would like to ask this question: the Chinese manufacturers have their share of responsibility, but what kind of responsibility does the US importer and designer have?" he said. (Kina beskyller USA för leksaker. (2007, 28 August). *Hallands Nyheter*.)

A said above, products "made in China" are suggested to be dangerous in the media material. From this it can be easy to conclude that there is something about *China* that makes products inferior, or at least something that happens in China. But looking at it from the perspective of globalisation, what (most of) these products have in common is that they were produced on behalf of someone else for distribution across the globe. A firm (a brand or retailer, for example) has ordered a product that is produced far away from where it is consumed. It is the demand for low-cost production that puts manufacturers under pressure (Becker, Edwards, & Massey, 2010). According to Beck, it was the Western world (he further narrows it down to Europe) that invented modern society and its reliance on globalisation. Therefore, the firms that rely on these mechanisms also are responsible for their effects (Beck, 2001). In this sense, it is pointless to blame risks on that something is "made in China" as this is an effect of an already existing mechanism – globalisation – that creates the risks with products (Spaargaren & Mol, 2008).

When it comes to globalisation, the patterns of responsibility and blame, in the analysed media material, are spread over several actors. The responsibility, also seen in the analysed material, thus not only lies with the brand firm/retailer but is also found at several other levels, some being moral or voluntary responsibilities and others legally binding (cf. Fransson, 2012). Suppliers and contractors (the ones that actually produce the goods) should comply with the specifications of the ordering firm, most often lists of restricted chemicals (Fransson & Molander, 2012) as well as national legislation and also, for example, EU import regulation (Gilbert & Wisner, 2010). The examples of legislation mean that nations, supra-nations and other levels of governance also are responsible for the safety of consumer products through the restrictions they put on chemicals, products or firms (Kemikalieinspektionen, 2005). The consumer can also be seen as responsible for buying safe products by choosing wisely and by demanding better products (Spaargaren & Mol, 2008). The retailers are responsible for what they sell to their customers but also have a second responsibility – as buyers they function as large-scale, and perhaps more influential, consumers themselves (Klintman, Boström, Ekelund, & Lindén, 2008; Fransson, 2012). The responsibility of all these actors is visible in the analysed media material.

Identifying actors instead of a process means that the process and structuring power of globalisation is only mentioned in roundabout terms (Shove & Walker, 2010).

This has been found for other empirical examples as well – Stallings (1990) found that bridge safety was framed mainly in immediate terms rather than focusing on systemic processes. This may imply two things. First, one effect of globalisation, according to Spaargaren and Mol (2008), is that flows of production (among other flows) become the structuring order. This means that states, even if still important, become nodes in a wider network of power of which they are only a part. They also become strategic actors rather than sovereign states because of the perceived dynamics between the state's economy and the global market. Hence, states have a limited ability to influence global processes. Second, when everyone, and thus no one, becomes possible to blame, "organised irresponsibility" occurs where no actors take responsibility. It is always possible to put the blame on someone else (Beck, 2006; MacKendrick, 2011). This is clear in the analysed material where there is a lack of collective responsibility for the chemical risks of toys. One indication of this is that other control mechanisms are put in place. One of them, product labelling, will be discussed below.

8.3.3 Product labels – insufficient and uncontrolled

There has been a shift in national and transnational policies that opens up for other means of impacting the market, for example through product labels that consumers can use as guiding tools for political purchases (Leire & Thidell, 2005; Klintman, Boström, Ekelund, & Lindén, 2008). This section will analyse the labelling of toys as a procedural measure.

Labelling can be voluntary, as expressing something of added value about the product, or mandatory, meaning that by legislation certain information has to be provided to people buying a product (Leire & Thidell, 2005; Klintman, Boström, Ekelund, & Lindén, 2008). In the case of toys no voluntary labelling schemes have been identified in the analysed material[46] but there are plenty of discussions about the CE label, a mandatory EU label. One example of the discussion is visible in the quotation below that comes from a debate article by a politician discussing chemicals in toys and how the public can avoid the risk they pose.

> I then took the opportunity to ask my friends how they reasoned when buying toys? All of them said, "as long as they are sold in toy stores and are CE-labelled, surely there

[46] Apart from one article discussing the absence of labelled toys in shops that will be discussed later.

> is not a problem." (Hedh, A. (2007, 3 December). Var uppmärksam när du köper julklappar till barnen. *Värmlands Folkblad*.)

Unlike many other labels, the CE label is not authorised by third party (Kemikalieinspektionen, 2005).[47] Instead, it is self regulated by that the manufacturer guarantees that the toy fulfils the EU safety requirements so it can be sold on the common market. However, a CE label on a toy is suggested in the analysed material *not* to be a guarantee of its quality since it is alleged that false labels are not uncommon – the label cannot be trusted. Thus, even if labelled it is not clear whether a toy has undergone testing or if it complies with EU legislation (Becker, Edwards, & Massey, 2010). A label's relevance may be lost when it fails to convey some kind of message about a product's appropriateness (Boström & Klintman, 2008). The CE label on toys is thus problematic as its usefulness to the consumer is limited. As a result of this there have been calls for new ways of labelling. In the quotation below, taken from a debate article, two conservative members of the Committee of Civil Affairs discuss safe toys, including an expansion of toy safety labelling.

> Today, warning texts on toys can be very difficult to read. Consumers may need to see the warning texts already when purchasing them and then sometimes also be reminded when the toy is used. Warnings should be visible at purchase and on the toy itself. (Brännström, K.; Avsan, A. (2009, No. 10). "Säkra leksaker – för barnens skull." *Dagens Handel*.)

There are several problems with the issues stated in the quotation above. One is that the roles of the purchaser and the role of the user seem to be blurred. In the case of toys, and especially for the young children, it is the purchaser that buys and reads any warning texts, and the one who actually use the toy will not take any safety recommendations into consideration. Even if a better and more permanent label makes it easier to consult it, it also means that the supervising role of the parent is reinforced. But also, perhaps more fundamentally, the warning text does not make the toy safe but may make the *use* of the toy safe(r) (cf. Scott Dutcher, 2006). Thus, the *security* may be increased (Marcuse, 2006). That it is not only problematic labels but an insufficient EU Toys Safety Directive that may bring about unsafety will be discussed in the following section.

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[47] This is true for toys but other product groups, for example electrical products or safety equipment, must be certified and tested by a third party. Many products aimed for children are also not affected by the CE label, prams, beds and soothers are examples of that. In addition to the CE label are toys supposed to be labelled according to the EU Toys Safety Directive, for example indicating the age the toy is intended for.

8.3.4 Legislation on toys – gaps and problems

As suggested above there is a rather abstract view of a general protection of children present in the media material. This view co-exists with objections to the legislation on toys that is put in place to protect children. This corresponds to a tension between perceived risks and the governance of them as identified by, for example, Beck and Giddens. There seem to be problems with chemical legislation and issues of risks that legislation is incapable of handling (Beck, 1992; Casper, 2003). Risks are omnipotent, general and diffused over time and space, while legislation is targeted, specific and limited to applications/contexts (Beck, 2001). But it can also illustrate the practical problems of legislating a complex product group/issue or how societal compromises lead to ineffective legislation (Dietz, Stern, & Rycroft, 1989). Below follow four issues taken from the empirical material that exemplify this tension and the implications it has for different actors in society.

First, children do not always behave according to the logics of an adult or the purpose of the toy. Examples are that small children explore the world via their mouth and that they lick and bite, not only toys, but most things that come in their way. This is seen below where a politician discusses the EU legislation that separates toys that are meant to be put in the mouth from those that are not. Implicitly, then, in this quotation children are regarded as the very youngest ones. This also highlights that the term "children" does not have a uniform definition but that it depends on the context what age span is meant (as discussed above).

> The EU Commission's proposal divides toys into the categories "to put in your mouth" and "not to put in your mouth". This is ignorant and absurd. Children put everything interesting in their mouths, no matter what the product is intended for. A warning label on toys that says "do not put in your mouth" would make such a decision seem ridiculous. The proposal is therefore inadequate and unreasonable because it does not put children's interests in focus. (Hulthén, A. (2000, 14 April). Förbjud farliga kemikalier i leksaker. *Aftonbladet*.)

Second, a possible discrepancy of the product intention and how children actually behave can cause problems for manufacturers of toys but also for other product groups. For example, the prints on T-shirts containing phthalates – which are not restricted – but also toys not intended to be put in the mouth can of course still be put in the mouth. So, even if manufacturers follow legislation the products can still pose a risk to the user. One could claim that manufacturers should adapt to the reality of things – children put things in their mouth. But on the other hand, that might be practically undoable for the company following general risk management procedures, since the scientific basis for risk management is missing (threshold values are unclear, phthalates are not yet defined as risky and so on) and that legislation is insufficient

(the toy manufacturer's responsibilities are unclear). Legislation simply does not consider precisely how chemicals are present in everyday life (Iles, 2007).

Third, and related to a claimed purpose of the toy, is the arbitrariness of age limits on toys or saying that things that look like toys are not intended as such. Children play with whatever is available – they do not read labels or care about recommendations. As in other cases of modern risk, legislation only partially manages to control it (Beck, 1990; Giddens, 1999; Casper, 2003). Parents, or other caregivers, of course have a supervising role not to let children play with toys that are not appropriate. However, the new Toys Directive reduces the responsibility of parents, instead enforcing the safety of toys.[48]

Fourth, a problem when legislating on toys is that the legislation in the EU often concerns product groups (Eklund & Karlsson, 2010). In the quotation below a person from the Swedish Consumer Agency says that it is problematic how legislation focuses on classifications rather than use in connection with an EU ban on some phthalates.

> "One should be concerned with how things are used, not how they are classified. For example, bathing rings, which are classified as toys, are not allowed to contain phthalates. But floating chairs for infants are counted as swimming equipment and therefore may still contain phthalates," says Wanda Geisendorf at the Consumer Agency to Råd&Rön. (Grahn, M. (2007, 5 January). EU förbjuder mjukgörare. GöteborgsPosten.)

As is suggested in the quotation above, by not looking at who uses the product and how it is used, legislation fails to capture problems (Iles, 2007). The classification of products means that two things that are very similar nonetheless can belong to different product groups and be allowed or prohibited to contain the same chemical. This illustrates difficulties in managing modern risks since these transcend traditional boundaries of legislation (Giddens, 1999), be it product groups or locus of responsibility.

Hence, the challenge when it comes to the chemical risks of toys lies in connecting the (under-aged) citizen to global management via national and supranational routes. It is not enough to legislate on individual substances or products groups since this does not deal with all mechanisms surrounding the production, consumption, use

[48] See http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:170:0001:0037:EN:PDF, accessed 7 February 2013.

and disposal of toys on a global scale (cf. Bengtsson G., 2010). This means that mechanisms normally controlled by the state, or in this case the EU, are not sufficient when flows of productions and goods are global (Spaargaren & Mol, 2008).

What is particularly interesting about the toys case is this underlying belief that anything that is aimed for children should be and actually is safe. At the same time, there are obvious problems with the legislation that enables the chemical risks of toys. But this does not seem to influence the position that safe toys are a citizen's right. What is then supposed to happen when there is such incongruence between beliefs and effects? This will be discussed more in next section, which analyses the role of citizen-consumers in respect of chemical risks of toys.

8.4 Citizen-consumer framings

Citizen-consumer framings refer to framings of the role of the public, ranging from citizen to consumer, or any hybrids thereof, as part of the chemical risks of toys. When analysing the media material for citizen-consumer framings it is striking how little focus there is on that perspective in the case of toys – instead toys free from chemical risks are suggested as a citizen's right to a safe market. In this section the analysed themes are as follows (see section 6.2 for the selection of themes): *Citizens and consumers – being a parent* analyses how consumers and citizens are represented in the media coverage. *Citizen-consumers – difficult to have an impact* analyses how political consumption of toys is perceived as difficult. *Citizens – the right-not-to-know* analyses the theme that the public have the right to safe toys expressed as a right to not know what chemical risks are present in toys.

8.4.1 Citizens and consumers – being a parent

The media material in this analysis prominently uses the word "parent". This section wants to analyse the implications of this focus on the parent.

The word parent is used in connection with worries about lead paint, supervision of play with toys or buying toys, or how (if it is possible) to make good consumption choices, for example. Alternatively, the term "your child" is used, which still refers to parenthood. MacKendrick found in a similar way that women especially were addressed as parents when analysing media framings of body burdens (2010). This is perhaps not very surprising. The focus on parents may be part of a media strategy where the topic of the article is formulated for maximum attention (Hughes, Kitzinger, & Murdock, 2006; Olofsson, 2009) (Olofsson, 2009). Parents are suggested to be the main securer of children's safety (Scott, Jackson, & Backet-

Milburn, 1998) and are thus used as illustrative examples in the articles meaning that that most readers can relate to and subsequently will read it (Baum & Jamison, 2006). However, as has also been suggested previously in this chapter, it is not the only group in society that comes into daily contact with toys.

Few articles in the analysed media material discuss how parents think when they consume toys, but one article discussing the consumer advice service in a city addresses this. The following quotation comes from a member of the public and in it she says that she tries to use her parenting skills when she buys toys.

> "I try to buy things that are appropriate for children. But as a consumer, you are often stupid and think that all toys designed for young children are good," says Anna Holmén. (Edvardsson, J. (2007, 8 October). Se upp med farliga leksaker till de små. *Nya Kristinehamns Posten*.)

In the same article another member of the public says that the consumer does have responsibility but that the issue to a large extent is a matter of common sense (this perception is also seen in the quotation above). People are thus required to use their common sense, that is, their knowledge and life experiences (Visschers, Meertens, Passchier, & deVries, 2007), when deciding what toys are appropriate for children being able to make a lay person's risk assessment (Kraus, Malmfors, & Slovic, 1992). But it can be questioned whether all risks can be assessed in this manner since not all risks are perceivable to everyday knowledge (Höijer, Lidskog, & Uggla, 2006) or experienceable through consumption (Darby & Karni, 1973). Is it possible, for example, for a consumer to determine whether a toy car is painted with lead paint?

Being a parent also seems to entail less of being an active citizen and more of being a passive citizen in the analysed media material. There are recurrent patterns suggesting that parents are worried and should be able to trust that toys are safe, or they should be properly informed about any potential risks with the toys. Hence, no activities are required from the parents. The passive role of parents is visible throughout the analysed material, and the reason could be that when certain groups in society (children) are seen to have fundamental rights of protection, the activities of the members of that group (or their representatives as in this case) diminishes. As opposed to weak groups in society that members of the public can work politically for, children already have a particular status in society (Scott, Jackson, & Backet-Milburn, 1998; Park, 2007) (even if the realisation of this status of course can be discussed – children are also most at risk *when* at risk (Park, 20079). The implications of this could be that the public is not encouraged, do not realise or do not execute the possibilities they have as either citizens or consumers. The master frame of children may thus be restricting agency.

In the quotation above a member of the public said that parents believe that everything that is meant for children is safe. This enforces a view that the issue of safe toys is a matter of rights and not particularly about responsibility. This is in rather stark contrast to the coverage also visible that suggest that toys are *not* safe. In relation to that, stricter legislation and a strengthened market inspection are stressed as a means to achieve safe toys. These efforts are to be made in the EU parliament but still need political support (i.e. citizen votes) to gain a foothold. In this sense, parenthood becomes more active and also a dominant part of being a citizen. This is clear in the quotation below, which is taken from a letter to the editor where a private individual discuss her new-found awareness about the chemicals in her children's lives and that politics at the EU level has consequences for citizens in Sweden. She says that she will be voting in the EU election primarily as a parent and for no other aspects of her life or citizenship.

> I'm a mother of two small children. My concern for them overshadows everything else. (Liljeblad, K. (2009, 1 June). Rösta för barnen. *Barometern*.)

The quotation above is in line with that political actions and promises are often suggested to be aimed at protecting children – something frequently seen in the analysed material. Examples are the way individual politicians are asked about, or declare, what they have done for children or claim that their political focus means that people should vote for them. In terms of the general public, people are urged to vote in the EU parliament as parents by voting for a candidate who targets these questions. By doing so the citizen is limited to act only as a parent, similar to a view that the consumer is a narrower definition of citizen (Sassatelli, 2006).

Thus parents as citizens are suggested, in the analysed media material, to act within the established orders of democracy by voting politically for the candidates that support what is important to them. Consumerism as a means to achieve change in the marketplace is not emphasised, perhaps because the market is already believed to be safe. Hence, the issue of a safe market is a political one in its own right (Jubas, 2007; Johnston, 2008). Below follows a discussion of how it is said to be difficult for citizen-consumers to impact that market.

8.4.2 Citizen-consumers – difficult to have an impact

In the media material it is at times stated that the individual consumer has the power to impact industry by the choices made in the shop or by asking for health- or eco-friendly products, even if this is much rarer than suggestions about safe markets. This is quite curious as political consumption usually is seen as empowering weaker groups in society – such as the young (Stevenson, 2002; Trentman, 2007; Johnston, 2008). One example, however, where consumers are urged to act as citizens, is visible in the

quotation below, from two members of the conservative party Moderaterna writing a debate article about the safety of children's toys.

> Consumers have power and the market is sensitive to consumer power. Everyone should be critical, especially when it comes to toys. For example, as a consumer one can ask in the store whether the product is treated with flame retardants and with what substance. (Brännström, K.; Avsan, A. (2009, No. 10). "Säkra leksaker – för barnens skull". *Dagens Handel*.)

In the quotation above it is claimed that consumer power can change what toys are sold on the market. If consumers make conscious choices and specify them, the market will react by producing better products (Scamell, 2000). But a relevant objection to this is that consumers can only choose from what the market has to offer (Seyfang, 2005) and it is not certain that better options are available (Sassatelli, 2006). If the product is not raised as problematic and if no options are available it becomes difficult to shop consciously. This is a different problem – how do citizen-consumers buy toys that are better for the environment or for health when there is nothing to choose from? How are consumers even supposed to be aware of the alternatives that exist? This is visible in the quotation below, which is taken from a feature article discussing toy manufacturing and the implications it has for consumers, and illustrates the tension between what consumers want and what the market offers.

> Fair Trade toys are conspicuous by their absence in Swedish stores. None of the companies in the Fair Trade Center investigation sell them. "Consumers are not interested" is a common response from companies.
>
> But perhaps that is not so surprising. If we consumers never see Fair Trade labelled toys, we will never have any idea that they might exist.
>
> Fair Trade footballs are already in production, but are still not sold in sports shops. Which retailer will be the first to sell Fair Trade toys? (Farm, C. (2009, 2 December). Leksakstillverkning, granskning. *Råd & Rön*.)

This quotation suggests what happens when there is no demand for better products, perhaps as a consequence of a lack of awareness and lack of retailer interest. It can be argued that all three lacking aspects have to be in place for a political consumption to function well. There have to be better products since consumers need choices that are available in their everyday lives. If there are no better choices to be made it is difficult to send the message about what products are desired to manufacturers (Seyfang, 2005). There also has to be an awareness of why one should buy health- or eco-friendly products even if it is difficult to know, even for the most critical consumer, what product properties to ask for (Klintman, 2006; Klintman, Boström, Ekelund, &

Lindén, 2008). In the case of Fair Trade footballs above, is it of equal importance that the leather is eco-friendly or is it better to buy plastic balls? Consumers have to consider which claims are most relevant as political at an individual level. Hence, people have to balance different aspects when shopping politically (Stolle, Hooghe, & Micheletti, 2005). Finally, retailers also have to be interested in selling products that are better in some respect (Johnston, 2008) – especially since, as is seen in the analysed material, in the absence of strict regulation, toys can comply with chemical legislation without actually being better products (Becker, Edwards, & Massey, 2010). There is thus a tension between the market and the social responsibility of citizens that is visible in the analysed media material. In that sense the two quotations above illustrate how political consumption sometimes is not political enough (Allen & Kovach, 2000; Jubas, 2007). There has to be awareness and interest among several actors in the value chain – from producers to consumers to retailers – for political consumption to be realised (Klintman, Boström, Ekelund, & Lindén, 2008). In the case of toys a few factors seem to make political consumption harder to come by – toys are viewed as a product group where citizen-consumers should not be needed and the public does not know about the chemical risks, as will be discussed next.

8.4.3 Citizens – the right-not-to-know

When identifying framings of the citizen-consumer in the analysed media material, one topic frequently seen says that consumers' incapability to choose toys that are good for health or the environment is a result of their lack of knowledge. But that consumers are responsible for their knowledge about chemical risks of toys is not often stated – rather when it comes to toys the media articles seem to imply that parents have the right *not* to know. This will be elaborated on below.

In the analysed articles, there is an alleged lack of knowledge and also a recurrent suggestion that it is impossible to know about the chemical risks of toys. This is apparent when, for one media article, politicians are sent out on the high street to buy things for children, as an illustration of how even the ones that should know do not know. The former Swedish Minister for the Environment in a response, where she called herself a consumer, made a point of the fact that "we" (consumers) do not know what the products contain. Common sense might just not be enough for chemical risks; information is also required to make better choices. This is a tendency visible in the literature as well, where knowledge about risks is suggested to be on a right-to-know basis for the individual (Klintman, 2002; Iles, 2007; Becker, Edwards, & Massey, 2010). For many risks, however, people are meant to inform themselves about the risks, or at least about how to come to terms with the risks and what they surround themselves with (cf. Klintman, Boström, Ekelund, & Lindén, 2008; MacKendrick, 2010). That this may be viewed impossible for certain risks is

suggested in the quotation below that is taken from a feature article. Here a woman owning a web shop selling toxic-free toys expresses her view of how different aspects work together to create a situation of risk and uncertainty that makes it difficult for the public to handle the risks.

> "I thought all toys were non-toxic. Scarily enough, it is not so," she says and continues:
>
> "Moreover, there is much ignorance about how poisons affect our children and our environment. It is hard as parents to distinguish between toxic and non-toxic toys. (Edenhall, Y. (2010, 6 July). Leksaker utan gift ingen lätt lek. *Svenska Dagbladet*.)

The quotation suggests that the problem with the lack of information about the chemical risks of toys has three roots. First, there is not enough scientific knowledge about chemicals and about how chemicals impact people and the environment (Hansson & Rudén, 2010). Second, there is a lack of knowledge among parents of what is safe and what is not (cf. Becker, Edwards, & Massey, 2010). Third, there is a societal assumption that things aimed for children are safe (as some groups in society are seen as safe by definition, see Nyers, 2009) and thus no one is asking the uncomfortable questions. It is as if the master frame of "the children" and their inherent right to protection not only removes the focus of risk from other possible objects of risk, as was discussed previously, but that this master frame seems to blur any other perspectives on the situation. The master frame of the children is so effective that even if there are many claims in the analysed material that are in conflict with the view of the right to safety, they simply are not given space or attention (cf. Hughes, Kitzinger, & Murdock, 2006). This includes suggestions about parents' responsibilities towards their children.

The question of responsibility when it comes to both buying toys and supervising children's play with toys is thus often framed as *not* a responsibility of parents, as exemplified by the quotation below that is taken from a debate article written by a politician.

> This is not a responsibility that can be put on parents. We do not have the knowledge. (Hedh, A. (2007, 3 December). Var uppmärksam när du köper julklappar till barnen. *Värmlands Folkblad*.)

In the debate article where the above quotation is taken from, it is specified that the toys should be safe in themselves but also that legislation needs to be in place, which indicates state regulation rather than individual responsibility. Suggestions for how exactly toys should become safer are not often presented – merely that legislation should be stricter – since safety is seen as a citizen right. The procedures behind the politics become invisible (Sassatelli, 2006) and it is thus not questioned whether it is even possible to achieve a completely safe market (cf. Seyfang, 2005). But it is visible

in the analysed material that it is a citizen's right not to need to consume politically – and not even to be aware of the potential risks of toys – in order for toys to be free from chemical risk. Certain risks are thus part of a safety rather than security discourses (cf. Marcuse, 2006) even if "safe" is impossible to achieve.

8.5 Summary and discussion

For the case of toys, news articles are by far the most common type of article. This signifies that everything that can be related to the risk of children is classified as news. Thus, there is a focus on product alarms but also on the legislation in place to protect children from the chemical risks of toys. The few feature articles that discuss the chemical risks of toys focus on toys as consumer goods, what risks they impose and what society can do about it. The more common opinion articles, on the other hand, have a greater focus on the political aspect of toys by highlighting the safety of toys as a political task, discussing mainly EU elections and how the public can vote to influence these issues. There is thus a focus on toys as a politically managed risk that aims at protecting the children.

Identifying *substantive framings*, there is a master frame of "the children" that influences virtually all other framings of risk (not only the substantive ones). Children, predominantly prenatal, infants, toddlers and pre-school children, are constantly framed as having the right to special protection, since they are not responsible for the risks they are exposed to and because they have a heightened sensitivity due to physiological factors. As regards chemical risks of toys is there little uniformity in how the chemical risks are represented, for example in terms of exposure, dosage or effects of risks. There are also issues with toys as a product group, discussed as aspects of abundance and an impossibility to make lay risk judgements.

In the *procedural framings* of the analysed material the paradoxical characteristics of legislation and the lack of legislation are very prominent. The mandatory CE labelling as a legislative tool is framed as insufficient by not being certified by a third party. Hence, new ways of labelling have been called for – albeit still focusing on mandatory labelling. Following the discussions on legislation there is a subsequent focus on both the industry and the state. Both are said to be resisting change and better legislation for economic reasons (even if Sweden also is framed as a pioneer demanding more stringent regulation). In tune with economic reasons "made in China" is framed as a quality problem.

Citizen-consumer framings in the analysed material very often stress citizens' rights to safe products. Citizens are not framed as required or obliged to know about the chemical risks of toys; it is even suggested to be impossible to do so. There is similarly

no demand for the public to purchase in political ways. Instead is it a political obligation for the market to be safe, indicating a controlling state or functioning market mechanisms. Both are achieved through better legislation, however, and especially the latter can be achieved through consumer power (but this is not framed as something citizens *have* to do). It is in the role as "parents" as the public is urged to vote for the EU parliament and especially for candidates that work with issues that parents should be interested in.

Lacking in the framings of chemical risks of toys are framings of risks for other groups in society than children. Apart from children, there are parents, care givers, retailers and disposal workers who handle large amounts of toys. All these groups are exposed to chemicals in toys as well but perhaps the group most omitted is the ones working for suppliers and sub-suppliers to the toy brand, often in the developing world.

A framing absent from the analysed material is the consumer society in the West as a threat to sustainability. Children have an abundance of toys that usually are disposed of at some stage because no one plays with them; they get worn out or the child grows out of them – and hence impact nature also by their disposal. There is thus a lack of focus on the practices of everyday life that reinforce the chemical risks of toys. For example, buying better-quality toys or consuming less is not seen when discussing the chemical risks of toys. The idea of political consumption is therefore also lacking, which is quite curious since retailers and brands usually are quite sensitive to the demands of consumers, and perhaps especially for products aimed at children.

It is also curious why only a limited number of chemical risks are visible in the analysed media material. There are many other potential risks that could be covered. For example chemical pneumonia caused by organic liquid in toys, chemicals causing allergies, perfumes and hazardous substances in electronic articles are other risks that could be more extensively discussed. Most of them are occasionally mentioned in the analysed material but are not given repeated coverage, meaning that awareness of these risks may be low.

When relating the substantive, procedural and citizen-consumer framings to each other, this can be done with three conclusions.

First, the special status of children in society is visible as a master frame in all three types of framings meaning that there is little room for any other problems with chemical risks of toys than those concerning the children playing with them. If there was a greater focus on other types of risks – such as work-related risks – the process of globalisation would needed to be focused on, which would in its turn target the effects of consumption.

Second, there is a strong emphasis that the market for safe toys should be safe in itself. Parents, or anyone else, should not need to think about any potential chemical risks when buying toys and not perhaps even have a very extensive supervising role. Instead

the focus is on both the state and the industry as being responsible for a safe market. This also means that there is very little focus on the citizen acting as a consumer to achieve change. Arguably, the focus on the safe market – acting as a master frame in itself – takes away the focus from the actual safety of toys, meaning that the public is to a large extent left without information about what toys are risky and how children are protected from risks.

Third, it is clear that the definition of risk itself and the management of it actually contribute to risk by excluding certain aspects of risk and by the way the legislation is handled, for example. This becomes clear when, even though there is a very strong emphasis that children should be safe and that the market should be safe, toys are *not* safe. The management of risk has thus not led to safe toys but maybe to safe(r) play with toys – security is arguably increased.

9 Chemical risks of paint

Around the 1850s paints were still produced by house painters themselves, and were thus not manufactured in factories. They were based on linseed oil, oil of turpentine and white lead (Aftalion, 2001). A risk of paint is thus the traditional use of lead pigments, that causes irreparable damage to painters in terms of mental and nerve deterioration. The risks have also been particularly highlighted for children, with risks specified as mental and visual impairments, learning disability and antisocial behaviour (Brittle & Zint, 2003). Today, there are voluntary efforts in Sweden not to use lead-chromo-pigments in paint.[49] In the second half of the nineteenth century, different pigments were developed and produced in factories. The binding agents were harder to develop but by the end of the nineteenth century and the early twentieth century water-based paints and lacquers were introduced (Aftalion, 2001).

Sweden has had professional painters for centuries, but they did not grow in numbers until the industrial revolution started. By the end of the nineteenth century, labour organisations started to be developed because of the often appalling work conditions. In the beginning, the focus was on pay and working hours, but already in the 1920s members were urged to report adverse health effects of using oil of turpentine. Lead in paint was also raised as a concern. In the 1930s there was an investigation into the work-related health effects of oil of turpentine but it had no effect on the 1943 legislation on work-related diseases. Health effects were in practice a non-issue until 1956 when a committee was established with the purpose of ascertaining the risks of different paints. This resulted in a labelling system and prescribed safety measures in relation to the severity of the risk. Work safety issues still had a long way to go, and in the 1970s discussions started to be held surrounding organic solvents in paint and the effect this had on the nervous system of the painters (Boëthius, 1987). This meant that water-based paints were introduced on a larger scale. In 1986, the painters collectively decided to stop working with organic solvents and the following year saw a decision to replace the organic solvent for water-based paints. However, the new water based paints cause problems for professional painters as well through stomach

[49] http://www.kemi.se/Documents/Publikationer/Trycksaker/Rapporter/Rapport3_07_Bly-i-varor.pdf, accessed 21 March 2012.

ache and headaches, among other things (Hollander, 1995). Today, the chemical risks of paint are subject to legislation on chemical preparations, REACH, which means that the regulation is stricter than for articles such as textiles, and the chemical content of paint is thus known. However, the number of chemical substances in paint is increasing due to formulation demands and specialised products, making it possible that the risks of paint are increasing but also that the governance of risk may be growing more complicated (Fransson, 2012).

This chapter analyses media articles that cover the chemical risks of paint. Articles were collected by doing searches in different online databases and websites (see Chapter 6.2 for a thorough description of how research was done). The sample was subsequently reduced to identify articles, or part of articles, that were of analytical interest. These texts were attributed to *a priori* defined categories of substantive, procedural and citizen-consumer framings depending on the main impression. Substantive framings focus on knowledge claims and experiences as a basis for risk judgements. Procedural framings focus on the causes, effects and solutions of risk at a societal level. Finally, citizen-consumer framings include discussions of the public in relation to risk issues. Within the substantive, procedural and citizen-consumer framing categories, the empirical material has been allowed to speak for itself, resulting in *in vivo* categories. The analytical themes are thus drawn from the material. The analysis is then conducted via iteration of empirical material and theory, i.e. abduction, in order to situate the empirical material within a broader context. Quotations from and references to the empirical material are therefore related to other empirical examples or theory.

First in this chapter is a section describing the media coverage of the chemical risks of paint. The subsequent three sections analyse the media material and highlight topics and issues corresponding to substantive, procedural and citizen-consumer framings respectively. The final section summarises and concludes the analysis and the case.

9.1 Media coverage

Paint is a chemical product and as such a preparation of different chemicals. This means that paint is covered by legislation stipulating that every component of the paint should be known.[50] In addition the paint can should also be labelled – including

[50] If the yearly volume exceeds 100 kilograms. See http://kemi.se/Documents/Publikationer/Trycksaker/Faktablad/FbProdregisterOkt10.pdf accessed 6 February 2013.

for example hazard classification, danger symbols and risk and safety phrases.[51] This means that the chemical risks of paint are, at least to some extent, communicated to the public. Paint is also one of the chemical products that the public comes into contact with most. In 2009, the average sales of consumer paint amounted to 9.5 kg per person in Sweden, of which 22 per cent was hazardous to the environment (Fransson, 2012). This gives paint a different context than textiles and toys since the chemical composition is known and there are clear legislation to follow regarding chemical risks. Paint can thus be seen as managed to a higher degree than textiles and toys. It is part of a risk governance process that includes scientific aspects for risk judgements and management of risk by the (supra-)state. It is therefore interesting to see how the chemical risks of paint are framed in media and whether there is room for the public in these risk framings.

For the case of paint, 129 media articles were collected using the method described in section 6.2 (see Figure 9). Seventy-nine of those were selected for the qualitative analysis (see Table 5). This section introduces the coverage in media of chemical risks of textiles.

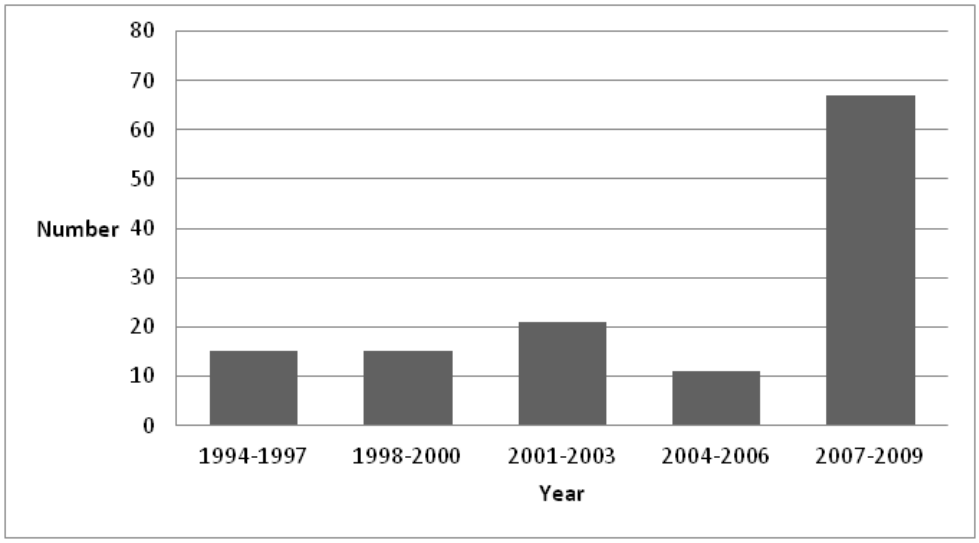

Figure 9 Media coverage of chemical risks of paint, 1994-2009
Note: The 1994–1997 category is slightly larger for presentation reasons.

[51] http://www.kemi.se/en/Start/Classify-and-label-hazardous-substances-and-mixtures/, accessed 6 February 2013.

The number of articles in the total sample (129) is visible in Figure 9. The figure shows a small but continuous coverage of the chemical risks of paint that has increased dramatically since 2007. The continuous coverage is not surprising as paint is a chemical product and the risks associated with paint will be chemical. The coverage of chemical risks of paint is rather diverse and several risks are in focus in one given period. Nevertheless, there are two noteworthy observations about the coverage. One is that it was very quiet for a while in the late 1990s, likely because organic solvents were by then regulated and the problems with water-based paints were only starting to attract attention. Another is the upswing of attention given to the chemical risks of paint since 2007 as a result of tests for tributyltin (TBT) in Swedish marinas.

Table 5 Distribution of selected paint articles, 1994-2009

	Year																
	94	*95*	*96*	*97*	*98*	*99*	*00*	*01*	*02*	*03*	*04*	*05*	*06*	*07*	*08*	*09*	*Σ*
Articles used	2	6	6	1	1	1	5	5	5	4	3	4	3	11	11	11	79

In the early 2000s, a topic that caused media coverage was the product testing of outdoor paint by an insurance agency, which gave recurrent reporting on the quality of paint and how one can avoid, in particular, mould on the facade. The media coverage also discusses health effects of chemicals that can be used in paint and is thus covered in the analysed media material as a problematic product in general. From 2008, there is also a focus on the topic of health, especially that of children. This originated from research that showed a link between chemicals in water based paints and health. These articles thus emphasise how low-emission paint can cause allergies and asthma for example.

Articles about TBT in anti-fouling paint constitute a large part of the analysed media material – mainly since 2007. Recurrent issues are how legislation are trying to (or failing to) coming to terms with pollution, how TBT is found in marinas, how municipalities wants to use the sea as a dumping site for excavation material, and what the pollution of TBT does to the environment. The coverage in media is affected by national and international events (such as legislative or controlling measures) but is also suggested to be a local affair by activities such as urban planning and tests for TBT.

There is an additional type of coverage that discusses users and buyers of paint. In this media material, the users are often described as conservative or at least rarely

proactive. As regards the consumer it is said that expectations of the functionality have to change. In addition, recycling is recurrently covered, discussing implications of the practice for local inhabitants of cities.

Another characteristic of the articles of interest for this thesis is what type of articles – news, opinion and feature – make up the sample since they are believed to frame issues differently. Table 6 therefore shows what type of articles the analysis is based on. Implications of the article type will be discussed in Chapters 10 and 11.

Table 6 Distribution of selected paint articles per article type

	Type of article			
	News	*Opinion*	*Feature*	*Σ*
Number of articles	57	7	15	79

The dominance of news articles is heavy in the case of paint. The only other article type that is relatively frequent is feature articles. The explanation for this may be that paint is a regulated product and any alarms or scares emerge as news, for example research or test results, since it conflicts with the societal management, i.e. legislation, of risk. Thus, the perceived need to focus on the risks using other article types than news may be low. It is interesting to note that there are very few opinion articles, indicating that the chemical risks of paint is not a political topic for the public. Feature articles are somewhat more prominent, indicating a coverage that is more contextual and relates to human interest stories.

The following four sections analyse the coverage introduced above in some detail, starting with substantive framings.

9.2 Substantive framings

Substantive framings of the chemical risk focus on the use of knowledge claims and experience (scientific or non-scientific) as a basis for risk judgements in framings in media. In this section the problem of the chemical risks of paint, their toxicity and lack of safety, are the main points of analysis. The analytical themes discussed in this case are as follows (for the selection see 6.2): *No safe anti-fouling paint – sterile seas and risky environments* analyses how the risks of TBT are framed for aquatic life and how the zero-level risk attitude is discussed. *Creating safe – defining who and what is at risk* analyses how certain groups in society are seen as being in need of more protection than other groups and how creating safe can be viewed by different actors.

9.2.1 No safe anti-fouling paints – sterile seas and risky environments

For a long time the environmental risks of using anti-fouling paint containing TBT have been known and reported. This section analyses different aspects of coverage in media of TBT and anti-fouling paint. The media coverage of anti-fouling paint and TBT seems to be rather consistent with the academic account of the history of TBT; see for example Eklund and Karlsson (2010).

The coverage of TBT in anti-fouling paint is very uniform in the analysed material. The same background story is retold in the analysed media articles of how TBT (once developed to combat a tropical disease) was put into anti-fouling paint in order to stop marine organisms such as barnacles growing on hulls. The aim was to increase speed and reduce fuel consumption. TBT is intended to leach from the paint and as a result pollutes the seas. The media attention is directed to that soon after TBT started being used, its negative effects were also manifested. Fishermen in France are used as an illustration, when in the 1970s they discovered that their harvested oysters were changing in shape and decreasing in numbers. The media material points out that this was soon attributed to TBT, which was also found to be extremely toxic to other aquatic organisms. Sweden introduced a ban on TBT used on boats smaller than 25 metres in 1989. Internationally a joint total ban on TBT was implemented in 2008. Tests for TBT in the late 2000s showed that Swedish waters, harbours and marinas (mainly the Baltic Sea, lakes and watercourses) were heavily polluted by TBT as a result of historical and contemporary use of anti-fouling paints containing the substance. TBT is thus, even considering legislation, not sufficiently managed as a risk in society and is, as will be shown later, a problem for the coastal cities in Sweden.

Below follows a quite typical example of the coverage of anti-fouling paints, about how TBT is suggested to be an environmental toxin. It suggests the effects of shellfish exposure to TBT and the shellfish in themselves become illustrations of risk effects. The quotation is taken from an article covering the Nordic cooperation surrounding the North Sea and the problems of international environmental work.

> The dog whelks in the North Sea are not in good health. The reason is TBT, and organotin compound used in anti-fouling paints to prevent the growth of seaweed and animals. The compound is highly toxic to marine organisms. A few years ago, researchers showed how TBT in very, very small doses affect the dog whelks' sexual development. Females exposed to the toxin developed male genitalia with the result that they became sterile. The phenomenon is called "imposex" by scientists. (Bondesson, KJ: (1995, 6 June). Bottenfärg på båtar dödar snäckor – Tennföreningen TBT principfråga i miljöarbete för Nordsjön. *GöteborgsPosten*.)

Similar representations of the risks of TBT can be found no matter what the content of the article. It suggests why TBT is in waters, at what levels it is toxic (i.e low) and the effects of exposure to TBT. The findings of sterile shellfish are said in the analysed material to be scientifically proven and there is thus no ambiguity visible in the risks described at this level. The tone is rather precise, but by using a vivid image of female shellfish with male genitalia and a sterile sea, the story draws attention to the seriousness of the risk (Hughes, Kitzinger, & Murdock, 2006). This is a way of effectively defining the core of the matter for an audience (Gamson & Lasch, 1983; Hannigan, 2006).

Another recurrent suggestion in the media material about the risks of TBT is that it is one of the most dangerous chemicals, if not the most dangerous, that humans have polluted the environment with. It is said to be highly toxic at very low levels. This can be seen in explicit claims of the toxicity of TBT but also in how it is suggested that there is not a safe level of exposure to TBT. Curiously, though, the Swedish authorities have not established a lowest value for TBT to be used in practice, leading media to take other values that exist as reference points. Norway has a statistical scale for pollution, while Ospar (a state-level organisation working for the well-being of the North Atlantic) and the EU Water Framework Directive have set a threshold value based on the tolerance of the sea. None of these values are set from a health perspective (neither to humans nor animals) and all values are also different. This causes a complication in the analysed articles when referring to threshold values based on non-health issues while simultaneously explicitly discussing health effects in animals (and humans). This illustrates one of the problems when using threshold values. Even if based on scientific activities, they are socially negotiated and take into consideration real-life practical conditions (Klintman & Boström, 2007). In the case of TBT, it is also suggested in the analysed material that it has a non-threshold value, which means that there is no safe lowest level of exposure (Schenk, 2010). This would undeniably make it difficult to establish a threshold value that also is sensitive to economic interests. The implications of this will be discussed later.

One effect of the lack of a common threshold value is that reference points have to be found elsewhere. For TBT, the analysed material instead compares different instances of TBT pollution in order to problematise the risk. For example, Swedish harbours and marinas are suggested to be highly polluted with a thousand times the EU threshold value. Comparisons are also made between Swedish harbours and marinas and the largest harbours in Europe, with the Swedish ones appearing to be more heavily polluted than, for example, Rotterdam or Amsterdam. The media material thus suggests that there are very high levels of TBT along the Swedish coast, at the same time as there is no safe value for exposure.

However, and as I will come back to later, there seem to be very few alternatives to TBT. Copper or zinc replaced TBT in anti-fouling paints but, as one may suspect,

even they seem to be associated with risks (Eklund & Karlsson, 2010). In the analysed material attention is drawn to that the new anti-fouling paints may be just as dangerous to the environment as the older ones. The choice of paint is suggested to be one of between "a rock and a hard place" in that the new active substances spare some species but not others. New types of paints therefore may contribute to lessened risks in certain respects but instead may remain the same or even raise risks in other respects. Algae, it is suggested in the analysed material, are equally affected whether there is TBT or irgarol (a copper-based complex that replaced TBT) in the water.

The topic of TBT as suggested in the media presents a particular type of risk. There is consensus about the scientific aspects of risk, with agreement about the risk also visible in the risk governance processes. There are no disputes over the toxicity of TBT or the effects it has in the environment. It is also seen as an absolute risk – there is no uncertainty about it – due to the high toxicity of TBT and because of the acute presence of TBT in sediments and waters in Sweden and elsewhere. Finally, there seem to be few alternatives that provide the same (desired) effective result. The result of these combined traits is that it seems to be difficult to manage the risk. Since no threshold value can be set that is relevant in practice, it is also impossible to talk about acceptable risks from society's perspective. The risks of TBT are therefore, in the analysed material, largely suggested to be unmanageable and manifested in the environment. As such the pollution of TBT manifests itself as one of Beck's (1992) modern risks. It is man-made, unforeseeable and impossible to manage (Ekberg, 2007; Olofsson & Öhman, 2007). Also, there is no one or nothing to hold accountable for the situation with TBT – it occurred through a historical use of anti-fouling paint. This leads to "organised irresponsibility" where risks are left unmanaged to a large extent since no one wants to take responsibility, or can be held responsible for the risk, its effects and management (Ekberg, 2007; MacKendrick, 2010).

The risks connected with anti-fouling paint indicate that some products may never be totally environment- or health-friendly (Hansson & Rudén, 2010) because most chemicals are considered to be dangerous (Bengtsson G., 2010). The total safety of any paints is subsequently questioned, as will be seen below.

9.2.2 Creating safe – defining who and what is at risk

In the analysed articles paint is often represented as a troublesome product in general. It contains a variety of chemicals that can cause problems for people. Thus the analysed articles exemplify, among others, the following chemicals and their associated risks in paint. PFC can cause menopause, phthalates can cause obesity, MDBGN is an allergen, octylphenol impairs the genital development of men, women are more sensitive to xylene and nonylphenol damages sperm. Thus, in the analysed

material, the whole population is said to be affected by the chemical content of paint. There is no safe space where the public is protected against late modern risks (Beck, 1992). In a quotation below it is made explicit that everyone is at risk when it comes to paint and that this most at home. The quotation is taken from an article discussing research showing that children develop asthma from paint, and the scientist quoted is responsible for the study.

> This is a problem for everyone because we surround ourselves with paint all the time.
>
> "Concentrations of chemical substances are much higher at home than at work," says Dan Norbäck. (Persson, K. (1995, 14 August). Målarfärg kan ge barn astma – Risk för skador upp till ett år efter det att ett rum målats. *Svenska Dagbladet*.)

From a risk perspective, people would normally view their homes as one of the safest places to be, as familiarity (in this respect with one's home) is usually thought to decrease feelings of risk (Slovic, 1999). That "home" poses a threat, and that it is made more risky by people's activities is suggested in the analysed material by how, how often and when Swedes redecorate. Examples are that Swedes paint instead of using wallpaper, that redecoration occurs quite frequently, and often right before the new baby arrives. By those very actions, people also expose themselves to unnecessary risks. In the academic literature, it has been suggested that there is an increasing public focus on how individuals should manage risks in their daily lives (Beck, 2006; Höijer, Lidskog, & Uggla, 2006; MacKendrick, 2011). In the case of paint, this can be seen in the analysed material in advice on how to avoid exposure by using health-friendlier paint, painting less or not painting at all. It can also be seen in how research investigating the relationship between the indoor environment and child allergies is suggested as an effect of people's choices and can therefore be reduced accordingly. The public are pointed out as individually responsible for this risk by not taking the right precautionary measures (MacKendrick, 2011). One problem with this, and evident in the case of paint, is that late modern risks are inconsistent and the choices the public make today will not manage tomorrow's risks (Beck, 2006).

Even so, the chemical risks of paint are suggested to be of higher concern for some people in that mainly young children, pregnant women and people with asthma, are indicated to be more at risk. This focus on weaker groups in society is a common feature of framings of risks (Bier, 2001). When visualising risks for these groups it again becomes clear that no paints are risk-free – something that the quotation below illustrates. In the article the quotation is taken from, it is said that there are also allergens in health-labelled paint. It highlights that the Swedish Asthma and Allergy Association recommends paint (their recommended products are meant to be safe for allergic people) that also contains known allergens.

> You strive for an allergy-free society. At the same time you recommend paints containing allergenic preservatives?
>
> Yes, if you look at it literally, one can see a contradiction. But we have also established that there is no paint at all that we can recommend until after four weeks of drying time. (Fasth, E.-M.; Ohlin, P. (2002, 5 June). Allergimärkning ingen garanti. *Vår Bostad*.)

Thus, there are no paints that can be recommended on a strict basis of being allergen-free according to the official at the Swedish Asthma and Allergy Association. Rather, four weeks of drying time is needed for the allergens to evaporate. With the attention directed towards the diffuse emissions from, in this case, the paint on walls, the question turns into whether anyone can be safe from these risks. Much the same as in the case of TBT, there simply is no level of exposure or product that is safe for all (Hansson & Rudén, 2010). Thus everyone is at risk (MacKendrick, 2011) at the same time as it is impossible to create safe which instead rather leads to the creation of risk (by painting one's home) (Beck, 2006).

One final aspect of who is at risk and the creation of safe can be found in the work space. In the analysed material, attention is directed to a firm that for one year used raw material that was contaminated with a carcinogenic substance, dimethyl sulphate, when manufacturing paint. According to the firm, 31 employees had come into contact with the raw material. The firm was subsequently reported to the Swedish Chemicals Agency and the Swedish Work Environment Authority and the focus was on the employers as objects of risk.

In the media material the production manager at the firm says, when asked about the incident and how it poses a risk for the employees, that they have unknowingly been using a contaminated substance and that some members of staff may be at risk. At the same time the risks are described as low by the production manager, who says that the staff are trained to protect themselves and that in practice they are not in contact with the substance. Thus, it is suggested that a prescribed level of protection, and training in work safety, will also protect against unknown and unexpected risks. The employees seem to be of a similar opinion. This is seen in the quotation below where, according to the union representative, it does not influence the work in practice and there is little concern among staff.

> "This changes nothing for us. We use lots of goods classified as toxic and are used to protecting ourselves. So I can't say I have noticed any concern," says Mats Niklasson, chairman of the local union club at Hexion to GP. (Sahlman, M. (2007, 14 February). "Vi är vana vid att skydda oss". *GöteborgsPosten*.)

The reluctance of both employer and employees to view the event as risky could be a desire to downplay risks but it could also be explained by that they are used to being exposed to risks (Lidskog, 1996; Durfee, 2006). They are also used to protecting themselves against risks. That means that they feel safe due to experience and habits (Renn, 2004). The claim of risk above is therefore effectively reduced by referring to general work safety. An argument against this could be that behaviour that is safe in respect of one chemical may not necessarily be safe in respect of others. That it is not sufficient to refer to general work safety is made clear by, for example, Schenk (2010) who argues that occupational exposure limits differ between countries, effectively making them socially negotiated and not "safe" in an absolute sense (cf. Marcuse, 2006). It can also be related to ideas that ignoring risks instead increases risk (Beck, 2006). The general protection of the workers and the belief that they are safe may actually increase their exposure to risks as they effectively are not protecting themselves from the risks at hand.

9.3 Procedural framings

Procedural framings of the chemical risks of paint refer to framings of societal mechanisms in media as part of the cause, effect and solution. Chemical risks of paint are suggested in the analysed material to a large extent to be part of an (insufficiently) organised societal management. The analytical themes identified in this case are as follows (for the selection see 6.2): *TBT – a topic with salience* looks into how TBT has been on the agenda for a long period of time without losing its salience. *Legislation – control but also escape route* analyses how legislation is put in place to control chemical risks of paint but also how legislation can be avoided or abused.

9.3.1 TBT – a topic with salience

The topic of TBT in anti-fouling paint has been discussed in media for a long time, with several different angles in focus, as introduced in a previous section. Below I will discuss what issues have been highlighted by considering two different levels of governance: the (supra-)state and the regional/local.

In the mid 1990s the effects of using TBT were highlighted in the analysed media material focusing on the aquatic environment and the work done to reduce TBT in northern waters (predominantly the North Atlantic and two of its smaller parts, the North Sea and the Baltic Sea). The problems are suggested to be located at an international and coordination level, and it is claimed that Sweden's national ban is not sufficient considering the international boats in the seas. The international

legislation is, in turn, said to be difficult, inefficient and slow to the detriment of the sea.

The media articles further discuss how it was not until 2008 that an international ban on TBT was in place. The ban was adapted seven years previously, but did not reach the terms for its entry into force (ratification by 25 states representing 25 per cent of the world's merchant shipping tonnage) until 2007.[52] The quotation below illustrates this internationally lengthy process in terms of economic interests resisting its adoption.[53] The quotation is taken from a debate article where marine and environmental researchers want to draw attention to that TBT is still in use.

> A ban on the use of TBT in anti-fouling paints for boats less than 25 metres in length was introduced in the late 80's in most Western European countries like the U.S. and Canada. Sweden introduced a ban for use on boats less than 25 metres in length 1989. […] [A] ban on the use of the paints on larger vessels operating on oceans must be carried out through an international convention that will then be ratified by the concerned states. Too large financial interests were, however, in the way of bringing about a swift ban on the use of these paints on large ships. Not until a decade later (2003) did the UN International Maritime Organisation, IMO, succeed in establishing a convention for a global ban on these paints. (Cato, I.; Eklund, B.; Granmo, Å.; Magnusson, M. (2008, 4 March). Förbjudna båtgifter sprids i svenska vatten. *Dagens Nyheter*.)

Effectively, the legislation is said to take practical concerns into account at the same time as being sensitive towards economic interests. The critique visible in media is that the legislation is slow but also that it over-considers economic interests, as fuel costs and the speed of the ship are of more interest than the environment. This is supported by academic research which often sees environmental interests being overruled by economic considerations (Bengtsson G., 2010). Another aspect of the slow legislation could be that its development and enforcement is divided between several actors. Spaargaren and Mol (2008) suggest that the nation state has been losing its power in environmental legislation and that supra-national actors instead fulfil this task. However, it is also said that international environmental legislation often is hindered by nations wanting to protect their sovereignty (Bengtsson G., 2010). Arguably, both perspectives can be seen in the analysed coverage of TBT as it

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[52] See for example http://www.imo.org/mediacentre/newsmagazine/documents/2008/imonewsno408_web.pdf, accessed 5 February 2013 or Eklund & Karlsson, 2010.

[53] The ban that was agreed upon in 2001 was due to start in 2003, but was delayed until 2008.

is international legislation but nations refused to sign it, thus effectively protecting their own and reducing other's interests. From a more positive perspective initial legislation can be a stepping-stone for later, stricter legislation (cf. Porter & van der Linde, 1995). Following this, the first ban that affected private boat owners (due to the implementation on boats under 25 metres) may nevertheless have enabled the subsequent steps of the global ban to be taken.

In addition to the global scale, different levels of governance in Sweden are recurrently represented in the analysed media material. The national level is present when, for example, the articles discuss the widening of legislation or the compliance with legislation. But the local level is most prominently discussed in the media material in relation to TBT and anti-fouling paints. Discussions that are recurrently visible in the media articles cover local processes (that touch upon regional processes) dealing with the issue of TBT, where different areas of responsibility, such as environment and land development, are in conflict. The conflicts are concerned with the measured levels, what they imply for land development or dumping dredges, and how safe behaviour is best achieved. Several local actors have to agree on what is a risk and how it impacts desired goals (for example environmental or land development), indicating that the differing objectives of local levels of governance influences how they view and define risk (Klinke & Renn, 2010). The quotation below illustrates these conflicts where reasons for dumping at sea are represented as mainly economic; it is taken from an article discussing a west coast city's plan to dump dredges at sea.

> If Falkenberg dumps material with 200–500 micrograms of TBT per kilogram they are violating their own, the county's and the country's environmental targets of a non-toxic environment. […] Falkenberg is not alone. For economic reasons dredged material is generally dumped at sea even if it is classified as "very heavily polluted". It is the dog whelk that will pay. (Rosenberg, L. (2008, 26 July). Båtfärg i Kattegatt gör snäckorna sterila. *Hallands Nyheter*.)

Since the municipalities are responsible for many of the processes that manage paint from an environmental perspective, they also become important actors in the case of TBT (cf. Johansson, 2010) and are also mainly pointed out as responsible for the management of TBT. They are responsible for recycling, for fresh water treatment and for the local environment. At the same time they are responsible for urban planning and development – regarding both economy and land (Johansson, 2010). These differing objectives, and that they are managed by different local authorities, make the management of chemical risks of paint a contradictory issue at the local and regional level. It is also visible in the analysed material that there are internal conflicts within the municipalities when it comes to environmental considerations of the chemical risks of TBT. In one particular instance, a west coast city is even blamed for pretending that the problems with TBT-contaminated dredged material does not

exist and to be elusive about how to manage it. There is thus a recurrent discussion in the media material of how different local levels of governance disagree over land developments, the scientific basis for dumping spots or the potential harm of the environment or aquatic life. Risk management appears to be situated at several levels and as such run by the conflicting interests and relative power of the actors involved (Dietz, Stern, & Rycroft, 1989; Macgill & Siu, 2005). Thus, the risks of TBT show several of the characteristics of late modern risk (Beck, 1992; Ekberg, 2007). By being disputable on grounds of definition, problem formulation and solution, the risk itself becomes contestable and perhaps unmanageable (Beck, 1992).

9.3.2 Legislation – control but also escape route

It has been seen above that legislation can be a driver in the reduction of risks. However, in the analysed media material attention is also drawn to that legislation can be used to avoid control of products that perhaps should be restricted. This will be analysed in this section.

One example of how the legislation on anti-fouling paint can be seen as confusing and opens for abuse is that where the boat is mainly moored affects what anti-fouling paints can be used. This means that, for example, copper-based paints are mainly allowed from the south-west of Sweden up along the west coast while they are prohibited on the east coast due to the sensitivity of the Baltic Sea (Breitholz, Lundström, Dahl, & Forbes, 2010). However, in the analysed material it is often emphasised that since copper-based paints are permitted on the west coast, they are in practice available on the east coast as well through retailers selling prohibited paint or by buying it online, for example (this will be discussed more in a later section). In the quotation below this is visible, but also that there is no control mechanism in place to ensure that the legislation is followed. An inspector, in an article discussing the continued use of prohibited TBT, states that it is almost impossible to control who uses copper-based paint.

> On boat forums online it is easy to find tips on how to mix one's own copper paint, and according to the local environmental inspector Malin Göthesten, it is almost impossible to check who uses permitted paint.
>
> "It is really hard. We can't check the boats one by one. The only chance is if we catch someone red-handed with a brush.
>
> So the law about prohibited paints is toothless?
>
> "Yes, one might think so." (Johannisson, E. (2010, 9 July). Giftiga bottenfärger används trots förbud. *GöteborgsPosten*.)

Another example of how legislation may enable hazardous chemicals in paint can be seen when looking into the coverage of the chemicals that replaced TBT in anti-fouling paints. In the analysed media material it is suggested that the new chemicals in anti-fouling paints are just as dangerous as the old ones but that they escape legislation through the attribution of certain functionality. It is thus possible to avoid legislation by adding a chemical to paint as a binding agent rather than a biocide – that it in practice functions as an effective anti-fouling agent is beyond legislation. This means that paints containing zinc oxide are not classified as dangerous to health and environment at the same level as copper-based paint even if they arguably should be, since the same legislation does not apply to them (Eklund & Karlsson, 2010). The reason for the ambiguity is that when a chemical is not added with the purpose of being a biocide it is considered a basic substance and subsequently regulated by a different set of regulations (REACH rather than the Biocidal Product Directive).

In effect, this means that as long as the chemical is added in a small enough amount (less than 5 per cent by weight) it does not have to be reported to the national chemical authorities unless it is classified as dangerous to health and the environment. Since zinc oxide is classified as harmful to the environment, the paint manufacturer avoids this regulation (Eklund & Karlsson, 2010). But even if it avoids the Biocidal Product Directive it still has to comply with legislation that says that the can of paint has to be labelled to inform the user of the risk of using the product – for zinc oxide, among others, with a symbol saying that it is harmful to the environment. It therefore becomes possible to say that a paint is not a risk to the environment (by the way in which its components are classified) according to one directive and still be labelled as harmful according to some other law. This may of course cause confusion for the user of the paint.[54] But more critically it suggests that risk governance fails to manage risk by the way it classifies risk (Eklund & Karlsson, 2010).

As a result of this failure is it recurrently suggested in the analysed articles that the risk governance, or lack of it, is the reason why toxic anti-fouling paint is still used. Legislation is suggested to be ineffective, contradictory and biased. At the same time, legislation is the constant reference point when it comes to the risks of paint in the analysed material. Legislation, as the argument goes, can therefore be both a driver of and a hindrance to risk governance (cf. Klinke & Renn, 2010) since society's monitoring of risks always lags behind the effects of risk (Olofsson & Öhman, 2007).

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[54] Zinc oxide in anti-fouling paints has recently been recognised by the Swedish Chemicals Agency as having a chemical effect and thus in need of authorisation, see http://www.kemi.se/sv/Innehall/Nyheter/KemI-anser-att-ytmjuka-batbottenfarger-med-hoga-halter-zinkoxid-behover-godkannande/, accessed 13 February 2013.

This is one of the core traits of the late modern risk society – that governance mechanisms fail to protect against risk and may even emphasise or create risk situations (Doyle, 2007; Nyers, 2009).

Another perspective of legislation is how it is visible in the analysed media material that it may be impossible to follow strict interpretations of the law if there simultaneously is a desire to exploit land or sea. This is visible in the quotation below from Ingemar Cato, a professor at Gothenburg University who is often responsible for marine tests through SGU (Geological Survey of Sweden) and prominently present in the coverage of TBT. The quotation is taken from an article reporting on the permits an east coast city obtained to dump dredged material at sea.

> "If one strictly follows the recommendations of ecotoxicity of TBT it is no longer possible to exploit any part of the ocean," said Ingemar Cato. (Nilsson, A. (2009, 11 November). –Muddermassorna inte giftiga. *Sydöstran*.)

It is thus suggested that there is no safe threshold value of TBT in the aquatic environment and if this is strictly interpreted, sediments along the Swedish coastline could not be purposely set in motion, for example, through dredging or dumping. Thus, it is suggested to be impossible to follow the toxicity of TBT for practical and economic development reasons, and it may therefore not be possible, or at least desirable, to have very strict environmental legislation (Breitholz, Lundström, Dahl, & Forbes, 2010). Society fails to come to terms with the problems science has produced (Lupton, 1999). This is the risk society where risks are managed but not removed and where economic gains are given, at least, as high values as the environment or health (Beck, 1992; 2006).

9.4 Citizen-consumer framings

Citizen-consumer framings refer to the role of the public ranging from citizen to consumer, or any hybrids thereof, as part of risks. In the media coverage of chemical risks of paint, the perspective of the public is rather limited in what they can, and is supposed to, contribute to. In this section the identified themes that are analysed below are as follows (for the selection see 6.2): *Citizens and consumers – resisting and enabling change* analyses the binary framings that put boat owners and environmentally sounder behaviour in two camps – one of environmental villains and one of environmental heroes. *Citizen-consumers – difficult to make demands* analyses the difficulties for consumers to behave as citizens when it comes to paint. Finally, *Citizens – recycling for the local environment* analyses how recycling is framed in terms of taken-for-granted citizenship and framed mainly as a local good.

9.4.1 Citizen and consumers – resisting and enabling change

One problem that is a recurrent pattern in the analysed material is the seeming incapability of industry to come up with good products that have the same functionality as older but restricted paints. The high functionality of older anti-fouling paints, indoor paint and outdoor paint depended on chemical components with hazardous properties, which is the reason they are banned. As a result it is also said in the analysed media material that users of paints have to change their expectations of and their behaviour with paint. For example, it is suggested in the media material that homeowners have to modify their habits when maintaining their houses, and that they cannot even expect to have a house that does not show any mould growth. Boat owners are, as another example, advised to accept some growth and even to stop painting altogether in favour of washing their boats. It is recognised in studies of everyday practices that changes toward sustainability have to involve changed expectations as well as behaviours. Environmental risks are co-produced with other actors in society, in the daily practices and consumption of individuals or groups of individuals (Shove & Walker, 2010). At a fundamental level how one wants to live needs to be redefined if chemical risks of paints are to be significantly reduced. But a problem suggested by research is that if the toxic or otherwise dangerous properties are not visible in conjunction with the use of the product, other factors that are connected to personal experiences (in this case the use of the product) – may be regarded as more important (Lidskog, 1996). This indicates that delayed or not readily associated effects of individual use of paint may be underestimated.

The case of TBT and anti-fouling paints offers interesting images of the citizen-consumer. Since the ban originally only affected boats under 25 metres, private boat owners have from the start been in focus in discussions of the TBT ban, compliance with it and alternative solutions in the media articles. There is a recurrent pattern in the analysed material that boats and boating activities are sacred and that boat owners are not willing to change their habits. In the analysed material, boat owners are represented as conservative and unwilling to change their behaviour or expectations of anti-fouling paints, even to the extent that they do what they can to get hold of prohibited paint. The desire to keep using prohibited products, and legislation that opens up for the possibility, for example, by permitting different paints on the east and west coast, mean that the analysed media material is suggesting that there is a flourishing black market for copper-based paint. Simultaneously, however, boat owners are claimed to be "not impossible" and to some extent willing to test new things – as long as they work. They key here seems to be functionality. As already stated earlier in this section, however, the functionality of the old products may not be possible to obtain with newer paints.

In the analysed media material there is a binary framing of environmental villains or heroes. Either consumers have to choose restricted paint or consumers have to accept

another type of behaviour or a less functioning paint. In the quotation below, taken from a feature article about anti-fouling paints, this binary framing is visible as two boat owners express their view of anti-fouling paints.

> Gentle and environmentally friendly, or paints that are tough on both algae and nature. That is the question for many boat owners. For although it is forbidden to use toxic paints on the smaller boats, lots of people on the east coast make sure to get a hold on the more environmentally unfriendly, but more effective, paints that are allowed on the west coast.
>
> "You do not want to see the muck when the boat is lifted from the water. Most people therefore use the best paints. You can buy west coast paint by mail order," says Claes Ekman from Stockholm, on a visit to Oxelösund's fishing harbour.
>
> But there are also proponents of a milder alternative. Tommy Jägrup and Mary Ella Gonzalez, on the way out to Oxelösund's archipelago on the first tour of the year with their motorboat Daisy, use eco-friendly.
>
> "It works great. When the boat is taken out of the water I can remove the white shells on the hull with a pressure washer. If it is warm in the water when we are out on the boat I'll jump in and brush off the sides," says Tommy Jägrup. (Axelsson, H. (2007, 7 June). Skilda meningar om miljövänliga bottenfärger. *Södermanlands Nyheter*.)

It is also suggested in the media material that choosing environmentally friendly methods or not is based on attitude and what boat owners expect from their boating experience (a clean hull, high speed versus an experience of nature and consideration for the environment). There are thus two camps in the analysed material regarding anti-fouling paints. One that is more conservative and wants to continue using the older types of paint and another camp that is more open to new products or methods. Polarised framings are visible in the media in general (Olofsson, 2009) with common framings of pro and anti in environmental questions, for example GMO (Klintman, 2002; 2006). Perhaps this can be explained by parallel modernities (Olofsson & Öhman, 2007) where reflection over the effects of one's actions is only granted to some (Beck, 2006). However, as is visible in the analysed material it is not very easy to determine what paints are eco-friendly or not. Legislation is confusing in addition to being evolving, and as is visible in the analysed material, the anti-fouling paints used today may well be restricted some time from now. There is thus not much that suggests that there are better choices to be made (Beck, 2006). This will be analysed next.

9.4.2 Citizen-consumers – difficult to make demands

In the analysed media material the attention directed to the citizen-consumer generally does not imply many proactive activities, mainly because of the perceived difficulty of making demands. It is sometimes suggested in the articles that citizen-consumers should buy better paints, in particular anti-fouling paint. In the quotation below the quest for better paints is compared to when consumers demanded paper that was not chlorine-bleached.

> The municipal ecologist Karl-Axel Reimar said that change must come from boat owners themselves.
>
> "It could be compared to when we switched from chlorine-bleached paper to paper free from chlorine. The consumer took power and demanded the product," he said. (Israelsson, M. (2007, 30 March) Välbesökt möte om tvätt. *Södermanlands Nyheter*.)

There is thus a societal demand for consumers to be responsible when buying anti-fouling paint – so that industry will produce it. This means that the perspective of the citizen-consumer is present in the investigated material – when it comes to anti-fouling paints – but also, as will be suggested below, not in an unproblematic manner. In addition, the view that consumers should trigger change is seen much less than the view that consumers should choose well from an existing selection. This view of the citizen-consumer is found in the literature as well where the activities mainly involve taking part in market mechanisms intended to produce change (Allen & Kovach, 2000) and in choosing well from existing products.

The problem with invisible effects is seen in the analysed media material as homeowners or boat owners are claimed to be conservative and thus resist change. However, as has been suggested in the procedural framings above, there may not be better products to choose from. It has been argued that there is a "chicken and egg" problem with political consumption. The industry does not want to provide until there is a demand and consumers cannot buy until there are products (O'Rourke, 2005). At the same time, far from all consumers have the desire (or ability) to be political (Michael, 1998) which will be discussed later.

In contrast to expectations of change and of choosing well, it is also seen in the analysed material that consumers may not be capable of determining whether a paint is eco- or health-friendly. They cannot easily value the product's harmful properties (Darby & Karni, 1973; Beck, 2006). For example, in the articles it is suggested to be difficult to know whether a product is environmentally friendly or not. In the quotation below, the sea scouts have chosen environmentally friendly paint but do not seem to be sure that it really is.

> "We decided this year to choose an eco-friendly paint, but it may not be as environmentally friendly anyway. It's hard to know," says the leader Björn Forsman and peers at the paint can. (Innocenti, T. (2008, 17 April). Inte lätt vara båtägare och miljövän. *GöteborgsPosten*.)

The ambiguity in what paints are advisable from an environmental perspective and what paints are not is consistent throughout the investigated material. A lack of information on how to buy is said to be one barrier to becoming a responsible citizen and/or consumer (Leire & Thidell, 2005). Chemistry is a topic where many people are believed to have little knowledge (cf. Sjöström, 2007) – people may not always know what is in the paint they normally buy. Even if paint cans always should be labelled in order to inform of the risk and any precautionary measures to be taken, this does not always contribute to the user's knowledge of the product since it can be difficult to interpret (Riley, Fischoff, Small, & Fischbeck, 2001). In addition, paint may be perceived as something that one buys rarely and as such consumers' own experiences and understandings of paints might be valued more highly than environmental concerns (cf. McDonald, Oates, Thyne, Alevizou, & McMorland, 2009). Legislation that is difficult to understand and make sense of may further contribute to a weakening of the political consumers. In one way the fact that paint is a strictly regulated product group by law may mean that the product control is perceived as enough to manage risks. In another way, ambiguous and contradictory legislation and information can undermine consumer power (cf. McGregor, 1999; Leire & Thidell, 2005; Kolandai-Matchett, 2009). For certain products it may not be so easy to be political (cf. McDonald, Oates, Thyne, Alevizou, & McMorland, 2009). This is also visble in the next section that discusses recycling.

9.4.3 Citizens – recycling for the local environment

Recycling is a topic that is prominent in the analysed material as a solution to the chemical risks of paint. It is represented as a citizen's duty, but with a narrow view of the mechanisms, as this section seeks to analyse.

Recycling has been a recurrent topic in the media material since the early 1990s. It is said to be an activity where everyone helps out to save the environment. Recycling, according to the analysed articles, gives the citizen a sensation of doing something good by a communal activity. It is thus citizenship at a wider level that goes beyond taking responsibility for one's own garbage. By recycling, everyone helps out. But the idea of recycling as a wider societal good is an exception. Instead, recycling, or a lack of it, mainly focuses on local aspects. In the analysed material it is suggested that if local citizens do not recycle, for example paint residues, local land will be polluted.

The municipality is responsible for the recycling stations, and the worse the citizens recycle the more it burdens the city.

Recycling is therefore mainly suggested to be an activity for the local citizen in helping the municipality carry through its obligations and to protect the local inhabitants and environment. One can ask, however, whether it is possible that chemicals that are not properly recycled are only local pollutants. When representing recycling as local citizenship and pollution as a local phenomenon, the larger aspects of pollution are omitted. For example, in the case of paint chemicals from water-based paint will also reach watercourses as brushes and other utilities are often washed in the sink. By doing so, the chemicals spread beyond the local environment. From a more holistic perspective all chemicals sooner or later end up in waters (Pärt, Castaño, & Bengtsson, 2010), meaning that pollution is never local. This is taken up in the quotation below, which responds to a request to inhabitants of a city to clean out their garages of dangerous products. The author compares the issue of recycling to picking up garbage and says that no one can question the benignity of these activities. But the question remains – is this environmental care?

> It will be as it used to be. As in the sixties, when environmental protection was the same as picking trash from the streets. Keep Sweden Tidy, do not litter the environment. Who dares to question it? (Bondesson, KJ. (1999, 6 June). Städa garage – ett miljöeko från 60-talet. *GöteborgsPosten*.)

It can of course be claimed that a can of paint does not pose a risk to the environment. The chemicals in paint are not a risk until they end up in a context that manifests them as such (Greim, 2010). But the point of recycling, and as the quotation above about cleaning out old sins, is that the paints then end up in places where the risks with them can be seen as managed. Thus recycling is not necessarily about taking away risks but instead focused on managing risk by proper behaviour (cf. Maniates, 2001). One can then question the long-term goal of recycling: does it manage the problem but not reduce it? Perhaps one should control at source instead of cleaning up later (Bengtsson G., 2010). Recycling is perhaps a means for members of the public to think they are behaving properly (Maniates, 2001). It could be argued that recycling is actually an end-of-pipe solution not contributing much to improving the environment. In this case it would rather be a practice that enforces the responsibility of the consumer and exposes people to more risk (for example waste workers) (Pellow, Schnaiberg, & Weinberg, 2000).

9.5 Summary and discussion

The coverage of chemical risks of paint is mostly based on news. The news articles discuss pollution of seas and harbours, in terms of (the lack of) international and local political management of risk. They also discuss paint as a problematic product in general with a new-found focus on the risks of water-based paints. The feature articles are second highest in number and, in the case of paint, discuss the contextual aspects of the chemical risks of paint while also suggesting how the public should act when buying, using and recycling paint, mainly as part of a local community. There are few opinion articles in the analysed material but the ones that are there generally use paint to illustrate a greater problem with chemicals. Paint is thus illustrated as a political problem on a greater scale, but one that does not really concern individuals.

The *substantive framings* analysed in the case of paint go along two general lines. First, there seems to be scientific consensus about the chemical risks. The fundamental issue is treated in the media as being beyond debate, namely that paint contains chemicals that pose a risk to the environment and to humans. Second, it is also suggested that paints can never become safe. All people are objects of risk even if sensitive groups are pointed out. But the activities of people also cause the risk. The only exception is at work where the safety procedures warrant feelings of safety – even if it may not actually be safe or even secure.

The *procedural framings* in this case focus on the governance of risk mainly at an official level. Especially international and local governance processes are the focus of coverage where it is continuously suggested that these processes are problematic. The problems are based on conflicts of interest and economic considerations outweighing environmental concerns. The procedural framings also focus on how legislation is inefficient and contradictory and may actually enable the use of prohibited paint and is thus not sufficient for managing risks.

The *citizen-consumer framings* in the analysed material have a focus on how consumers should choose well from available products on the market. Boat owners are suggested to be either paint users who take every possible step to use prohibited paint or who consider the environment by choosing better paint or by not painting at all. Recycling is suggested as the only citizen activity that the public should do, but the reasons do not go beyond implications at the local level. Instead it is a local version of keeping the environment tidy. In all framings of the citizen-consumer it is stressed how difficult it is for the public to know what harmful chemicals are present in the paints and whether a better choice really makes a difference.

There are some perspectives that could be expected that have not emerged from the analysis of the empirical material. For example, many of the problems with the management of chemical risks of paint are very descriptively framed. For example,

there is a lot of focus on ineffective legislation, but what is missing is what can be done to sharpen the legislation to better fit the way the chemical risks of paint are handled in reality. Thus there are no framings to suggest how the state or the municipalities should, by legislation, enforce better management of paint. One example is that it is often said that there are no threshold values for TBT, but there is no urge for Sweden to develop threshold values or to recommend an interpretation that can be used nationally.

What is definitely absent in the analysed material is the link between the local and the global in that chemicals just do not disappear. Recycling is framed as an activity carried out in order not to pollute the local environment, when it could easily have been connected to a greater perspective of the global risks.

In the media material there is a framing of a lack of information. The potential for information is there – the producers know what is in the paint. This is a contradiction that could be emphasised more in the media. A lack of information is often suggested, by researchers, to impair political consumption. Following this, are there no framings of how to be a consumer pushing for change when it comes to chemical risks of paint, but rather just to choose wisely from an already existing selection.

I will conclude this case by drawing on three general observations from the framings of chemical risks of paint.

First, there is an underlying suggestion that it is not possible to produce a safe paint. This has to do with the properties of paint. People want it to have a certain functionality, which means that hazardous chemicals have to be added. Even expecting a reduction in functionality or a change in practices is not suggested to reduce risks altogether. Thus the desired effects of the product are constantly weighed against the potential risks entailed by the very same product. But it is also suggested to be a result of how the risks are governed. At all levels, governance and legislation are framed as full of tensions and contradictions. Economic interests are held up against environmental concerns but it is also suggested that different actors in the governance process value aspects differently in terms of risk. The chemical risks of paint are effectively framed as unmanageable. Even so, the framings do not include other perspectives that would enable a greater societal debate – for example, NGOs are not very visible in the analysed material.

Second, the context of how and where the chemical risks of paint take place is important for the framings of risk. Aspects that are beyond individual control – e.g. pollution, less functional paints – are suggested to contribute to the risks of paint. But risks can also be seen as controlled by the individual. For example, workers are used to protecting themselves against risk and may feel that it protects them against other chemical risks as well, true or not. The risk is based partly on the fact that a chemical

has certain properties that make it more or less hazardous. But it is other factors that determine the magnitude of risk, such as who is exposed, how risks are avoided and under what circumstances the chemical is used. It is therefore impossible to talk about being safe in a general sense from any chemical.

Third, the general public is framed to operate within the given borders of the market or the governance, by choosing from available options and to recycle as local citizens. The greater perspective of the citizen-consumer pushing for change is absent in favour of passive representations of the citizen or the consumer. There is however a view of the general public to resist change by the choices they make – buying prohibited paint, for example. Thus, the general public is framed as passive when promoting change but active when resisting change.

10 Comparing framings in media of textiles, toys and paint

This section recapitulates the framings of risk for the three cases. In order to prepare for the conclusions and discussion ahead, the framings will also be compared in some respects. Tables 7, 8 and 9 below respectively summarise the substantive, procedural and citizen-consumer framings of the three cases in the media. The sub-categories relate to different dimensions of each *a priori* category, aiming at capturing the dynamics of the framing (see section 6.2 and Appendix A). Then follows a comparison of the coverage of chemical risks of textiles, toys and paint divided according to substantive, procedural and citizen-consumer framings. Finally, Table 10 compares the distribution of article types for the three cases. This summary of necessity simplifies the empirical material, drawing out the most general pattern.

Table 7 below compares the substantive framings of textiles, toys and paint.

Table 7 Summary of the substantive framings of textiles, toys and paint

Substantive framings	Textiles	Toys	Paint
Risk description	Extensive for most chemicals	For some chemicals extensive, for others not	For TBT extensive, for most others not
Risk comparison	The good old days Everyday life General and specific	The good old days Everyday life	Polluted harbours Between a rock and a hard place Better than before
Scale of risk	Sweden The developing world	Sweden (children)	The local environment Individual health The sea at large
Objects of risk	Consumers/users Vulnerable groups The environment Global workers	Children	Everyone at risk Vulnerable groups The environment Dog whelks, algae
Risk types	Health and environmental risks in Sweden Health, environment and work safety globally Economic risks globally	Health risks for children	Health and environmental risks for all Local environmental risks
Risk effects	Reproductive damage Allergies Pollution	Reproductive damage Mental impairment Death	Reproductive damage Allergies Asthma Imposex Pollution
Risk abatement	Washing before use Buying labelled textiles Buying less Changed practices	Removal of toys Appropriate behaviour Read labels	Do not paint Better choices
Expertise	Scientists or experts The textile industry NGOs	Scientists or experts (for some chemicals) Legislators	Scientists or experts Legislators
Science/facts usage	Extensive Uncritical use of "facts"	Extensive – for some chemicals	Extensive – for some chemicals

Looking into how risks are substantively framed in the analysed material, toys and paint show the same tendency, with the risks of some chemicals being described using exposure, dosage, threshold values and aggregation of exposure, for example. For other chemicals there is very little corresponding information. In the case of textiles it looks quite different as most chemical risks in focus are described in terms that quantify risk. All three cases rely on the use of scientific facts even if, in the case of textiles, it can be seen to be more unreflective than the rest. Also, at times the

coverage, especially for textiles and toys, shows signs that the chemical aspects are unknown to the journalist or the source in the way they use scientific aspects (wrongly).

When risks are compared to other instances of risk, both textiles and toys refer to "the good old days", suggesting that there were fewer risks before. Textiles also discuss risk in terms of general/specific and individual/aggregated exposures. Paint, on the other hand, shows framings of the current situation of chemical risks as better than before, with the reduction of, for example, organic solvents or TBT. In addition, for paint, comparisons are made between Swedish marinas or harbours and heavily polluted harbours in Europe and the latter are said to be less polluted. Even so, when framing chemical risks of paint the situation is suggested as impossible when no chemicals are good options. All three cases relate the chemical risks to everyday life and practices, indicating that people expose themselves to risk.

The voices of expertise (actors in general will be compared below) that can be seen in the coverage of chemical risks are for all three cases natural scientists for most chemicals. In addition legislators and politicians are visible as experts in the cases of toys and paint, while experts both from industry and NGOs are given room in the case of textiles. NGOs are conspicuously absent in the case of paint but, perhaps more surprising, also in the case of toys. In addition, researchers are also visible as experts in the citizen-consumer framings of textiles, discussing the implications of political consumption. More diverse expertise is thus visible in framings of the chemical risks of textiles than in the other two cases.

Textiles are the only case where risks for people outside Sweden can be seen in the media coverage to any considerable extent. The framings then focus on working conditions – which happens only in the odd article in the cases of paint and toys. Objects of risk are framed most generally in textiles by addressing all consumers/users, even if there is a focus on sensitive groups, and on the environment at large. While also focusing mainly on the local environment, framings of paint also point out that everyone is potentially at risk, although vulnerable groups are highlighted in particular (and marine organisms are also pointed out). For toys, finally, the media do not discuss the risks for virtually any other object of risk than children.

Moving on from objects of risk to the spatiality of risk, in the toys case there is not a specific geographical focus – risks are directed to the Swedish child. There is a limited perspective of the risks of paint, focusing on individual health and the local environment, but with the addition of "the sea" at large. For textiles, unlike toys and paint, the risks are pointed out both in Sweden and from a global perspective – in terms of the environment and of the health of consumers and workers. Textiles is also the only case that to any great extent and explicitly puts the focus on economic aspects by framing processes of globalisation as important for the developing world.

The effects of risk for all three cases quite similarly focus on carcinogenicity, reproductive damage, asthma and allergies. In the case of textiles and paint, these are complemented with pollution while toys add mental impairment and even death as risk effects. There is thus a focused framing of the health effects on the user and consumer of the product, leaving other framings aside, such as the environment.

Framings in media focusing on how to avoid risk are quite diverse for the three cases. The chemical risks of toys focus on the removal of toys and appropriate behaviour with toys – including controlling for (and implicitly following) labels. This emphasises the supervisory role of parents – even if the market is supposed to be safe. To avoid risks with paint, people are advised to paint less and to make good choices when buying paint. For textiles, the most complex framings of risk abatement can be seen, which include aspects of maintenance, such as washing before use, and mending, but also buying labelled clothes and even buying less. Unlike the other two cases, it therefore heavily emphasises the individual shaping of risk, suggesting more proactive and encompassing measures.

Moving on to Table 8, the procedural framings across the three cases are compared.

Table 8 Summary of the procedural framings of textiles, toys and paint

Procedural framings	Textiles	Toys	Paint
Important actors	State – legislation NGOs – opinion maker Industry – enabler *and* restrictor Citizen-consumer – driver of change	State – enabler *and* restrictor Industry – restrictor Citizen – by voting	International organisations – enabler *and* restrictor State – enabler *and* restrictor Municipalities – restrictor Industry – restrictor Consumer –restrictor Citizen – protector of environment Citizen-consumer – supporting change
Risk origin	Global value chains Lacking legislation Consumerism	Global manufacturing Lacking legislation	Industry Lacking/confusing legislation Municipalities Consumers
Risk governance problems	Lacking compliance/control Manufacturing routines Consumption Lack of information	Lacking compliance/control Manufacturing routines	Lacking compliance/control Conservative industry/consumers Confusing legislation Lack of good information
Risk governance consequences	Environment and human health risks Market still important	Children at risk No safe market	Total, definite risk Illegal use of paint Problematic paints
Improved risk governance	Stricter legislation Labelling Industry responsibility Citizen-consumer	Stricter legislation Labelling Industry responsibility Citizen	Stricter legislation Inspection Citizen-consumer

In all cases the state and the industry are seen as important actors in the framings of risk. In the paint case, the international and the local levels of (risk) governance are added as well as less common framings of the citizen and the citizen-consumer carrying out activities of recycling and consumption respectively. But the consumer is also framed as actively hindering change by using prohibited paint. For toys the only other actor than industry and the state framed as important is the citizen as a political actor. The citizen should then vote only in his role as a parent. The textile case shows the only coverage, suggesting that NGOs and the citizen-consumer are actors in risk definition and management by having important proactive roles.

Looking into the mechanisms causing risks instead, framings of the "industry" are in focus in all three cases. In the textile case, industry is expanded to the structural global patterns of trade, rather than the national manufacture that is visible for paint or the focusing on firm activities in framings of the toys case. A lack of legislation is suggested to enable risk in all three cases. In the case of paint, the framings also include how the international and local governance processes add to risk. The cases of textiles and paint both include framings of how consumers contribute to risk by being a problematic structure for textiles, and by performing a problematic activity for paint.

The problems with risk governance, i.e. what aspects of governance mean that risks are still expressed, is framed as mainly an effect of (the lack of) legislation, i.e little compliance and control that enables risk. In the case of paint this is framed as finding expression in a conservative industry and consumers who are unwilling to change their behaviour. In the cases of textiles and toys the framings rather focus on problematic routines of manufacturing. The greater aspect of consumerism as a structural process is only mentioned in the textiles case. In effect, all this leads to a lack of information in the case of textiles and a lack of useful information in the case of paint – implying risks to the public. The toys case does not generally discuss the risk information to the public in terms of problems – it is rather suggested that people should not need to know.

The framings of the consequences of flawed risk governance, at a societal level, are that the environment and human health still are at risk in all three cases. For textiles the market and what production means to people in the developing world is still framed as important. The framings in the case of toys are quite contradictory. It is suggested in the analysed material that toys are not safe – in general attributed to inadequate legislation – but still there is a dominant framing that toys should be safe. In the paint case, framings of the problem with legislation say that it enables prohibited or questionable paints to still be sold and used. The risks are thus total and definite and it is framed as rather hopeless to ever reduce the chemical pollution of the seas.

The improvement of risk management according to these flaws is framed as being directed to, in particular, strengthening legislation in all three cases. Two other factors – industry taking on greater responsibility for the safety of its products and encouraging more product labelling (although different types) is suggested to reduce the chemical risks of textiles and toys. The proactive citizen-consumer is framed as part of improved risk management only for textiles, while paint focuses on a reactive citizen-consumer that should choose well from the available selection. In the case of toys, industry is framed as responsible for the safety of the toys, leaving the consumer with little responsibilities in the framings of the safe market. The citizen, however, should contribute to political pressure by voting.

Finally, Table 9 summarises the citizen-consumer framings of textiles, toys and paint.

Table 9 Summary of the citizen-consumer framings of textiles, toys and paint

Citizen-consumer framings	Textiles	Toys	Paint
Citizen activities	Being a good person	Voting for parties/politicians	Recycling as a local act
Consumer activities	Shopping proactively	Potential to shop proactively	Choosing well from a selection
Who is a consumer/citizen	Everyone is a consumer "The good person" is a citizen	Parents are the only citizens and consumers	Boat owners are consumers Local inhabitants are citizens
Citizen-consumer perspectives	Citizen-consumer obligation to buy better products Market needs Incomes in the developing world	Citizen's rights to safe products No obligation to be a citizen-consumer	Citizen's duty to recycle Unwilling consumers Difficult to be citizen-consumer
Citizen-consumer awareness	Expected to be high and utilised	Expected to be low as knowledge cannot be required	Expected to be high as information is available but also acknowledged as difficult
Citizen-consumer responsibility	Buy better products or consume differently – but do consume	Buy "safe" toys but no proactive shopping needed	Buy from an existing selection – but in reality hard to value
Knowledge building	The public should inform themselves and firms provide them with information	The public should be informed but it is impossible to know	The public can find the information that is out there

The citizen-consumer framings are quite diverse for the three cases. To start with citizen activities, they range from very passive (for textiles, to be a good person) to rather passive (for paint, to recycle for the local good) to traditional activities (for toys, to vote). Consumer activities are then similarly spread out along the obligation scale. Textile consumers should shop proactively, toys consumers could shop proactively (but do not have to even consider doing so) and paint consumers should choose well from existing options. Looking into who is suggested as being a citizen or a consumer, for textiles there is the suggestion that everyone should take part in risk governance as consumers but also that being a good person implies citizenship. Parents are the *only* consumers and citizens for the case of toys where the public buys and acts as parents rather than for any other reason. The paint case frames boat owners buying prohibited paint are consumers, while citizens buy better types of paint or recycle leftover paint in order to protect the local environment.

Looking into the framings of the citizen-consumer, in line with the citizen and the consumer, these vary greatly over the three cases. The awareness of risk as a citizen-consumer is framed as expected to be high and also that it ought to affect purchasing choices in the case of textiles. There are also framings of an obligation to know about chemical risks in the case of textiles by citizen-consumers being informed by industry and informing themselves. For paint the awareness is similarly expected to be high but it is acknowledged to be difficult to use it. Regarding paint the citizen-consumer should take part of the information that is "out there" even if it is said to be difficult to value, and accordingly use, the information. In the case of toys, it looks very different as knowledge about the chemical risks of toys is framed as impossible to acquire and make sense of. In line with this, for toys there is no obligation to be informed since the products should be safe in themselves.

So, following the above, the responsibility of the citizen-consumer of course also varies across the cases. The toy consumer has the least responsibility since the market should be safe in itself. Consumption of toys is rarely problematised as a mechanism that contributes to chemical risks. When buying paint the citizen-consumer has a responsibility to choose well from what is legally available, but is not requested to make demands in the market-place and it is also acknowledged as difficult to make better choices. The case of paint thus does not offer an active perspective of the citizen-consumer. Finally, it is only when the citizen-consumer is related to textiles that there is a view of proactiveness and political perspectives of consumers being able to have an impact on the risks by their consumption choices. But there also are framings visible which suggest that people should continue consuming since it is important for the developing world.

In addition to comparing the cases for their framings, the distribution of news, opinion and feature articles seem to vary across the cases, see Table 10 below.

Table 10 Distribution of opinion, feature and news articles per case

	Type of article			
	News	***Opinion***	***Feature***	***Σ***
Textiles	39 (58%)	10 (15%)	18 (27%)	67
Toys	81 (78%)	16 (15%)	7 (7%)	104
Paint	57 (72%)	7 (9%)	15 (19%)	79

Note: Percentage within parentheses.

All of the cases show a dominance of news but in the case of textiles this dominance is rather weak, with slightly over half of the analysed articles being news. The other two cases show a heavier dominance, both with around three quarters of the analysed material being news articles (slightly more for toys and slightly less for paint). For the

case of textiles, almost half of the selected sample are opinion and feature articles. In particular feature articles suggest what the public can do – as consumers or citizen-consumers. But the opinion articles discuss the chemical risks in a similar manner, leaving the greater political aspects, to a large extent, apart. The case of toys is heavily dominated by news. Opinion articles are more common than feature articles, signifying that this is a political topic rather than a topic for the individual member of the public at the private level. The opinion articles are in many cases written by politicians or NGOs, signalling the political salience of the chemical risk of toys. The feature articles often discuss how difficult it is for members of the public to know what toys are safe to buy. Finally, the case of paint includes more feature articles and a handful of opinion articles. The feature articles show less of citizen-consumer framings and instead focus on setting the contexts for the risks of paint. The opinion articles often discuss political aspects of the risks but without referring them to individuals. The main focus is on news which, suggests that the risks are part of governance, and that most risk events can be covered as news, using for example legislation as a reference point.

In this section, I have compared the three cases along a number of dimensions of the substantive, procedural and citizen-consumer framings and the distribution of news, opinion and feature articles. In the next chapter the three analytical levels will be merged and discussed in terms of specific and more general questions that are related to the aim of the thesis – to understand how these framings co-construct risks in society.

11 Conclusion and discussion

The aim of this thesis is to understand and problematise how chemical risks of consumer goods are co-constructed as societal concerns in the media. To achieve this aim, three types of framings in media have been analysed: substantive, procedural and citizen-consumer framings. They relate to different aspects, namely to knowledge claims and experience (scientific or non-scientific) as a basis for judgements of risk, to societal mechanisms in relation to causes, effects and management of risk, and to the public's part in the risk issues. So far, these framings have mostly been analysed separately, but here, towards the end of the thesis, the ambition is instead to talk about the co-construction of risk. This chapter thus focuses on how substantive, procedural and citizen-consumer framings together negotiate and define what the chemical risks of consumer are about and the implications this has for risks and for society. The chapter synthesises conclusions and discussions into four main groups (see Figure 10) – how framings co-construct risk in media, the implication for governance, the implication for the public and to what extent chemical risks of consumer goods are late modern at all.

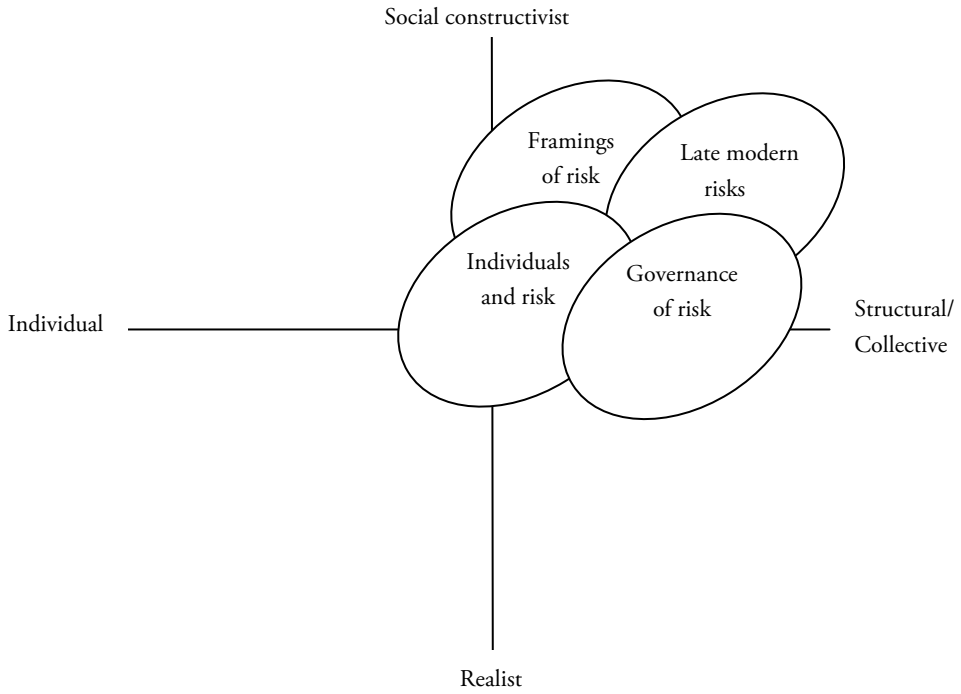

Figure 10 The four groups of conclusions

Figure 10 relates to figure 3 (chapter 3.1) that introduced social science risk research but reorganises my contribution according to the conclusions drawn from the analysis. The figure should be understood as showing that the four groups of conclusions overlap and that there are not always a clear division between the arguments in each sphere. This final discussion seeks to show that these aspects are mutually defining and negotiate different aspect of risk. The figure should also be understood as that the different perspectives, which the four groups of conclusions represent, needs to gravitate towards each other. Governance of risk needs to take more constructivist perspectives into account and framings of risk should be more concerned with realistic perspectives of risk, for example. This highlights one of the most important points of departures for this thesis – that risks have both real and constructed elements and that a social science theory on risk need to take both into account. It also highlights another point – that risks are mainly collective endeavours and need to be defined and governed as such. The four groups of conclusions will be discussed below, starting with how framings co-construct risks in media.

11.1 The co-construction of risk

Proceeding from the empirical material that has been analysed in this thesis, there is a notion that the framings emphasise different aspects of risk, highlighting some and leaving out others. This emphasis influence what the framings of risk look like. The framings of risk in the analysed material thus vary considerably, not only between the three product groups, but also depending on what chemical risk is in focus, what context of risk is in focus and what/whether governance mechanisms of risks are in focus. The framings can therefore be seen as quite case-specific – but in a narrower sense than in terms of product groups. However, in addition to framings that are specific to products, chemicals and contexts, there are some framings that are used in the same manner across the cases. These act as master frames, effectively simplifying risk constructions by suggesting what the risks are about. But there are also framings in the media that would have a potential to be master frames but are not – then the explanatory power of a framing varies even if the fundamental mechanism in focus is essentially the same across the cases. First the emphasis of framings will be discussed below, followed by a discussion of master frames.

Framings at work – substantive, procedural and citizen-consumer framings

How are chemical risks of consumer goods framed in media? As *chemical* risks or as risks associated with *products*? Or as something completely different? The analysis of the material implies all of these – sometimes the chemical is in focus and sometimes the product group. In addition, it is not always the risks *per se* that are in focus but rather problems with the management of risk. Thus, both substantive and procedural framings, to a varying degree, co-construct risks by suggesting risk origins, effects and solutions at different levels.

Substantive framings and procedural framings seem to do different things in the analysed media material. There is nothing extraordinary about this conclusion – rather it is an outcome of the research design that characterises different types of framings. This is done in line with theory which suggests that framings, in part via framing devices such as word choice, exemplars, metaphors and illustrations, provide both informational content and contextual aspects and do so differently depending on what is in focus (Entman, 2004). What is more interesting is that the emphasis of the framings differs quite dramatically over the cases. The implications of this varying emphasis and suggestions for how to improve the situation will come in the upcoming section on risk governance.

On the basis of the empirical material it can be seen that substantive framings are more prominent when there is no risk consensus and/or when the management of

risk is lacking – thus before risk can collectively be viewed as "certain" or "managed". The higher the uncertainty, the more substantive framings are visible since, at this stage, it is the chemical risk in itself that is under definition, by different types of knowledge claims that include a variety of actors and not only scientific expertise. When the risk has been collectively defined, measures can be taken according to how risk governance processes operate in society – including mechanisms of legislation or political consumption, for example. Whether substantive or procedural framings are dominant is relevant both to the hazardous chemical and to the product group. For example, in the analysed media material, lead paint on toy cars is not discussed to the same extent from a substantive perspective as phthalates in plastic toys are. The first risk is more established in society than the second. There are also more substantive framings in the case of textiles than for the other two cases. One explanation could be that for the case of textiles risk definitions are still under construction, enabling more framings to be seen (Entman, 1993). That the substantive framings are by no means set by scientific claims alone, but also by industry, NGOs and the public, for example, is visible in this analysis in respect of NPE and phthalates (cf. Iles, 2007), and has been shown in other cases for Bisphenol A (Brewer & Ley, 2011).

Procedural framings, in line with the reasoning above, are more prominent in the empirical material when a risk is believed to be managed or when the public should not need to be concerned with managing risk. Thus, procedural framings are recurrent when the perceived uncertainty about the risk is low, even if the risk may be regarded as a considerable threat in people's everyday lives. At this stage, society's protection mechanisms have been triggered and the risk is part of risk governance – although not necessarily in a very successful manner. This then leaves less room for disputing the definition of risk *per se* – substantive framings are less seen. Rather, it is the mechanisms of management that can be questioned, for example the effectiveness of legislation or problems with product labelling. This is particularly seen in the case of toys, but also for anti-fouling paints, for example. In these cases substantive framings are used to clarify "facts" such as exposure and abatement methods, but not to negotiate definitions of risk.

Citizen-consumer framings in the three cases vary, in terms of what aspect of the pulic that is in focus, according to whether substantive or procedural framings are most emphasised.[55] Citizen-consumer framings thus seem to be connected to how risks are defined by substantive and procedural framings and how the framings

[55] In accordance with what has been said, although not analysed in this thesis, it could be the case that citizen-consumer framings also vary depending on what chemical or context is in focus.

suggest that risks should be perceived. The analysis that has been conducted though, indicates that in general is one aspect of the public emphasised. It seems especially difficult to frame the consumer and the citizen within the same risk and only in the case of textiles is the citizen-consumer part of framings as a proactive political actor. The consumer is more prominent when substantive framings are in focus. When the risk is still under definition and not managed at the societal level, the public is suggested to have to take responsibility as consumers. This is visible, for example, for textiles as a product group and for anti-fouling paint as a product. A managed risk shows fewer responsibilities for the consumer (even if they may be there) and the citizen is in focus through activities such as voting or recycling. But a managed risk does not necessarily imply anything for the citizen either – it may mostly be a matter for (supra-)national governance, as seen in the case of toys.

Discussing what may influence the emphasis of the framings, three aspects particularly salient in the analysed material will be discussed – the chemical itself, the context of risk and societal mechanisms.

First, the chemical itself sets boundaries for what can (realistically) be claimed about risk. For some chemicals in the analysed material, lead and TBT, there is consensus about the chemical risk. Other chemicals are in themselves a matter of conflict through positions of individual versus aggregated, and specific versus general risks, i.e. for phthalates and DMF. Therefore, knowledge claims about hazardous properties of the chemical, such as whether it is carcinogenic or causes reproductive damage, or if it is a risk to the environment or to human health, has implications for how risks can be framed (Tyshenko, Phillips, Mehta, Poirier, & Leiss, 2008). In addition is the substantive content different between chemicals. Some chemicals, for example, NPE and phthalates, are described in terms of hazards, exposure and effects. Others show little of these definitions of risk, as in the case of lead, where the awareness of risk seems to be taken for granted. Yet another type seems to be more concerned with the functionality of the chemical. For example, paint is often discussed in terms of how the desired functionality changes with product re-formulations. However, the three types are not "exclusive categories" and it is not uncommon that risk framings are rather diffuse about where the risks manifest themselves the most (Stamm, Clark, & Reynolds Eblacas, 2000).

Second, context matters for how risks are framed. Part of the context is based on the chemical risk – who is believed to be most at risk, where the risk is located, and what type of risks are seen as most salient. For example, the case of lead shows limited framings in all respects, virtually only discussing risks for the Swedish child's brain development, even though many other risk aspects are relevant too (Brittle & Zint, 2003). In other cases it is more difficult to make such delimitations. For example, TBT is framed as a risk for "the sea" because boats are in (global) waters. Social and cultural factors, what in this thesis have been called risk reflection, also shape the

context for how risks are framed. Risk reflection includes aspects of the individual/collective endeavour of perception, experiences and habit (Slovic, 1999), and social processes of amplification (Kasperson et al., 1988). There is thus a "cultural bias" that explains why some risks are seen as societal concerns (Douglas & Wildavsky, 1982). One example is the limited framings of chemical risks of toys that only focus on how children, who ought to be safe, are at risk due to the high societal salience of anything that concerns children (Scott, Jackson, & Backet-Milburn, 1998; Park, 2007). Another example is how the risks of lead resonate with the public's prior knowledge (cf. Brittle & Zint, 2003). A final example is how issues are re-framed from risks to the environment to risks to human health as a result of individualisation tendencies in society (Szaz, 2007; MacKendrick, 2011).

Third, mechanisms in society matter for how risks are framed. For certain risks in the analysed material, procedural framings are the primary site of dispute, discussing the risks of chemicals in terms of insufficient and limping legislation, processes of globalisation or limits to product labels. These framings sometimes refer to chemicals – e.g. phthalates – and in other instances refer to product groups – e.g. textiles. Perspectives of whether risks are perceived as managed or not, if there is legislation or not (aimed at the chemical or the product group), whether they are part of citizen rights or obligations, for example, matter for how the chemical risk is suggested to be manifested and managed in society. It is clear from the empirical material that framings in the media act in tandem by referring to collective understandings and similarly manifest the very same understandings (Reese, 2007; Van Gorp, 2007).

The procedural aspects are arguably more important for how a risk is framed than the chemical properties (perhaps with the exception of when the chemical property is alleged to be especially hazardous, i.e. TBT). This means that even if chemical risks have their origin in knowledge claims, in view of this empirical material, society's management of risk seems to matter more for how it is framed in the media. However, it is very important to note that framings of the management of risk are not necessarily related to the risk *per se* but rather to ideas of cause, effects and responsibility – framings reflect society's collective understanding of risk (Tewksbury & Scheufele, 2008). This in turn affects the public view of risks: framings and culture reinforce each other in a way that makes them difficult to separate, explaining the stability of some framings (Reese, 2007; Van Gorp, 2007). For example, the chemical risks of textiles and toys are fairly comparable as risks but part of very different framings in the analysed material. One reason for this is the perception of how the risk *ought* to be managed – and a subsequent belief of how it *is* managed. This supports the view that late modern risks are not about the risks *per se* but rather about how the public feels and thinks about the risks (Beck, 2006; Falkheimner, 2007).

Even if the "cultural bias", as suggested above, may explain why certain risks and certain perspectives of risk are focused on, it does not account for how they become

societal concerns in framings in media. In the analysed material there is a focus on a rather limited number of chemicals, leaving out framings of many potential chemical risks. The use of fluorocarbons as water repellents in rain gear, for example, does not clearly differ from any of the chemical risks of textiles that are in focus. The analysis of the empirical material does not offer any explanations why this risk is not visible in media as opposed to, for example, NPE in T-shirts. Media logic may be one answer why certain perspectives and certain risks are highlighted – they resonate with how the media turn events, issues and topics into risks of public interest (Hughes, Kitzinger, & Murdock, 2006; Olofsson, 2009). However, the more precise dynamics affecting which chemical risks of consumer goods become societal concerns and in what way is a question that this thesis fails to answer. Thus, it is important to study how risks in focus become the ones prioritised by society. What distinguishes salient issues from non-salient ones? To investigate this could include looking at who brings issues to the forefront of public debates. This has not been done in this thesis and it would be highly interesting to see how framings of risk vary with actors' presence and strategies in risk issues. Actors in focus could be NGOs, but also different types of experts, scientists, industry and political institutions. Another way, more similar to the topic of this thesis, is if there is something about the risks themselves or society's management of them that enables a public debate.

Simplistic framings of complex risk

Encompassing risk framings are consistently missing in the analysed material – none of the cases manage to frame risks in all their complexity including both knowledge claims and governance aspects. Rather, all three cases, to a varying degree, are dominated by certain framings that act as master frames (Benford & Snow, 2000). The framings that concern human health, Sweden and sensitive groups (children in particular) are consistent for all three cases. This is to be expected, as one aspect of media logic is to frame issues and events in a manner that interests the audience (Allan, 2002; Hughes, Kitzinger, & Murdock, 2006; Olofsson, 2009). However, master frames suggest what the most important issues are, and as such not only draw the focus to certain aspects but actually define risks *according* to these aspects, effectively obliterating all other framings potentially available. This is due to the structuring and projecting capability of framings (Reese, 2007). Risks that are represented by master frames in this material therefore show a great and stable consensus in how they are defined, what the origin is and what should be done about them.

Framings about the particular status of children are visible in all cases in the analysed material – it functions as a master frame (Benford & Snow, 2000). The special status of children does not even have to be explicit in the text, but only hinted at without

the framing losing its structuring power (Van Gorp, 2007). Children are pointed out as extra sensitive and at risk, in addition to being passively exposed to risk. But in the case of toys it is also a highly preconditioning frame that defines the parameters for all other risk framings. As such, it effectively abolishes all other risk perspectives or bearers of risk. In the toy case, even the coverage of the risk for other sensitive groups – foetuses, pregnant women and allergic people – is missing, not to mention risks to the environment or to workers. Certain risks, for example the use of lead pigments in paints, ought to be a greater risk for workers in factories than for the Swedish child, but this is not acknowledged in the analysed material. That safe toys are seen as a citizen's right shows how highly society values risk to children (Scott, Jackson, & Backet-Milburn, 1998) – which is not seen for textiles or paint. A similar finding has been obtained when researching perceptions and claims of safety problems with the car brand Volvo in Sweden where it is argued that the particular status of Volvo – in terms of reputation and emotional appeal – resulted in very particular public responses to claims of unsafety. One type of response included a minimisation of perceived risk as the trust in Volvo seemed more important than any risk claims (Boholm, 2003). What is in effect a denial of risk can similarly be seen in particular for the chemical risks of toys.

Another visible pattern of dominant framings are that risks to human health are in focus. This even finds expression in the way risks to the environment are reframed into risks to human health, an observation that supports literature on the topic (Szaz, 2007; Maibach, Nisbet, Baldwin, Akerlof, & Diao, 2010; MacKendrick, 2011). Risk framings of human health in the three cases thus not only dominate over risk framings to the environment but are also reframed from environmental aspects (visible especially for textiles). What this seems to imply is that the responsibility for the risk is diverted from the collective to the individual (MacKendrick, 2011). With increasing individual responsibility for risk there is also an increasing reliance on the individual management of risk – often through consumption (Beck, 2001; 2006). The implications of this will be extensively discussed below, so here the link is merely suggested.

The geographical location of risk in focus is mainly Sweden for all three cases, although there are parallel framings of risk locations that differ. In the case of textiles the risks in countries of production are added, for paint "the sea" in a global sense is part of framings of risk as well as risks at a local level. No geographical level is pointed out for chemical risks of toys, but it is implicitly understood as the Swedish child. In part, the focus on Sweden can be attributed to the level in society at which the risk is governed, since this can be used as a reference point when framing risk location. Most of the governance of risks is executed at a national level via the national authorities, regions and municipalities (the local level is especially present in the case of paint) (Johansson, 2010) and Sweden is thus an effective point of reference for risk. Another aspect, as mentioned above, is that the Swedish perspective follows media logic – it is

the most relevant location for the audience (Olofsson, 2009). But risks are probably smaller in Sweden than in most other places given the legislation that nevertheless is in place and the public awareness of chemical risk. The focus on Sweden thus offers a rather limited view of risk. For example, the global aspects of chemical pollution are never mentioned from a system perspective where chemicals do not disappear (cf. Pärt, Castaño, & Bengtsson, 2010).

A problem with such dominant framings as those discussed above is that the definition of risk is extremely stable (Durfee, 2006; Reese, 2007). The right to safe toys is unlikely to be reframed as an obligation to know about chemical risks in toys and to let it affect purchasing decisions, or as suggestions for how to put pressure on politicians. Another problem is that it removes all other risk framings or perspectives focusing only on children's health. The environment or workers at toy factories, for example, are never framed as objects of risk in the case of toys – which is quite exceptional. This means that the public debate, which may form a basis for different political actions, to a large extent is absent, in particular in the case of toys. There are no alternative suggestions in the analysed media material besides a safe market. That the market can never be safe is not even problematised. These types of master frame go beyond the practices and logics of the news media and tap into broader and deeper aspects of culture, which explains their resonance, structuring power and stability (Reese, 2007).

However, risk framings do not only function as unifying patterns, acting as master frames. Instead framings discussing the same fundamental issue can be suggesting quite different things. This could of course be because context matters, but it also shows that there is no predetermination of what becomes a master frame and what does not. One example of a framing that could have the potential to be a master frame is the process of globalisation. Globalisation is pointed out as one of the most pressing reasons in the analysed material, especially in the cases of textiles and toys but also to some extent paint, why there are chemical risks of consumer goods – but the framings of globalisation differ.

For textiles the framing is that the chemical risks are a result of long and complex value chains where the firm ordering a product ends up knowing very little about the chemicals used and added during manufacture by suppliers and sub-suppliers. There is no control over the chemicals used in the value chain. This has effects in countries of production and consumption alike – especially given the huge volume of chemicals utilised in the textile industry (Fransson, 2012). The framings of globalisation in the case of toys do not show a similar awareness of the structuring order of globalisation and rather suggest that the problem is simply a manufacturing problem and particularly a problem that is "made in China" – affecting only the *user* of the toy. "Made in China" becomes the signature for chemical risks of toys instead of focusing on problematic tendencies in a globalised society. The focus is put on actors – firms

and manufacturers – instead of processes, perhaps in order to find a scapegoat or a quick fix for products to become "safe". For the case of paint, the global perspective is visible in framings of the risks of TBT and other chemicals in anti-fouling paint only in respect of their origin and the effects of ships in international waters – globalisation is only mentioned in roundabout terms. The chemical risks of paint are not framed as a result of manufacturing processes, probably because there are stricter restrictions on chemical products and since paint is mainly produced in Sweden.[56]

The implications of these divergent framings of globalisation are seen when discussing the consumer of textiles and toys as visible in the media material. For textiles, globalisation is not framed as causing problems out of the individual's control. Rather, framings are visible which suggest that political consumption can change the ways in which textiles are produced – thus remedying the problems of globalisation. This has been seen as a market-based politics where both consumers and producers participate. The reason why the market becomes an important political arena is that under forces of globalisation the nation state's sovereignty is reduced and other mechanisms, such as consumption, can be perceived as more effective in producing change than international governance collaboration (Spaargaren & Mol, 2008). There are no implications of globalisation for the consumer of toys – rather the market should be safe and consumption is not problematised. Thus, the globalisation perspective in the case of toys does not offer a political space for governing the risks as it does in the case of textiles. However, there is one shared implication of globalisation for both textiles and toys, namely that issues of responsibility and control become more difficult to manage as information flows become more complex (Gabriel & Lang, 2008), monitoring mechanisms are lacking (Fransson, 2012) and moral issues become diffuse over distance (Holzer, 2007). This emphasises trust as a control mechanism when physical control becomes difficult to achieve (Giddens, 1990; Spaargaren & Mol, 2008), perhaps expressed as a trust in the market in the case of toys or trust in a new type of actor, such as NGOs, for textiles.

11.2 Implications for governance

I discussed above how the framings of the chemical risks of textiles, toys and paint differ and the implications of this for the (perception of the) risk. In this section the implication for society will be focused on. The analysis suggests that the procedures in society that are put in place to manage risks, as made visible in the media material, are

[56] Eighty per cent of the paint sold in Sweden is produced nationally (Fransson, 2012).

problematic in several respects. The discrepancy is visible in the way risk governance processes fail to capture expressions of risk, thus allowing it to manifest itself. This is a result of the risk governance processes where risks are defined and limited to certain situations. These risk-controlling mechanisms include legislation, product labelling and other aspects of risk governance that first will be discussed here. Even considering the problems with managing risk, there are few framings in the analysed material of how risk governance can be improved. Instead there are framings of how risks are not managed in a comprehensive manner, and it can be inferred from the empirical material that mechanisms put in place to manage risks may increase or even create risk as will be seen below.

Risk controlling mechanisms at work

Legislation and other (supra-)state risk governance mechanisms are, in the analysed media material, part of different framings for the three cases. In the case of toys, the state and state activities are virtually the only risk governance process present in the framings – especially in terms of legislation at both national and EU level. The case of paint also focuses on (inter)national legislation and restrictions on chemicals or applications as a way to manage risk. However, this is not visible in the case of textiles, which has very few framings of legislation, and when they do occur the focus is on chemicals and not on the product level. In the analysed media material there is thus a greater focus on legislation if it already exists and if the risk is framed as societally managed. This is perhaps quite intuitive as risks are, to the extent that they can be, referred to organised social structure (legislation, risk governance or similar activities) – it becomes a constant reference point for risk comparisons. The national level is of high relevance for the chemical risks of consumer goods since much of the environmental legislation is still carried out nationally (Johansson, 2010), as already discussed.

Nevertheless, a greater focus also on the legislation that is *not* there could be expected. There are few framings of how stricter legislation will be enforced – apart from voting for political parties or individual politicians in the case of toys. At times there can be discussions of how processes of managing risks are slow, i.e. TBT and its long awaited restriction, but there is little focus on how risk governance can be improved. This is especially striking for the case of textiles. For example, chemicals found in textiles can be framed as uncontrolled by legislation with subsequent calls to restrict the individual substances. But little attention is paid to that textiles at large are unregulated (in contrast to toys and even more so paint) or that there is legislation that is contradictory and fails to capture chemical risks. The focus is on controlling individual chemical risk, not improving the processes that manage risk in society. So, when legislation is missing it is rather the individual chemical that is in focus rather

than the lack of general risk controlling mechanisms – no Textile Safety Directive is called for.

Another example of the governance of chemical risk of consumer goods is the use of product labels. Labels are meant to provide consumers with guidance when shopping politically (Boström & Klintman, 2008). As a governance tool it has benefits of potentially being a clear communication method that can be integrated into the market (Thidell, 2009). Framings of labels are to a greater or lesser extent seen for all three cases. However, the framings in the analysed material also indicate that labelling is a problematic, rather than simple, tool in a number of ways. These problems have been identified by other researchers as well, suggesting that the problems of labels are of a more general character going beyond this empirical material.

First, the lack of consistent labelling for some product groups leads to possible confusion about the benefit of the label and what the label stands for (Fransson, 2012). An example from the analysed material is framings of the voluntary labelling for textiles where the abundance of labels and a lack of standardisation mean that they may not communicate much. Thidell (2009) notes that not all products are suitable for labelling because there must be sufficient differentiation between products and producer interest. For the case of textiles it has been suggested that the producer interest is missing (mainly due to industry dynamics) (Carlsson-Kanyama, Lindén, & Lundell, 2006; Boström, Börjesson, Gilek, Jönsson, & Karlsson, 2012). Second, there is a problem with self-regulated labels hinting that even if a product is labelled it may not fulfil the safety requirements (Becker, Edwards, & Massey, 2010). This is seen in the analysed media coverage of the mandatory, but also self-regulated by industry, CE label on toys, where false labels are held up as a problem and the CE label thus cannot be trusted. Third, there can be limitations in the product which mean that it can never be labelled as a good option (Thidell, 2009), as seen in the analysis of the chemical risks of paint where no paints can be labelled as completely free from risk, due to the chemical properties of paint. Fourth, labels are not always used to mark out the safety of a product but rather to limit its use (Leire & Thidell, 2005). This can be exemplified by the safety labelling of toys that is framed in the analysed material more as an escape clause of industry, by enforcing safe play rather than safe toys. Another example is risk labels and safety phrases on paint cans which are supposed to convey appropriate measures for protecting health and the environment when used. This means that they are not intended to make products safer but rather the use of products safer (Scott Dutcher, 2006). They are thus part of security framings rather than safety framings (Marcuse, 2006). It is therefore clear in the analysed material that labels are not always easy to use – either for states, for industry or for consumers – and that they may also be a problematic governance tool (cf. Thidell, 2009).

One basic approach when managing the chemical risks of consumer goods is to focus on chemicals with hazardous properties whose use makes them a risk, and to define the circumstances in which the risk is great enough to warrant risk-reducing measures. This requires science and society in concert. But it is important to note that not all chemical risks need to be scientifically proven to be considered a concern in society (Iles, 2007; Brewer & Ley, 2011). Framings in media are a space that is also open for other actors and knowledge claims, such as NGOs, to define risks as concerns in society, in the analysed material seen especially for NPE and phthalates. In addition it is important that the public debate goes beyond what chemical pose a risk to also include aspects of what mechanisms in society enable these kinds of risks and what can be done about that. This means that measures of risk governance should work at several levels in society.

One practical suggestion to improve risk governance aimed at the control of chemicals is to identify product groups that are of high public salience and combine this with a focus on what are, from a scientific perspective, the most inappropriate chemicals (Assmuth, Hildén, & Benighaus, 2010; Klinke & Renn, 2010). Governance should also be more sensitive to public demand at the expense of scientific consensus – thus to practise the precautionary principle also in respect of other actors and knowledge claims than scientific ones. The public resistance to certain chemicals could be used both as a governance opportunity, for example in terms of restrictions, and to put pressure on industry. Bisphenol A and phthalates are good examples where the public reaction has pre-empted legislation with industry-initiated removals and subsequent national legislations as a result (Iles, 2007; Brewer & Ley, 2011). Azo dyes, sweeteners and brominated fluorocarbons are other substances where this approach could be used. In order to create a public debate that is conducive to risk issues it would be crucial to cover chemical risks from as many angles as possible. For the media, this includes substantive framings of risk and procedural framings of risk, varying the content and type of articles (cf. Wilson, 2000). In addition, scientists themselves could be advocates of values and judgements that make risk governance measures more pro-active (Shrader-Frechette, 1996). Thus the role of the chemist and the chemical industry would need to be remodelled to be aimed at greater public accountability, for example, through aspects of sustainability (Sjöström, 2007). This would make it easier to pick up on public concerns and to regulate more chemical risks according to wider societal needs.

The reasoning above indicates that the research questions in this thesis could be targeted towards another audience by utilising other approaches, perhaps more technologically oriented, to improve governance practices (cf. Sjöström, 2007). I am thinking particularly about the type of research that is done where the audience is rather for scientists or policy makers to see the implications of their practices for society, where the goal is to improve the risk governance process, but also for research that suggests how to turn issues of scientific concern into topics of public debate.

The failure to create safe

It is interesting how the framings of risk in the analysed material, whether substantive, procedural or citizen-consumer, point out that consumer goods are not safe, nor can they be. This is clear in the way risks are defined for certain chemicals, for certain contexts and for certain groups of people. The chemical risks of consumer goods are therefore to large extent framed as unmanaged – perhaps even more unmanaged than managed. Below I will discuss a few aspects in which the chemical risks of consumer goods can be seen as failures to create safe.

The first aspect is how different types of labelling, rather than creating safety, actually can be accused of enforcing unsafety (Riley, Fischoff, Small, & Fischbeck, 2001). Some aspects of how labelling is problematic as a governance tool for promoting product safety were discussed above. Here, the example of safety labels (i.e. warning texts and symbols) will be discussed more extensively, based on the analysis of framings of safety labels on toys which suggests that their use is highly problematic. At times there can be calls for increased use of labelling in the empirical material, thus essentially regarding it as a well-functioning governance tool, but in general the limits to safety labelling and its consequences are in focus. These framings can be used as examples of how, by establishing and using safety labels or warning texts, the risk in itself is also defined and boundaries drawn around it.

Since safety labels on toys only apply to the context for which the product is intended, they are not valid for any other applications where risk may occur. What happens to the risk if the context changes when, for example, a child that does not belong to the intended age group of a toy plays with it? Does it increase or reduce the risk? Both suggestions are plausible, but by focusing on the risk for certain applications (bathing ducks being only for children over three, for example) the spotlight is only directed at the applications that are in accordance with the purpose. All other applications, by not being defined as risky, are also not managed by, in this case, the safety label. That this can become somewhat absurd is visible in the analysed material, which shows that children play with what they find desirable, not with what is intended for them neither in terms of age nor in terms of how to play with toys. In addition, a young child cannot interpret, or even relate to, a safety label, which makes adult supervision necessary. The safety label is thus for the adult rather than for the child. But even this is problematic, for example in framings of how parents have problems benefiting from safety labels because of the way they are (arbitrarily) used. One example from the empirical material is the classification of products in legislation where the boundaries between toys and non-toys are not always apparent. Altogether, this means that the chemical risk of the toy is not managed in a general sense but only for highly specific contexts. It is understandable that legislation needs to define "toys"

in order to manage them – for example through safety labels. But it is equally understandable that this definition only covers part of the risks with toys or by play. In other words, the warning text as a tool of risk reduction does not make the *toy* safe but may make the *use* of the toy safe(r) (cf. Scott Dutcher, 2006). Effectively only security is hightened (Marcuse, 2006) and then in only for specific circumstances. For each attempt to control risk, everyday situations occur that are not covered by the safety labelling of toys, but that still means that children (and others) are exposed to chemicals from toys.Safety labels are thus good examples of how society, by defining and trying to limit risk, also creates risk (Beck, 1992).

Another example of how risk governance processes actually add to risk is that it is not only the chemical but also the context that determines who is safe and who is not – risk is relative. For example, sensitive groups in the analysed material are often singled out as being at risk of exposure that is safe to "the average" person. This means that exposure that is "safe" to some may be "unsafe" to others – for example allergic or asthmatic people. Another example is how the work environment is seen as a protected space by the habits and measures taken to protect workers against risks, i.e. work safety, that may not be applicable to other chemicals. That work safety is also a relative phenomenon is seen in the way work safety legislation targeted at exposure to chemicals varies considerably between different countries (Schenk, 2010). This indicates that the same chemical in varying contexts is part of *different* risks since the conditions of the risk vary – the relationship of risk differs (Boholm & Corvellec, 2011). The chemical has certain properties that make it more or less hazardous. But it is other factors that determine the risk, such as who is exposed, for how long and under what circumstances the chemical exposure happens – and indeed how risk governance processes values these factors. It is therefore impossible to talk about being safe in a general sense from any chemical.

What the examples above reveal is that, by establishing and expanding on what is safe, unsafe is repeatedly constructed (Nyers, 2009). Risks that the public may not even have heard of and even less thought about are turned into issues the public should be concerned with (Doyle, 2007) – visualising risk is creating risk (Beck, 1992; Ekberg, 2007). It is the mental preoccupation with risk that enforces feelings of unsafety (Falkheimner, 2007). However, defining and managing risk is also the process by which exposures are made acceptable (by threshold values for example) and groups that do not need protection are separated (by being over three, for example). By setting risk boundaries, objects of risk are put in risk situations or objects of risk are not protected at all.

11.3 Implications for the public

When analysing framings of the public in risk issues, the concept of the citizen-consumer has been useful. It suggests that risks are, in addition to governance processes by other actors, managed at an individual level. Two perspectives can be expected, that of the consumer, since this thesis is concerned with products that are bought by individuals, and that of the citizen, since the risks are managed, at least partly, by political processes of risk governance. Both these perspectives are found but to quite a limited extent. The consumer is rarely explicit but the idea of the market is often part of the framings. The citizen is somewhat more prominent. Instead, framings of citizen-consumers who manage risk explicitly as individuals are most common – probably because the distinction between citizen and consumer is ideal. Everyone is both. But managing risks by consumption is also limiting as it is only when it is turned into a practice, rather than an action, that it becomes political. This is also an implication of some of the material that widens political consumption into patterns of everyday practices. The framings of the citizen-consumer and everyday practices will be discussed below.

The public as citizen-consumers

The first modernity used the separate notions of the citizen and the consumer to assign them clearly separate goals (Spaargaren & Mol, 2008) that late modernity may have difficulties upholding. Thus, this section discusses perspectives of the citizen and the consumer but above all ideas of the citizen-consumer, which is a more useful notion of the public than any ideal types (Schudson, 2007). The artificiality of the distinction between citizens and consumers seems to be supported by the empirical material – there are problems findings framings of either. It is rare in the empirical material that the public is framed in terms of citizens and activities that citizens do. Only the case of toys shows framings of citizens being traditionally political by voting. However, safe markets are even more emphasised in framings, effectively turning consumption of safe toys into a citizen's right. Articles about paint, when framing citizen activities, often refer to recycling as a means to save the local environment. It is a citizen's duty – towards the municipality – to make sure that the local environment is not polluted. In the case of textiles, there is an even more passive suggestion of citizenship by being a "good person" – perhaps in tune with that this is the case with the least focus on formal politics. It is therefore not activities but rather an attitude – citizens *are* rather than *do* – that shape who is a citizen when it comes to chemcial risks of textiles. The diffuse citizen is consistent with other empirical findings of how the citizen is inconsistently and problematically visualised in communication (Livingstone, Lunt, & Miller, 2007; Johnston J., 2008). But it also implies a

passivisation of the citizen, where no such activities are needed or desired to manage risk in society. A challenge thus lies in reconnecting the individual with the political in risk governance – suggestions for how to do this will come later.

However, in contrast to the two previous references that found images of the consumer more common, framings of the pure consumer are even rarer in the analysed material. Consumers are framed as contributing to risk in the case of paint, where they are depicted as environmental villains when choosing prohibited paint (a citizen would not contribute to risk seems to be the rationale). Positive framings of the consumer are only present, to any great extent, in the case of textiles where it is suggested that it will create problems for the developing world if consumers stop shopping. But it is also acknowledged that consumption is part of risk-enhancing behaviour. In contrast, consumption is rarely problematised as a structural phenomenon in the case of toys – instead framings of a safe market are in focus. But the idea of the market and of market forces is in constant focus in the analysed material. In the case of textiles it is also suggested that goods can be *produced* in order to change society – thus effectively reversing the mechanism of the citizen-consumer. Thus, there are underlying neo-liberal notions of the consumer and the market's correcting ability in the analysed material (Jubas, 2007).

Since risks are not sufficiently managed by society's institutions (such as risk governance), the market becomes a political sphere for the citizen (Spaargaren & Mol, 2008). In support of this, the citizen-consumer is often suggested as a solution to risk issues in the analysed material – especially in the case of textiles but also in the case of paint. The citizen-consumer is framed as obliged to choose well from an existing selection of paint, guided mainly by legislation. It is thus a rather superficial version of the political consumer (cf. Klintman, Boström, Ekelund, & Lindén, 2008) that does not really drive change but rather ensures that any changes are cemented in the marketplace. The changes are instead driven by legal requirements of product reformulation by industry. It is this process of change that the consumer is meant to support when choosing "environmentally friendly" paint. This is not the same as reflexivity in Beck's (1992) terms, which rather focuses on the awareness of limits to the current management. But it lies closer to Giddens's (1990; 1999) view of reflexivity, where trust in what to choose is left to the judgement of experts, but where the estimates of risk constantly vary, enforcing new choices.

The citizen-consumer of textiles is quite differently suggested to drive processes of change in the marketplace by making explicit demands in shops – to be political consumers (Johnston, 2008). It is not suggested that the state should enforce changes at an industry level. Rather, the individual by his choices is not only meant to influence how consumer goods are produced (Spaargaren & Mol, 2008) and thus what chemical risks they impose, but also to demonstrate, by consumption choices, the political standpoint he has (Jubas, 2007). In respect of textiles it is therefore clear

that political consumption can be about demonstrating what one cares for – thus contributing to public debate – rather than sending a market message to manufacturers (Stevenson, 2002). It is a visual form of politics where individual standpoints become part of public debate by being on display. This framing lies considerably closer to more encompassing notions of reflexivity than what framings of the citizen-consumer of paint offered. The analysis therefore suggests that it is only the consumer of textiles that is meant to enforce change in Beck's (1992) terms of reflexivity and sub-politics. It is then relevant to ask why in the case of textiles. The main reason, based on the analysis, is that the case of textiles also shows the fewest aspects of organised governance. When the risk-governing mechanisms are lacking, the individual is brought to the forefront of managing risk (Beck, 2006). This will be extensively discussed soon.

The analysed material also indicates a weakness in the concept of the citizen-consumer – that it only seems to be relevant for some product groups. But, if consumers are believed to influence how risks are managed in society, the product group ought to have no relevance – even if legislation is in place. For example, consumers could be very particular about what toys they buy or refuse to buy certain paints and thus influence the market, which, according to the citizen-consumer logic, responds to consumer demands (Thidell, 2009). The citizen-consumer could be consistent (Stolle, Hooghe, & Micheletti, 2005) and organised (Spaargaren & Mol, 2008) in her consumption practices for a political effect. The citizen-consumer would then circumvent and render unnecessary legislation and instead target the market for aspects that he finds relevant – indeed expressions of sub-politics (Olofsson & Öhman, 2007; Lupton & Tulloch, 2002). Then it is of less concern how regulated a product group is.

Everyday practices

Going against ideas of the citizen-consumer, retained or increased patterns of consumption, even if it is political, can be seen as contributing to unsustainability (Spaargaren & Mol, 2008). Using textiles as an example, there would not be enough cotton for today's textile production if it was all organically grown (Ander, 2010). And many synthetic fibres use a lot of chemicals in their manufacturing (Swerea, 2009). Thus, even if organic cotton (or some other more sustainable choice) is better for the environment than traditionally grown cotton, it is better not to buy at all from an environmental perspective (Klintman, Boström, Ekelund, & Lindén, 2008; Kolandai-Matchett, 2009). Reduced levels of consumption would therefore be an efficient way of decreasing also the chemical risks of textiles. This is valid for the chemical risks of paint and toys as well.

However, framings of consuming less are much rarer than aspects of consuming politically. The rationale seems to be that if people do not consume there is no political message that can be sent to producers (cf. Shaw, Newholm, & Dickinson, 2006). A line of critique against the political power of the citizen-consumer can be that it is, at best, superficial. As such the citizen-consumer spends time doing trivial activities – shopping or recycling – because it is an easy solution (Maniates, 2001). The problem, according to this critique, lies in that environmental issues are collective and institutionalised and as such cannot be solved by measures that cunningly support the very foundations of the problem. The market cannot offer anything that is beyond itself (Seyfang, 2005). That is, problems caused by consumption cannot be solved by more consumption, however political it may be, but must target institutions and (global) politics (Maniates, 2001; Jubas, 2007).

In the case of textiles, there are framings of changed ways of everyday practices that go beyond consumption and that could reduce the chemical risks, and benefit sustainability as a whole. [57] Suggestions in the analysed material for how to live in a way that is more sustainable and less exposed to risk in the case of textiles include hiring and swapping clothes, redesigning and better maintenance. If consumption is still included, second-hand is often framed as a way of both reducing the chemical risk (the clothes have been washed many times before) and as a purchase that does not utilise the available natural resources (cf. Klintman & Stenborg, 2011). In the case of paint, changed practices are even framed as a necessity for more sustainable options, where consumers are required to change both their behaviour concerning paint and to accept lowered functionality in the products they use.

It could thus be part of the risk framing that any transition of society involving the citizen-consumer includes aspects of changed behaviour and changed expectations beyond acts of consumption (Mont & Pleyps, 2008). Even if it is not easy to disentangle, practices are the connection between consumers, producers and systems of production (of risk) (Shove & Walker, 2010). This then goes against the notions of practices as trivial – it is everyday practices that link the individual to the political (Sandlin, 2004; Spaargaren & Mol, 2008). This has been called "life politics" (Giddens, 1990; 1999) or "lifestyle politics" (Spaargaren & Mol, 2008), which suggests that routines, habits and shared practices can be conceptualised as a way to manage risk. The reason is that environmental risks find expression in the everyday life of people (Halkier, 2001). For example, framings of political consumption of

[57] Practices can of course also be carried out without the intent to reduce risk (Halkier, 2001). One example is how (not) washing jeans is framed as a chemical risks to the wearer but also as part of an identity-creation practice (Klintman & Stenborg, 2011).

textiles include perspectives of it being explicitly visual. People thus not only send messages in the marketplace, but contribute to the public debate. This view can be supported by the argument that, in order for changing practices to gain a foothold, they must be societally and politically supported (Shove & Walker, 2010). But the reverse is also true. Governance, seen as shaping society in desired directions, needs to take aspects of practices into account as these reproduce and shape the system of which governance is part. This has been shown by the way in which policy has a direct impact on how people behave (Shove & Walker, 2010) and has potential to do so for the governance of chemical risks in many consumer areas (Klintman & Stenborg, 2011).

Practices thus link consumption to politics (Halkier, 2001; Connolly & Prothero, 2008; Spaargaren & Mol, 2008; Shove & Walker, 2010). This supports the academic view of the citizen-consumer as political (Stevenson, 2002; Schudson, 2007), and also ideas of sub-politics (Beck, 2006; Wimmer & Quandt, 2006). This indicates that the way consumption is defined needs to be broadened in the literature on the citizen-consumer to include activities beyond the purchasing situation as well. The reason is that consumption, unlike citizen activities, cannot communicate the intent with a certain purchase (cf. Sassatelli, 2006). When only framings of the actual purchase are visible the political part gets lost – it is the practices that give information about the political motivation of individuals (Sandlin, 2004; Connolly & Prothero, 2008).[58] Two people may buy the same product for different reasons (the motivation is hidden) that nevertheless are transformed into *one* message in the marketplace (cf. Sassatelli, 2006). This message is interpreted, not according to intent, but according to the dominant risk frame. If the practices instead were considered as well, the motivation behind purchasing would be clearer.

One way to realise the more encompassing version of the citizen-consumer is offered by the idea of "consumer education" that has been presented as a means of informing the public of the connection between individual activities and problems in society (McGregor, 1999). The citizen-consumer and the information he requires to carry out acts of political consumption and everyday practices can thus be viewed as a way of educating the citizen and the consumer in how to behave to reduce risks for individuals *and* at a collective level (Sandlin, 2004). Viewing the citizen-consumer from this perspective, it offers a form of awareness creation and education of the existence, cause and effect of chemical risks of consumer goods and what the

[58] See for example Stolle, Hooghe and Micheletti (2005), who suggest that behaviour, motivation and habit need to be included in the concept of political consumption – effectively turning it into a practice.

individual can do to remedy them (including limits to these measures). In this sense, what the concept and realisation of the citizen-consumer offer is not so much a solution to the problem of chemical risks of consumer goods but rather a contributory to the public debate about it. The concept of the citizen-consumer is then expanded beyond political consumption to also include notions of awareness and public debate which would benefit the collective governance of the chemical risks of consumer goods.

11.4 First or late modernity?

The final discussion point of this thesis is more tentative than the rest. It offers a suggestion for how this analysis could be understood from a greater perspective. The results are not generalisable but intriguing as a suggestion for how to come to an understanding of the way risks are viewed in society. There is a problem with the assumption in this thesis that chemical risks of consumer goods can be seen as *one* late modern risk. The analysed media material does not support this view, but instead suggests that the three cases can be described on a gliding scale of late modern risk. As suggested above, late modern risks are less about how things are than about how they are thought to be – it is how people think and feel about a risk that makes it late modern (Giddens, 1990; Beck, 1992; 2006; Lupton & Tulloch, 2002; Falkheimner, 2007). How risks are part of framings in media thus matters – both because it is a reflection of how risks are viewed in society (Scheufele, 1999; Durfee, 2006) and because it influences how risks are perceived (Durfee, 2006; Hansen, 2011). Framings shape, and are shaped by, culture (Bengtsson B., 2011).

Late modern risks show some distinguishing characteristics that have been identified in the literature – *risk contestation, lack of governance, globalisation, individualisation* and *reflexivity* (Beck, 1992; Giddens, 1999; Ekberg, 2007). Below I will discuss to what extent characteristics of late modern risks are visible in the analysed media material for the three cases. This is used as an indication of when a risk can be viewed as late modern, in terms of how it is collectively defined, negotiated and interpreted as concerns in society,

The *contestation of risk* at a definition level is a characteristic of a late modern risk (Lupton, 1999; Ekberg, 2007). Looking at the discussion of the chemicals in focus in risk framings above, it was suggested that it was mainly chemicals in textiles that were disputed as risks. While it is true that chemical risks in textiles are more disputed, both toys and paint show similar tendencies for some chemicals. Thus, in this aspect all cases show characteristic of late modern risk. Arguably, this has to do with that low-dose long-exposure chemical risks in general are in focus where identification and definitions can always be disputed (cf. Rudén, 2004; Rudén & Gilek, 2010).

The *lack of governance* pointed out as relevant for late modern risks (Beck, 2006) is most prominent for textiles since they are by and large not governed. Chemicals can be restricted or prohibited, but there is no general regulation or legislation aimed at textiles as a product group. And interestingly enough this is not really framed as a problem in the media. The focus is rather on the risks of chemicals and no general legislation is called for. In the cases of toys and paint, governance (i.e. legislation) is in place and even if it can be problematised and framed as insufficient, the main focus of framings is on how the risk is regulated by governance.

Globalisation as pattern of trade is essential to late modern risks (Beck, 2001; Spaargaren & Mol, 2008). Globalisation, in market terms, is accordingly part of the risk framings in the cases of textiles and toys, as seen in the previous discussion. But in the case of toys this is done in a rather unreflective way, focusing on problems with production "made in China". In the case of textiles, globalisation is instead framed as a process that enables chemical risks to manifest themselves in countries of production and consumption alike. For paint, globalisation is only visible in terms of how risks spread, by boats in waters, and not in respect of patterns of trade. Another result of globalisation – organised irresponsibility, in terms of how institutions must acknowledge risk at the same time as they fail to take responsibility for it – is visible for all three cases.

The *individualisation* of management of risk is a process that is also crucial in late modernity (Lupton, 1999; Ekberg, 2007; Olofsson & Öhman, 2007). One indication of this is suggested to be the prominence of framings of health over environment (MacKendrick, 2011), as has been seen in all three cases. However, the individualisation takes its most extreme form in the textile case, where "the good person" is framed as someone who manages risk in daily life – most often as a citizen-consumer. For toys, even if health framings are in focus, little attention is paid to the individual management of risk, apart from parental supervision obligations. For paint there are individualisation framings of "doing one's part" – thus contributing to risk governance but not managing risk at an *individual* level.

Finally, *reflexivity* finds expression, first, as awareness of, and activities to do with limits to risk management, and second, as the presence of new political actors, in particular NGOs (Lupton, 1999). First, the focus on a safe toy market indicates a lack of reflexivity. And indeed it is rarely framed that the risks are part of structural issues. For paint the struggle against the prohibition of anti-fouling paints does not even suggest reflex, i.e. awareness of the structural problems (cf. Lupton, 1999), but the willingness of some members of the public to change their behaviour with anti-fouling treatments shows greater reflexivity. In addition, parts of the paint and textiles cases indicate reflexivity concerning how the chemical risks may even be unmanageable in a broad perspective. Second, since legislation is lacking and fails to remedy risks, other actors, e.g. NGOs, have the potential to take space in the media –

acting as sub-politics (Lupton, 1999; Beck, 2006). For toys and paint, NGOs can at times be part of the analysed media material, commentating risk, but do not to any great extent participate in the co-construction of risk. In the case of textiles, NGOs identify risks and therefore take great part in how the chemical risks of textiles are defined and suggested to be managed in the public sphere.

Looking at the five parameters above, we see that only textiles tick all the boxes. Toys show little of the individualisation and reflexivity aspects, even if they show other characteristics of late modern risks. Finally, paint shows little of the two most important characteristics, globalisation and individualisation, but more reflexivity and contestation of risk. This means that textiles, to a greater degree than the toys and paint, can be classified as late modern. However, the cases of toys and paint show some of the characteristics of late modern risks which implies that there is no clear-cut distinction between older and newer types of risk – thus allowing for parallel modernities (Olofsson & Öhman, 2007).

Contextual factors of the consumer good, as made visible in media, then seem to matter whether the risk is framed as late modern or not. One issue that mainly seems to matter is whether the risk is part of framings that suggest risks as managed or not, for example through legislation. Whether or not the risk actually is managed has less to do with it. For example, the framings in media of the chemical risks of toys consistently highlight that the risks are not managed but still there are loud parallel framings of it as a managed risk by hinging on ideas of citizen rights and the master frame of "the children". Thus feelings of security seem to come from procedural measures that are meant to keep risks under control (Marcuse, 2006). In some cases the uncertainty is also reduced, although the risk may not be, by master frames at work, i.e. "the children", or other framings that link uncertain risks to "safe" procedures. The consumer goods that are perceived as late modern risks should be surrounded by much greater *sensations* of uncertainty – whether that is the case or not (Beck, 2006).

A second factor in the empirical material contributing to risks being viewed as late modern can be that when a risk is uncertain, actors beyond the common governance bodies are visible in framings. In the case of textiles, NGOs (and also industry and industry associations) are prominent actors given space in the definition of risk. Experts even discuss the concept of the citizen-consumer, indicating that she is an important actor in the governance of chemical risks of textiles. When the risk definitions are not settled, the risk space seems to be open for other actors offering potential for sub-politics (Beck, 2006; Wimmer & Quandt, 2006).

A third factor of particular importance is that when risks are not managed by society's risk governance procedures, there is a transfer of risk responsibility to individuals (Beck, 1992). Thus framings of the citizen-consumer should be visible, suggesting that people can, and perhaps have to, manage risks by purchases (MacKendrick,

2011) but also that individuals have an impact on the politics by how they consume (Scamell, 2000) and by how their carry out their everyday practices (Halkier, 2001; Connolly &Prothero, 2008; Spaargaren & Mol, 2008; Shove & Walker 2010). But also, perhaps most visible in the case of textiles with a huge yearly average consumption, certain types of consumption and practices can be an area where consumers can be politically aware (Johnston, 2008) – and (almost) everyone can participate (Seyfang, 2005). There is thus a sense of agency and of possible individual management, of risk of and influence, over the chemical risks of textiles that may be lacking for the other two cases.

One objection then, when the citizen-consumer is emphasised, is whether there will be calls for political actions (Maniates, 2001) – they are not seen in the case of textiles anyway. And if this is the case, if the chemical risks of textiles always will be a concern for the consumer and not the citizen or for the greater political perspective, this risk may be left rather unmanaged in society, relying solely on market mechanisms (Seyfang, 2005). In terms of risk governance, textiles thus present precisely the kind of opportunity for risk governance that was discussed in an earlier section – a topic that is in the public awareness with substantial chemical risks to manage. The analysis shows that chemicals such as NPE and phthalates could be chemicals of public concern that could be picked up by risk governance. But it is also clear that there are chemicals that are not part of public debate that need to be restricted – antibacterial substances or perfluorinated carbons, for example. And in addition, it is also necessary that chemical risks of textiles also become a greater part of procedural framings, contextualising the risk even further.

The findings suggest that there is a need to do research on other product groups in order to see whether there can be indications to when chemical risks of consumer goods are viewed as late modern since it has implications for how risks are managed in society. For example, cosmetics would be an interesting empirical area to study given the amount of chemicals included in the products, the new legislation that is being put in place, and the increasing awareness of the chemical content of cosmetics. Other product groups that could be studied are footwear or functional clothing. Consumer goods that are more common to study as late modern risks could be used as points of comparison – the obvious choice being food.

One way to identify consumer goods as late modern risks could be to look at the pattern of media coverage. Even if this cannot be generalised from the empirical material it can be suggested that the pattern of coverage in terms of distribution of news, opinion and feature articles can be related to the focus in framings of risk issues – and thus to whether it is a late modern risk or not. Fewer news and more opinion and feature articles indicate that the risk is being contextualised and under definition. So, when the coverage is distributed more evenly between different types of articles, it can be used as an indication that the risk is not yet specified. The co-construction of

risk then takes place over the whole public arena (in this case the newspaper) (Hughes, Kitzinger, & Murdock, 2006), indicating a late modern risk. Looking at the distribution of article types for the three cases, we see that the textile case is singled out by having a much smaller proportion of news than toys and paint, with a relatively high presence of feature articles that contextualise risk and suggest how to behave in the private realms of life. It is thus a hypothesis that when a risk can be classified as late modern, opinion and feature articles are more prominent – to make sense of a late modern risk requires a coverage including other aspects than those news have to offer. This could be tested by future research.

12 Final reflections

This thesis has marked my journey from a natural scientist (albeit with a social science twist) to a social scientist (albeit with a natural science twist). The dual perspective on risk in this thesis was both a consequence of, and based on, my academic background within both the natural and the social sciences. Two questions that are related to the duality have been permanently brought into light when writing this thesis. What is special about *chemical risks*? What is special about the *chemical risks of consumer goods*? This final section discusses these two questions in the light of this thesis.

Chemical risks are special because they have as one of its premises that chemicals have hazardous properties. All chemicals have hazardous properties. And these hazardous properties cannot easily be removed because chemical substances have fairly "simple" structures and any attempt to change properties results in new structures and subsequently new chemical substances/properties. However, a chemical property in itself does not pose a risk. It is not until the hazardous properties are put into a context where they can manifest themselves that risk occurs.

Another aspect that makes chemical risks special is that there are so many chemicals in everything that surrounds us. They exist naturally, but above all, hundreds of thousands of chemicals are synthesised by humans. Many of these are designed to have a particular function – this most likely means that they also have unpleasant properties. In addition they are often relatively cheap and produced in huge volumes. Our society has become increasingly "chemicalised" during the past century, and there is no indication of that slowing down – quite the contrary. One problem with synthetic chemicals is that there are no functioning metabolic mechanisms that can handle these chemicals in the ecosystems. They are thus added to a system where nothing disappears.

The context of a chemical risk of necessity implies that someone or something is exposed to the hazardous chemical in a certain dose for a certain amount of time. The identification of hazardous properties and the context – dose, time and who/what is exposed has to be established for risk to be assessed and governed according to current management procedures. All of these steps are full of social practices. Knowledge claims, defining doses, time factors and who is particularly susceptible to risk all involve practices and negotiations making them socially constructed. In addition, risk assessments of necessity do not deal only with knowledge claims of the "real world",

but risk assessments take into consideration other aspects – economic and social for example – leaving the scientific definitions as only part of risk judgements. And rightly so – risks are not as much based on "how it is" as on how people *think* it is or how things *ought* to be. Risks are then controlled by restrictions, thresholds, legislation and other means by a variety of actors – processes that always lag behind the use of chemical substances and the identification of risks associated with them. That these control mechanisms are not sufficient is clear for the chemical risks of consumer goods that, in addition to not having strict enough legislation, also show breaches of the legislation that is in place, and the numerous new instances of chemical risks of consumer goods that occur.

The chemical risks of consumer goods are special because all consumer goods contain chemicals, probably more than is known or desired. Since there are so many consumer goods that people are surrounded by, the chemical impact of those is considerable, but this has only fairly recently started to be discussed. One problem with consumer goods is that they are in general much less restricted than, for example, chemical products. There are exceptions, for example in the EU Product Directives, but these often consider other aspects of safety than chemical risks. Since legislation fails to come to terms with the chemical risks of consumer goods, other mechanisms take and are given responsibility. For example, industry is given responsibility for the consumer goods it sells and consumers are given responsibility for the consumer goods they buy. Chemical safety is thus to a large extent transferred into market mechanisms. At the same time are processes in society manifesting the market as the place where risk happens – globalisation has enabled both cheap production of consumer goods and a situation where chemical control is virtually non-existent. The result is that the citizen as a consumer is emphasised.

All these aspects have been visible in this thesis. The hazardous properties of chemicals have been in focus – specified as allergens, endocrine disrupters, carcinogens, pollutants, for instance. The exposure to risk has been in particular focus when, for example, discussing the abundance of toys or the effects of TBT in seas. In addition, the profusion of manufactured chemicals is clear from the focus on plastics and plastic softeners, especially phthalates. That the risk governance process is based on social practices is obvious, for example in the way thresholds are disputed, for example for NPE, or that no thresholds are established, arguably for economic reasons as in the case of TBT, or that legislation fails to capture risk exposure, as with both NPE and zinc oxide. Sensitive groups in society, particularly children, and objects of risk of proximity – human health and local and national environments – are also considered extra relevant for risk issues, to the point where they at times define risks only according to these concerns. It is also made clear that other considerations than the risk *per se* are allowed to influence risk decisions – for example, industries' perceived interests in the case of phthalates. Phthalates are also examples of how

legislation is much slower than the identification of risk and that legislation only to a limited degree mitigates risk.

For the three product groups – textiles, toys and paint – analysed for chemical risks in this thesis, a number of products and chemicals have been acknowledged as risky. T-shirts, towels, jeans, underwear, toy cars, dolls, soft toys, anti-fouling paints and water-based paints have all been identified as exposing humans and the environment to chemical risk. NPE/NP, phthalates, DMF, lead, TBT and zinc oxide are among those of highest salience in the analysed sample. These products and chemicals only represent a fraction of the chemical risks that can be attributed to consumer goods – and it often is less than clear why these chemicals and not others are the focus in framings in media. It is more clear, however, that the legislation that is put in place to reduce risk and to protect citizens from risk does not function very well because it is confusing, contradictory and too lenient.

One structuring power of importance that allows for chemical risks of consumer goods in the analysed material is globalisation. Globalisation, however, means that the production and consumption of goods is in focus – thus responsibility for chemical safety is put on firms and consumers to a varying degree in the cases. The limits to both actors in being responsible are clear from the lack of chemical control and knowledge. But the citizen is also limited to being a consumer, with few other suggestions as to how to contribute to managing risk. However, there are tendencies visible that highlight the daily practices of people rather than the actual purchasing decisions, that link the individual to the political.

What all this suggests is that chemical risks of consumer goods are created in society at many levels. It is created by man inventing synthetic chemicals, producing and using them. Risks are created in the risk governance processes, which suffer from weaknesses in terms of establishing risk and balancing it against other considerations. It is also created in the consumer society where, among other things, processes of legalisation and globalisation create conditions that reinforce chemical risks. Chemical risks of consumer goods are therefore a mixture of knowledge claims and their effects, and societies' mechanisms in terms of cause, effect and solutions.

What it also suggests is that the individual is held up as responsible for managing the risk – in particular health risks and especially for their children. This is however framed in different ways and to a varying degree of activity – including the citizen, the consumer and the citizen-consumer in passive or active ways. One particularly intriguing idea about the citizen-consumer is how the daily practices of people are framed as politicised and a way of influencing society outside of traditional politics or market mechanisms.

Finally, it suggests that even considering all the efforts made to manage risks in society, consumer goods are not safe. Rather it seems as if the co-construction of risk

in society creates conditions for risks to manifest themselves. The identification and assessment of risk point out a threat and who is at risk – limits are necessarily drawn between risks and non-risks and safe and unsafe. These boundaries are socially negotiated and can be perceived as rather arbitrary. The governance of risk, or lack thereof, permits some risk through the over-consideration of other aspects. Some groups in society are protected, some are not, some risks are allowed and some not, with the result that the security for some may be increased but rarely safety. And it is mostly less than clear how the limits are drawn between risk and non-risk and safe and unsafe – the social management of risk is largely invisible.

Thus what this thesis has showed is that chemical risks of consumer goods are a co-construction of knowledge claims and experience as a basis for risk judgement and society's managing mechanism – including the role of the public. These different roles may support or contradict each other and may enhance or suppress risks. This also suggests that negotiating and defining risk actually creates risk and thereby affects safety and security. What this thesis leaves for future research is to come up with good suggestions for how to improve the way society handles the chemical risks of consumer goods. If today's practices are allowed to persist, chemical risks will not only continue to manifest themselves but will steadily grow in numbers – the chemical threat needs to be taken seriously.

Appendix A – The three *a priori* categories

The first *a priori* category is the *substantive framings* of risk. Using this idea, I look into the use of knowledge claims and experience for judgements of risk as visible in the media material. Substantive framings thus include the descriptions and narratives of the chemical risk in itself. As such it seeks answers to the following dimensions:

- How are risks described? (e.g. dose, threshold values, exposure, cocktail effects)
- How are risks compared to other risks? (e.g. associations, connections, linkages)
- Who is said to be at risk?
- Who is seen as an expert?
- How are science/scientific facts used?
- What scales of risks are focused on? (e.g. individual, local, national, global)
- What types of risks are focused on? (e.g. work safety, health, environment, economic)
- What effects of risk are focused on?
- What behaviours (and whose) matter for risk mitigation? (e.g washing, airing)

The second *a priori* category is the *procedural framings* of risk that includes the descriptions and narratives of the social causes, effects and management of the chemical risks of consumer goods. Procedural framings seek answers to the following dimensions:

- How is the role of different actors described? (e.g. politics/politicians, firms, NGOs, other actors (apart from the general public)

- How are other mechanisms suggested to cause risk? (e.g. globalisation, consumerism, lack of knowledge)
- How are the consequences of the lack of management of risk in society described?
- What mechanisms are proposed to manage risk? (e.g. labels, legislation, voluntary efforts, self-regulation)
- Where are the flaws of management located?

The third *a priori* category is the *citizen-consumer framings* and is used here to investigate how the general public is present in the media coverage. I look into the usage and representation of the citizen or the consumer, or any hybrid thereof, as a part of the origin, impact and management of the risk. Hence, I look at both substantive and procedural framings under this category. It seeks answers to the following dimensions:

- Who is described as a consumer or a citizen (or any hybrids thereof)?
- What perspectives are applied to consumers and citizens (or any hybrids thereof)? (e.g. political, individualist, agnostic)
- How are citizen-oriented activities described (or any synonyms of citizen)?
- How are consumer-oriented activities described (or any synonyms of consumer)?
- How is the issue of (individual or collective) awareness described?
- How is the issue of (individual or collective) responsibility described?
- How is the general public viewed in terms of knowledge building? (e.g. co-production, educational, active, passive)

Appendix B – The Mattel product recalls

During the second half of 2007, Mattel, one of the world's largest toy brands, was forced to do a number of recalls due to toys painted with lead paint and loose magnets in toys. There were four recalls, two of which affected Sweden, that took place within three months, from the beginning of August to the end of October 2007.

The first recall, on 2 August 2007, was said not to concern Sweden at all as confirmed by Mattel's agent and PR firm in Sweden. Globally, however, approximately 1.5 million toys were recalled due to lead paint.[59] But this meant that Swedish media drew attention to the increasing number of product alarms (an increase by a third) in Europe in the years prior to the recall. After the recall a chain of blame and responsibility is visible in media. China imposed export bans on certain firms that in their turn blamed their suppliers selling them paint and pigments containing lead. Exports were affected and a manager of a toy manufacturer even committed suicide over the scandal. In Sweden, importers and retailers in Europe were given the blame.

The second recall, which took place on 14 August 2007, did affect Sweden. A total of 18.6 million toys were recalled, of which 440,000 toys contained lead. Over 52,000 toys had been imported to Sweden where 5,361 toy cars were recalled because of lead in the paint. The remainder was due to magnets that could come loose. This recall was said to be a result of Mattel's sharpened routines in respect of product testing. First, only varnish from authorised suppliers was used and every shipment was tested.

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[59]The most commonly stated figure is 1 million toys but this is the recall in the US and Canada alone. A figure of 1.5 million toys is also mentioned and seems to be more reasonable considering that more countries than the two above were affected, for example the UK and Mexico, see http://www.foxnews.com/story/0,2933,291789,00.html. The number is not specified in Mattel's first press release, accessed 15 February 2011.

Second, controls during the manufacturing process were strengthened. Third, every shipment of the toys was tested.[60]

Already by the second recall it is difficult to determine how many toys were actually recalled, imported to or already sold in Sweden. The papers used for the analysis in this case use different figures without properly referring them to their context (country or type of recall) and it is rarely clear, for example, how many toys contain lead and how many have loose magnets. Further, it has not yet been specified what the problem is with lead in toys – how it will enter the system of a child and what happens if it does so. No injuries are recorded resulting from lead paint, whereas there are known injuries from magnets damaging children's bowels when ingested.

The third recall took place five weeks after the first, on 4 September 2007, and concerned almost 850,000 toys with lead paint, of which 2,743 had been sold in Sweden. This recall was said to be a result of continued internal quality work at Mattel.[61]

The five weeks in August and September of 2007 led the EU Commission to react by demanding that consumer agencies of the member states conduct market inspections and report the results before the end of September. The testing, at least in Sweden, did not reveal any toys containing lead. This resulted in the closure of the lead case in Sweden.

Internationally, the fourth, and, in this issue, last recall took place on 25 October and concerned 55,500 toys but none sold in Sweden. Again it was lead paint that was the problem.[62] During a few months at the end of 2007, Mattel was thus forced to recall

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[60] Mattel press release http://investor.shareholder.com/mattel/releasedetail.cfm?ReleaseID=259557, accessed 25 February 2013, Swedish PR firm press release http://www.cisionwire.se/mattel/mattel-aterkallar-ytterligare-leksaker, accessed 15 February 2011, and Swedish Consumer Agency http://www.konsumentverket.se/Nyheter/Varningar/Varningar-2007/Mattel-aterkallar-farliga-leksaker/, accessed 25 February 2013.

[61] Mattel press release http://investor.shareholder.com/mattel/releaseDetail.cfm?releaseid=262639, accessed 25 February 2013, and the Swedish PR firm press release http://www.cisionwire.se/mattel/mattel-aterkallar-11-leksaker-efter-fortsatt-noggrann-granskning-och-tester-av-produkter, accessed 15 February 2011.

[62] Mattel press release http://investor.shareholder.com/mattel/releaseDetail.cfm?releaseid=271339, accessed 25 February 2013.

over 20 million toys worldwide. The US and Canada were affected most, with close on 14 million toys being recalled, and the remainder were spread throughout the world. Sweden was affected with the recall of 55,000 toys. The bulk of the recall was due to design flaws allowing magnets to come loose, but approximately 2.8 million toys containing lead paint were recalled globally – of which 8,000 had been imported to or sold in Sweden. Roughly 450 retailers had sold the product.[63] Even if the impact in Sweden was limited compared to other countries, it still received plenty of media coverage, constituting the largest part of the analysed media reporting in the year 2007, and the effects of the event were still visible in the following years.

[63] A number available from the Swedish Consumer Agency, originating from the notification Mattel sent them.

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