

Social Contexts and Responses to Risk Network (SCARR)

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Literature Review: Sociology and Risk

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This literature review starts from the middle of the 1990s, when publications summarizing the state of the art of risk research were published (e.g. Krimsky/Golding 1992, The Royal Society 1992, Krohn/Krücken 1993) and social sciences broadened “the debate about risks beyond the technical considerations of the engineers and the natural scientists”, thus explaining “the divergence between public and expert views of risk” (Krimsky/Golding 1992, 355).

The state of the art of sociological risk research in the early 1990s was a set of different concepts and empirical results rather than a general theoretical approach (e.g. Japp 2000). The two central theories of sociological risk research which started to dominate the field in the early 1990s were the *Risk and Culture* approach of Douglas and Wildavsky (1982) and the *Risk Society* approach of Ulrich Beck (1986, 1992). The following overview of sociological publications on risk or risk research focuses on the main stream of argumentation in sociological conceptions and research on risk in period up to the present, with an emphasis on noteworthy contributions and developments.

This overview has some limitations. The first limitation is the time frame which considers only publications since 1995. The second limitation is that I will rather focus on theoretical and conceptual questions than on empirical results. The third limitation concerns the journals taken into consideration. You will find a list on the end of this review paper together with the books and certain articles considered.

The review is divided in several sections. The first section gives a general overview of the different approaches and conceptual ideas found in recent publications. The second section gives an overview of the previous sociological literature.

I. Sociological approaches to risk

I have divided the sociological literature on risk into three main approaches. Many of the sociological publications still refer to the idea of **Risk Society** (Beck, 1986, 1992), today more often with the intention of contrast than an enthusiastic agreement, but there are also some articles which develop more elaborated concepts of risk and modernization. This research follows a broader concept of uncertainty in a societal perspective and expands beyond the original narrow perspective of the Risk Society on environmental hazards. Risk is generally defined as a strategy referring to instrumental rationality. But it is interpreted as one strategy among others to transform uncertainty regarding future expectations to a

(rational) manageable entity. In this perspective the future is defined as uncertain in principle and the question is by which strategies this uncertain future could be managed.

These approaches are usually based on the central assumption of a significant change in modernity, the end of unambiguity (Bauman 1991), and a return of uncertainty. For this reason I group this kind of risk research under the label **Reflexive Modernization** (Bonß 1995). Significant in this context is the assumption that it is not risk but uncertainty should be the basis of analysis so that risk is seen as one specific way to make an uncertain future manageable that is valid on the organisational and institutional level as well as on the individual level.

Another part of literature refers to the ideas of Cultural Theory. It was originally brought into the discussion by Mary Douglas and gained much prominence in the grid/group scheme of Douglas and Wildavsky (1982). While the quantitative standardised research of the risk and culture approach hasn't led to new developments in sociology, further research under the label of **risk culture** (Lash 2000) or **socio-cultural approach** (Tulloch/Lupton 2003) could be understood as following from this early and influential approach on culture and risk in sociology. Issues of identity and those concerning emotion, affect, and the positive idea of risk tend to be raised mainly in the context of this research stream.

A third approach, **Governmentality**, refers to Foucault (1991) and the question of how institutions and organisations organize power and govern populations. Whereas the strength of this approach is that the concrete ascriptions and construction of subjectivity through institutions and organisations came into view, some critique is directed at the concept of a generalized subject (Lupton 1999, 102).

These three general research streams are supplemented by some developments in the field of **media research** originally developed separately from the main discourses on risk in sociology.

Since **system theory** on risk in the tradition of Luhmann is well developed in Germany but hardly recognised in the international discussion I added a brief discussion of the core arguments of the approach.

In the discourses on risk in different disciplines, **trust** is always an important issue. We include a first step in conceptualising the different use of the term.

II. Main issues of sociological discourse

The sociological view on risk: Risks as social constructions

Since Douglas worked on risk and culture, a central assumption in sociology is that risk is a social construction in a particular historical and cultural context, but there are different notions of constructivism. There are two extreme positions. A radical constructivism in the style of some post-modern authors claims that reality is linguistically constructed and denies a world outside. The other position is the dualism of objectivism and constructivism widely disseminated in the risk debate, which interprets risks on the one hand as something that could be described independently of the social context and on the other hand gives a subjective and social interpretation of these objective risks (e.g. Slovic 1999).

Such a dualistic view of risk is unsatisfactory from the perspective of an **epistemological constructivism** for two reasons.

- (1) Studies of scientific knowledge shows that objective risk descriptions are constructions of their own which hold as long as no unexpected events occur, and additionally this (description of) reality changes over time (e.g. Latour/Woolgar 1979).
- (2) The second reason is that each side of the objective/subjective division underestimates the other. There is no access to objective risk independent from the social, and risk interpretations are not absolutely independent from objective events although such events are not immediately and objectively accessible.

In order to avoid the loss of awareness for the social construction of objective risk sociological authors refer to constructivist ideas (e.g. Krohn/Krücken 1993, Adam/Van Loon 2000, 2). Thus the approach accepts that objective risks are not an absolute description of reality but should be scrutinized in relation to their social functions and effects (Wynne 2002).

The important assumption is not that there is no world outside the social, but that there is no objective risk accessible beyond social interpretation; rather there are hybrids of nature/culture (e.g. Latour 1993) which cannot split off on one or the other side. Wynne, for example, calls the epistemological standpoint recognizing the inseparable quality of culture and nature constructivist realism (Wynne 2002, 462).

This insight has significant consequences for the distinction between **lay knowledge** and **scientific knowledge** or **lay** and **expert** risk-perception

and -taking. From a constructivism viewpoint, there is no epistemological superiority between these different knowledge systems. They are just different, and these differences in social production and reproduction are important in the context of risk-taking.

The empirical relevance of these theoretical assumptions has shown that there is no clear distinction between expert and lay knowledge (Wynne 1989, 1996). Expert knowledge has elements of lay knowledge in it and vice versa. Furthermore scientific technological knowledge often lacks the local lay knowledge of the practical reality outside the lab. For example Wynne (1996) has shown how the scientific construction of the world of farmers' and sheep farming in a certain contaminated area ignored substantially the local reality of farming (ibid 66).

That the differences between expert and local knowledge and reality are still not sufficiently considered shows, for example, in a study on Australian drug policies (Duff 2003). The ignorance of the range of 'non-expert' risk management strategies that exist among young drug users undermines the efficacy of health promotion efforts within these groups.

The move to social constructionism raises serious problems of relativism. These apply outside the area of risk and will not be discussed here, but it is worth noting that qualitative work directed at understanding processes of social construction carried out at the individual level has developed a number of strategies in response to this issue.

From risk society to a general theory of risk in reflexive modernity

The most well known approach in recent sociology of risk is the perspective of 'risk society' (Beck 1986, 1992). This approach had a very large initial impact, but conceptual and empirical critiques have developed subsequently.

One of the issues frequently mentioned refers to the **concept of risk** in Beck's risk-society. The criticism is that 'risk' is narrowed to the responses of technical and environmental risks as unforeseen consequences of industrialization. This concept of a danger-consequence society (Japp 2000), fails to grasp the more general societal development regarding the concept of risk as a specific historical strategy to manage uncertainties. This strategy is strongly linked to the idea of insurance and the statistical methods to calculate uncertainties developed in modernity (e.g. Ewald 1986). Many risk-theorists share this view (Krohn/Krücken 1993, Bonß 1995, Japp 2000) but support a more general notion on risk and risk-responses in current societies concerning the ways in which

uncertainties are managed in general. The narrowed view on technical and statistical risk management seems to be insufficient for the given complexity concerning, for example, governmental risk-strategies and rationalities (Dean 1999), emotional and aesthetic (Lash 2000) or socio-cultural (Tulloch/Lupton 2003) perceptions and responses to risk.

Further critique aims at the assumption that new risks produce a general anxiety which would support a higher public awareness of risk and involve increasing the political commitment of the public. It has been argued that this does not apply to all risks and neither do all people respond in the same way (Tulloch/Lupton 2003). Other critiques state that Beck failures “to adequately define the relations and interplay between institutional dynamism and social reflexes on the one hand and self-referentiality and critical reflection on the other” (Elliott 2002, 312)

While many writers agree that there is about a new quality to risks in modernity (see discussion in Taylor-Gooby 2000) there is also some insisting critique that little has changed in modernity (Dingwall 1999).

The historical-systematic analysis of risk of Bonß (1995) goes beyond the narrow concept of risk society but is still in line with a general theoretical idea of reflexive modernization:

Bonß argues that a societal approach to risk has to start with the concept of uncertainty instead of risk. From this perspective, the probabilistic concept of risk emerges as a special case of how security may be constructed – by mathematical calculations. In modernity, the repeated experience of catastrophes showed the limits of absolute rationality in probabilistic risk calculations. The awareness of such limits undermines probability-grounded judgement and leads to a politicisation of risk discourse.

The insight that **calculability** is a cultural construction **only valid for special cases** and not an objective matter has lead neither to a fundamental rejection of every risk-calculation nor to any subjective risk construction. However, what is important is the change in interpretation and foundation of probability-calculations. They have become subjective and simultaneously related to contexts (Bonß 1995, 302). Referring to the concept of bounded rationality (March/Simon 1958) and Perrow (1984), Bonß emphasizes that social and cultural rationalities are both interactive and limited. They are grounded not on one general principle but on several particular concepts. They complement each other situationally rather than systematically and in no way refer to an overall rational plan. It looks like a cultural “**muddling through**” (Lindlom 1959) which could be described under a different perspective as **political**

conflicts about risk and security. Bonß concludes that it is not to be expected that a decision-technology could be developed without any reference to social context in the style of the concept of complete rationality. Rather the experience of **uncertainty** has to be accepted **as a fundamental modern experience** and the view on problems of uncertainty has to be changed.

The problem of uncertainty should no longer be redefined as a problem of how to produce order and certainty. From such a perspective it would be already decided that the transformation of uncertainty into certainty, disorder to order, and ambiguity into clearness would be the optimal and the only solution that should be strived for. However, this view on uncertainty is risky, because of the latent consequences of risk action or second order dangers (Bonß 1995, 80).

Against that, the transformation processes of uncertainty into certainty should be subject to examination, in order to work out how this takes place and what are their consequences. This can only be realized when we **focus in our research on uncertainty, ambiguity, contingency and context-variance instead of certainty, unambiguity, complexity and context-invariance**. In this perspective diverse “securities/certainties” appear not as absolute constructs, but as context-dependent social constructions, following not a general rationality, but various specific routes. Then a task for the sociology of risk would be to work out the social profiles of different ways how risks are handled in different social contexts.

This wider conceptual view on risk is reflected in these more recent approaches and in **empirical research** on risk which **refers to uncertainty** instead of risk, in order to show how different strategies are used to transform (unmanageable) uncertainties into (manageable) risks. Bonß/Zinn 2003 and Zinn 2004, for example, argue in this direction by interpreting risk as one strategy to construct certainty¹. Other research shows that referring to uncertainty instead of risk is a more fruitful strategy to understand e.g. vaccination resistance (Hobson-West 2003, 279):

"An alternative way of thinking about vaccination resistance is through the concept of uncertainty. Research into public attitudes to a technology may talk

¹ Certainty defined as a form how uncertainty and certainty are related in order to enable people, institutions or societies to act.

about perception of risk, simply because it has been assumed that this is the meaning of the debate to the public. In other words, research often looks for risk, and finds it, when it isn't necessarily there (Hobson-West forthcoming). . In the debate over vaccination, however, we need reminding that risk is just one possible response to uncertainty, and represents our attempt to place order on an uncertain world by making the 'incalculable calculable' (Beck 1994, 181)"

"Risk and Culture" and socio-cultural approach to risk

The risk and culture approach draws on the grid/group scheme of Douglas and Wildavsky (1982, Douglas 1985, Thompson/Wildavsky 1982, Thompson et al. 1990) that was developed to understand different logics of risk as they are expressed in social groups or organizations. While the grid dimension describes the degree to which an individual's life is circumscribed by externally imposed descriptions, the group dimension represents the extent to which people are driven by or restricted in thought and action by their commitment to a social unit larger than the individual. The central assumption is that there is a relation between modes of social organization and the responses to risk and that culture are adequately represented by the dimensions of the grid/group scheme.

Research on risk and culture can be divided into a quantitative standardized approach and a qualitative approach. The attempt of **standardised studies on risk culture** is to examine how people's risk-perception is culturally biased. It shows that only a minor part of variance of perceived risk can be explained by culture (e.g. Sjöberg 1997, 113; Brenot et al. 1998, 730). A previous attempt to improve the standardised instrument led to the disillusioned conclusion that the "overall 'poor' power of cultural biases for explaining risk perception (Sjöberg 1995) was not improved by using more valid instruments" (Rippl 2002, 161f.)

The central critique of the risk and culture approach concerns the reduction of social risk-perception to the categories of cultural bias used. Assumptions about risk perception are far more complex and dynamic than the categories of the culture of risk approach imply (Renn et al. 1992; Boholm 1996).

"Individual experiences of the social processes of risk perception may lead them to adopt a broad range of unclear or contradictory views about the magnitude of hazards. Any attempt to mask the complexity of the social experience of risk perception in rigid conceptual abstractions may lead us further away, rather than towards a more intimate understanding of the day-to-day reality in which people recognize and negotiate with 'hazards' as 'risks'." (Wilkinson 2001b, 11)

The perspective of the **socio-cultural** approach to risk could be interpreted as a descendent of the cultural theory approach, relieved of the functionalist view in the work of Douglas/Wildavsky. This approach, shortly summarized in the following introductory statement of their work on “Risk and Everyday Life” (2003, 1),

“acknowledges that understandings about risk, and therefore the ways in which risk is dealt with and experienced in everyday life, are inevitably developed via membership of cultures and subcultures as well as through personal experience. Risk knowledges, therefore, are historical and local. What might be perceived to be ‘risky’ in one era at a certain local may no longer be viewed so in a later era, or in a different place. As a result, risk knowledges are constantly contested and are subject to disputes and debates over their nature, their control and whom is to blame for their creation”.

Scott Lash develops a similar argument with the thesis of ‘risk culture’ (2000, 47ff.). He criticises the risk society approach which at least accommodates an institutionally ordered society. The mode of organization of risk society is a response to new challenges forced upon the world by technologies and practices. Against this risk culture includes all kinds of sense-making practices.

“Risk cultures lie in non-institutional and anti-institutional sociations. Their media are not procedural norms but substantive values. Their governing figurations are not rules but symbols: they are less a hierarchical ordering that a horizontal disordering. Their fluid quasi-membership is as likely to be collective as individual, and their concern is less with utilitarian interests than the fostering of the good life ... Risk cultures ... are based less in cognitive than in aesthetic reflexivity.” (ibid)

The advantage of these approaches is that thick descriptions of risk-taking and responses are produced. By doing so a high variety of dimensions in risk-perception and taking are described. It becomes clear, for instance, that risks are **multidimensional** and that risk-taking could be something valued **positively** as well as **negatively** (Lupton/Tulloch 2002, Tulloch/Lupton 2003). Furthermore, **identity-formation** has a big influence on the ways people perceive and take risks (Tulloch/Lupton 2003, Mitchell et al. 2001).

Thus the socio-cultural approach could bring forward the still little examined role of **emotion** in sociological risk research and theorising. Often it is assumed without further empirical examination that there is a direct link between social structure and emotion or risk consciousness and societal anxiety (e.g. Furedi 1997, Hier 2002). Wilkinson (2001a) argues against this widespread not empirically covered notion and for a more theoretically elaborated approach in his conceptual work on “Anxiety in the risk society”.

Summarizing some central results in this field of research:

Socio-cultural research suggests the idea of a subject that is itself strongly influenced by its cultural context, and builds up its own risk-knowledge referring to different, competing, and sometimes contradictory knowledge systems which are available in different life situations and stages. For this reason, expert knowledge is only one point of reference among others. People build up this 'private' knowledge on the base of their experiences during their life course and in interaction with their contexts, as others, the media, science, and expert knowledge (Macgill 1989).

Additionally, these processes are embedded in their negotiation of their own identities (e.g. Mitchell et al. 2001) which are themselves emotionally and aesthetically embedded in the individual's everyday life (Lash 2000, Tulloch/Lupton 2003). Thus risky behaviour like smoking could be understood in the context of identity and the membership of social groups (Denscombe 2001).

Social-structural indicators of social class, gender, ethnicity as a source of resources and power (as well as a lack of the same) are suspected to influence the risk perception and behaviour, but have produced different results. While the quantitative analysis of Brenot et al. (1998) produced no strong relations Tulloch and Lupton (2003, 132), found out on the base of qualitative interview material that "the interviewees' reflexive responses to risk were strongly shaped via such factors as gender, age, occupation, nationality and sexual identity". Some earlier studies have already shown how the lack of power could support risky behaviour, despite better knowledge. Bloor (1995, cit. in Lupton 1999) demonstrated by the example of female and male prostitutes how the lack of power causes unsafe sex practices.

People produce ideas of risk or security by judgments oriented on general factors and symbols. Lupton (1999, 119) quotes a study on young Canadians which tended to choose their partner on an ascription based on various general categories, learned during the life course (Maticka-Tyndale 1992).

The multi-layered results on the link between risk and emotion show that there is additional theoretical work necessary. While Lupton and Tulloch (2002) interpret emotions predominantly from the perspective of voluntary risk-taking Zinn and Eßer (2003, also Zinn 2004) point out – referring to the idea of a fundamental change in modernity – that there is also a reinterpretation of the uncontrollable and unforeseeable in something positive observable.

Governmentality and Risk

The literature on **Governmentality** and risk refers to Foucault (1991) and his concept of a new style of governance in modernity. It is characterized by the “ensemble formed by the institutions, procedures, analyses and reflections, the calculations and tactics that allow the exercises of this very specific albeit complex form of power” (Foucault 1991, 102). There is no general or homogenous approach in studies on governmentality, and the same is true for the studies on governmentality and risk. Governmentality is neither a “homogeneous school or a closed sect” (Rose, 1999, 9) nor a single paradigm (Dean, 1999, 4). We can identify five loose categories:

1. Some studies are limited to questions of how organisations govern risk-problems (e.g. Joyce 2001) and how governance strategies change. Flynn (2002) shows by the example of the Clinical Governance of the National Health Service in England that it would be too simple to interpret governmentality as a ‘governing without government’ (Rhodes 1997). There are no self-organised interorganisational networks with a significant autonomy given by the state or a mixture of different measures which smoothly fit together in a general governmental strategy. Instead his research on the “clinical governance illustrates the contradictoriness and paradoxes of the management of risk and regulation of professional expertise.” On the one hand, the governmentality perspective “allows us to identify the interrelationship of discourses and practices surrounding medical power and state control in the health service – and to see them as being contested and negotiated”, but Flynn (2002) emphasise the need of “intermediate concepts which capture the complexity of organizational change and the process of negotiation.”
2. Further studies refer to general discourses and their influence of problem definitions and the constitution of groups “at risk” as youth (Kelly 2001) or children (Brownlie 2001). Such studies show how generalized social categories in institutional and media discourses produce homogenous groups in relation to risk. On the one hand, these categories do not justice to the diverse persons behind the categories (e.g. Brownlie 2001, 519) and a new reality is entailed which changes for example the whole notion of a social group. For example risk anxiety, engendered by the desire to keep children safe, restrict their autonomy and their opportunities to develop necessary skills to cope with the world (Scott et al. 1998, 701).
3. Thirdly, the strategies used by different groups in response to such discursive descriptions can be analysed, for example, the rejection to the ascription as a risky group (e.g. Hier 2002).

4. Some authors interpret studies on governmentality as an answer to the limited explanatory power of the risk society approach, mainly focuses on statistical and insurance risk-calculation strategies (Dean 1999). Many more different strategies of governmentality exist, so this approach could be interpreted as a strategy to elucidate the institutional, governmental and discursive mechanisms of risk management. A narrow view on risk in governmentality literature is criticized: this overlooks the significance of uncertainty as a “characteristic modality of liberal governance that relies both on a creative constitution of the future with respect to positive and enterprising dispositions of risk taking and on a corresponding stance of reasonable foresight or everyday prudence (distinct from both statistical and expert-based calculation) with respect to potential harms” (O’Malley 2000, 461)

5. On a societal level some authors interpret risk as a new meta-narrative strongly linked to the (neo)liberal projects of government (Kelly 2001). The awareness and scrutiny of risk are core features of a shift in social policy from communitarian values to individual agency and choice. The new emphasis reflects social and cultural changes that give top priority to the construction of self-identity and lifestyle, while negating the collectivist vision of a universalistic welfare state (e.g. Higgs 1998). In different thematic fields (mostly crime, social welfare and health) it was shown how the change of institutional policy and discourses construct risk, thus to be at risk becomes something that is individually to be answered (e.g. Kelly 2001, Higgins 2001, Joyner 2000).

Whereas the strength of this approach is that the concrete ascriptions and constructions of subjectivity through institutions and organisations came into view some criticism has been directed at the concept of a generalized subject (Lupton 1999, 102). While the approach focuses on the institutional constitution of the subject, individual responses to institutional ascriptions are regularly underexposed. The notion of “fight back” institutional ascriptions (Hier 2002) is interpreted as a reaction of a special group as a whole. Differences in the individual responding to ascriptions are still out of view.

Biography and Risk

Up to now one of the research streams likely to be significant for risk research but rather ignored is **Biographical Research**. While risk research has not referred to *The turn to biographical methods in social science* (Chamberlayne et al. 2000), biographical research has paid little attention to developments in risk research. As far as I know the only exception is the research network SOSTRIS on the Social Strategies in

Risk Society. The projects research was undertaken between 1996 and 1999, and was funded by the EU Targeted Socio-Economic Research Programme 4 on Social Exclusion (Chamberlayne et al. 2002, 1). The aim of the research was “to investigate the experience of individuals who found themselves excluded, or at risk of exclusion, from important spheres of life in their societies” (Chamberlayne et al. 2002, 1). The risk categories the network referred to were early retirement, loss of work for traditional industrial workers, unemployment among graduates, and unemployment among unqualified young adults as well as single parenthood and migration or membership of an ethnic minority.

Against quantitative and standardised research strategies, the focus of biographical research is to explore the individual’s life journey through the view of the subject in their larger social contexts. Biographical research asks how individuals experience the society they live in. “The purpose of the sociobiographical approach is to avoid the overgeneralization and abstraction of many social research methods, which often reduce individuals to aggregates, averages, or bundles of variables, and which lose sight of the coherence of individual lives.” The sociobiographical method seeks to capture the dimensions of consciousness and subjectivity, as well as the objective constraints that shape individual lives. The focus is the subject’s interpretation of life situations, and the choices in response to them (ibid 3). In demarcation of the rational choice approach subjects are seen as persons that “choose courses of action for emotional and moral reasons, as well as for material ones” (ibid 4)

Biographical research examines the difficulties of the individual subject in managing life transitions and changes. By doing so it focuses on the ways in which individuals maintain their identity or restore an injured identity. The approach of “biographical identity” (Fischer-Rosenthal 2000) has the advantage that it contains a dimension of time in contrast to identity constructions referring to values or orientations at a certain moment or in a specific situation. This allows reconstructions of logics of action or structuration behind current self-representations. It could be supposed that such biographical constructions enable us to reconstruct the complexity of biographical experiences in social contexts and the influence of, for example, media on these experiences as a ground for risk perception and response.

The media, risk and risk communication

The significant role of the media in the construction of and communication about risk is widely recognized in risk-research as well in

the sociological discourse on risk. However, their role is often less theorized in sociological theorizing. While in the cultural approach to risk (Douglas) media are not considered in Beck's concept of the risk society, a key role is ascribed to the communication media within the social development of 'risk consciousness' (e.g. Beck 1992, 23, 132f.).

But despite of the assumed special role of the media – and this is not only valid for the risk society approach – no systematic reference to media research and their results is been made. Instead simplified ideas of the media and their operation and effects are used. Beck is criticized for this interpretation, because he makes “very little attempt to engage with the literature of communication research, and further, he appears to be largely unaware of the difficulty of theorizing the effects of mass media in light of the discoveries of audience studies” (Wilkinson 2001b, 12, 1999). Media research as well as social-cultural studies (e.g. Tulloch/Lupton 2003) show that the assumption of a general risk awareness underestimates the ambivalence of audiences' attitudes towards the information they receive about risk. They also underestimates the range of partial, ambiguous and contradictory views about the benefits and wisdom of the scientific knowledge individuals hold (Wilkinson 2001b, 13f.) and the contradictions, incoherence and disagreement which comprise the ways in which these groups actively make sense of the threat posed by environmental hazards (Irwin et al. 1999, 1312).

In the 1990s a central shift in media research took place that is of high significance for the question of how risk, risk perception and risk taking should be examined. The classical approach that was focussed on the objectivity, rationality and accuracy of media coverage (e.g. Freudenburg et al. 1996, Wilson 2000) got into serious difficulties. On the one hand the fundamental assumption that the media should support the public in making adequate judgements by giving objective information met the problem that often such objective knowledge is not available (Murdock et al. 2003, Kitzinger 1999, Adams 1995, 194f.). On the other hand, the implicit and widely disseminated assumption of a that media reports have a determining influence upon public risk perception (e.g. Spencer/Triche 1994; Renn et al. 1992) was scrutinized by the insight, that the subject have a relatively more active role concerning the interpretation of and response to risk.

Nowadays, attention is paid to the logic of news production and the influence of social contexts and the social and cultural embeddedness of the individuals in their own biographical experiences, their everyday life and media as one context among others receives an increasing amount of attention (Murdock et al. 2003, Tulloch 2000, 197).

Thus, assumptions, like the notion of a general risk consciousness in the risk society approach (Beck 1992) or a determining influence of the mass media on the public (e.g. Adams 1995, Kasperson/Kasperson 1996), could be criticized at least in two ways:

- Studies from the perspective of the social-cultural approach to risk show that risks are discursively constructed in everyday life referring to the mass media, individual experience/biography, local memory, moral convictions and personal judgments. The mass media are only one among other important factors (Tulloch 2000, 197).
- Quantitative surveys on general risk awareness may well give little information on peoples' individual assumptions about the risks that they themselves face – a point made by the “impersonal impact hypothesis” (Wilkinson 2001b, 13; Dickens 1992; Coleman 1993).

While the literature on the influence of the mass media on public and individual risk perceptions shows diverse results and the broad range of studies on **risk communication** and **media coverage** make it difficult for us to generate clear assumptions. The wide range of different findings cannot be explained by a set of general roles or logics, rather they are clearly influenced by the substantive nature of the particular topic under consideration (Kitzinger 1999, 57)² and/or they are the result of specific situational constellations. Studies which compare media coverage at different points in time tend to show that the social and political context is essential for understanding risk-reporting and their changes over time (Kitzinger 1999, 59). It could be concluded that research on the framing of risk-perception by the media can only fully be understood by simultaneous analysis of the context in which such risk-reports are embedded and a carefully “ethnographic” analysis of the individuals embeddedness in cultural and social contexts and biographical experiences.

The system theory approach to risk

The system theory approach to risk is advocated by Japp (1996, 2000). The general research question in the context of this approach is how the ability of society to evolve could be improved and how the ability to solve problems could be increased. The original answer is by means of functional differentiation in societal sub-areas or subsystems like economy, justice, science etc. Since functional differentiation is limited,

² Compare Kitzinger 1999, 62ff. for an overview of some more stable research results.

semantics are needed which cover different societal functions. Such united semantics focus for example on the “Lebenswelt” or are produced by social movements. Such semantics slow down the specialized societal decision-making by perhaps giving away advantages, but this is the price for an ecological rational society.

Societal subsystems refer to united semantics when they produce images of the reality they act in. Through structural coupling to other subsystems their realities become more complex and other rationalities might come into view, but the specific logic of each subsystem remains (otherwise it would be dissolved).

How could society work on these unsolvable contradictions of logic, and the self-amplification of danger- and risk-communications? The answer Japp gives in the language of system theory is: first and second order observations have to be combined. In a more intelligible language this means that neither the rationality of partial rationality (for example neighbours of a nuclear power station) nor the public interest in general should be maximized, but a temporal combination of both is needed.

To illustrate his argument Japp presents two examples:

In the first example (Giegel 1992) the partial interests of residents become embedded in a more general public interest so that suboptimal solutions become acceptable for the advantage of the public welfare. This kind of strategy rests on the acknowledgement and self-commitment to a public interest.

In the second example Wiesenthal (1990, 153) discusses, referring to March/Olsen, a reweighing of a pure instrumental rationality to a more symbolic rationality. The emphasis is than more on the change of attention than on selection and more on innovation than on participation.

However such strategies do not lead to definite solutions but to new uncertainties.

Thus, strategies of “evolutionary policy of risk-administration” (Japp 2000, 92f.) cannot produce substantial rationality in the sense of single right decisions or general obligatory purposes and reasonable consensus. In order to ensure more complex realities an observation of the results is needed. The uncertainty of the future is used to open opportunities for action, but the observation of the results is needed in order to intervene if it seems to be reasonable.

Trust is a central issue in Japp’s considerations. In his view trust is needed to generate the readiness for risk-taking. With only prevention but not trust, there are no chances to learn, and only hope or belief but no risky advance concession would be made (Japp 2000, 91).

The problem is that in several areas there is no possibility to learn by trial and error. Where catastrophes are seen as possible the question of rationality becomes so urgent that long-term learning (for example mad cow disease, nuclear power) by trial and error is not tolerated (Perrow 1984). Under such conditions the ability to act can only be protected by trust e.g. in systems as science, technology or government due to a lack of information or of transparency (Esposito 1997). Trust is then quite rational!

Trust

Since the erosion of public trust in institutions like the government, the media, the churches or the family (Pharr/Putnam 2000, Inglehart 1999), trust attracts more and more attention in social sciences. Although trust seems to be a significant variable in risk perception as well as rational decision-making or social relations, there is still no general model of trust developed. The usage of the term by scientists as well as by lay people is unsystematic and it is often difficult to decide whether trust or some other construction is being measured in a standardized survey. This suggests that trust is a multidimensional construct, not easy to conceptualise and referring to different issues, such as self-esteem or belief.

There are more and more attempts to conceptualise the notion of trust in sociology (e.g. Misztal 1996, Mölling 2001, Nuissl 2002) but the early statement that “social science research on trust has produced a good deal of conceptual confusion regarding the meaning of trust and its place in social life” (Lewis/Weigert 1985, 975) seems to be still valid.

This systematic work leads to some general insights: Trust is a “middle state between knowledge and ignorance” (Simmel 1968, 393). Trust is on the one hand incompatible with complete ignorance of the possibility and probability of future events, and on the other hand with emphatic belief when the anticipation of disappointment is excluded. Someone who trusts has an expectation directed to a special event. The expectations are based on the ground of incomplete knowledge about the probability and incomplete control about the occurrence of the event. Trust is of relevance for action and has consequences for the trusting agent if trust is confirmed or disappointed. Thus, trust is connected with risk (Nuissl 2002, 89f.).

Up to now there have been few attempts to work out a systematic scheme of different forms of trust in sociology. Psychological work in this area appears to be more developed, for example the classification of Oswald (1994, 122). He distinguishes between trust in contracts, trust in

friendship and trust in love on the one hand, and trust in foreign issues and trust in systems on the other. These different kinds of trust may be distinguished along four dimensions, the transparency of rules, the assumed reliability, the tolerance of irregularities and the suggestion of goodwill. Regarding the problem of risk, trust in contracts and in systems (as science and government) is of special significance.

In the case of trust in contracts the rules are clear and the assumed reliability is high whereas the tolerance of irregularities is low. The category of trust in systems is analytically not well developed. We can assume that the transparency of rules is low, the assumed reliability is relatively high and the tolerance of irregularities is low (Bonß).

However, sociological theories which suppose a general change in modernity (Beck, Giddens) assume that with the erosion of traditional institutions and scientific knowledge trust becomes an issue more often produced actively by individuals than institutionally guaranteed.

Independent from the insight that social action in general is dependent more or less on trust there empirical results in the context of risk perception and risk taking indicate:

- Trust is much easier to destroy than to built.
- If trust is once undermined it is more difficult to restore it.
- Familiarity with a place, a situation or a person produces trust.
- Persons will develop trust if a person or situation has ascriptive characteristics positively valued.

Trust seems to be something that is produced individually by experience and over time and can't be immediately and with purpose be produced by organizations or governments.

Such a more complex view on trust is supported by risk-communication studies which unsuccessfully try to clear up the relationship between trust in information source and impact of information on risk perceptions (Frewer et al. 2003, 1131f.).

International studies show that societal factors influence the trust of people in society. A study that tests six theories of trust by data from seven societies (1999-2001) produce the following results (Delhey/Newton 2003):

- Social trust tends to be high among citizens who believe that there are few severe social conflicts and where the sense of public safety is high.

- Social networks are associated with trust; those who are successful in life trust more, or are more inclined by their personal experience to do so.
- Finally individual theories seem to work best in societies with higher levels of trust, and societal ones in societies with lower levels of trust.

Anheier and Kendall (2002, 347) mention a systematic difference in the conceptualisations of trust by economists and sociologists. In the realm of economics, trust in market transactions is defined as an efficient mechanism to economize on transaction costs. Trust is something rationally given or refused (e.g. Coleman 1990). In sociology the idea of trust is something given in advance and is taken for granted. Trust may be developed by routines (Giddens 1990, 33), the duration of experiences, shared values or positive valued characteristics. Trust is for sociologists something that is explicitly not 'rationally' produced.

Literature included

Articles and books

Adam, Barbara/van Loon, Joost 2000: Introduction: Repositioning Risk; the Challenge for Social Theory. In: Adam, Barbara / Beck, Ulrich / Van Loon, Joost (eds.): *The Risk Society and Beyond. Critical Issues for Social Theory*. London: Sage.1-31.

Adams, John 1995: *Risk*. London: UCL Press

Adams, John 2002: Taking account of societal concerns about risk. Framing the problem. Research Report 035. Available online at <http://hse.gov.uk/research/rrpdf/rr035.pdf>

Allan, Stuart / Adam, Barbara / Carter, Cynthia 2000: *Environmental Risks and the Media*. Routledge: London; New York.

Anheier, Helmut / Kendall, Jeremy 2002: Interpersonal trust and voluntary associations: examining three approaches. In: *British Journal of Sociology* 53, 3, 343-362.

Bauman, Zygmunt 1991: *Modernity and Ambivalence*. Oxford: Polity.

Beck, U. 1994: The reinvention of politics: towards a theory of reflexive Modernization. In: Beck, U. / Giddens, A. / Lash, S. (eds.): *Reflexive Modernization. Politics, Tradition and Aesthetics in the Modern Social Order*, 1-55, Stanford: Stanford University Press.

Beck, Ulrich 1986: *Risikogesellschaft. Auf dem Weg in eine andere Moderne*, Frankfurt am Main: Suhrkamp.

Beck, Ulrich 1992: *Risk Society. Towards a New Modernity*. London: Sage.

Bloor, M. 1995: *The Sociology of HIV Transmission*. London: Sage.

Boholm, A. 1996: Risk Perception and Social Anthropology: Critique of Cultural Theory. In: *Ethnos* 61, 1-2, 64-84.

Bonß, Wolfgang 1995: *Vom Risiko. Unsicherheit und Ungewißheit in der Moderne*. Hamburg: Hamburg Edition.

- Bonß, Wolfgang / Zinn, Jens 2003: Ungewissheit in der Moderne. Oder: Die Gestaltung des Lebens als Unsicherheitsmanagement. In: *Sozialwissenschaftliche Informationen* 32, Heft 2, 24-34.
- Breckner, Roswitha / Rupp, Susanne 2002: Discovering biographies in changing social worlds: the biographical-interpretive method. In: Chamberlayne, Prue / Rustin, Michael / Wengraf, Tom 2002: *Biography and Social Exclusion in Europe. Experiences and life journeys*. Bristol: Policy Press, 289-308.
- Brenot, J. / Bonnefous, S. / Marris, C. 1998: Testing the Cultural Theory of Risk in France. In: *Risk Analysis* 18, 6, 729-739.
- Brownlie, Julie 2001: The 'Being-Risky' Child: Governing Childhood and Sexual Risk. In: *Sociology* 35, 2, 519-537.
- Calman, K. C.: 2002: Communication of risk: choice, consent and trust. Viewpoint. In: *The Lancet* 360, 166-168.
- Chamberlayne, Prue / Bornat, Joanna / Wengraf, Tom (eds.) 2000: *The Turn to Biographical Methods in Social Science. Comparative issues and examples*. London – New York: Routledge.
- Chamberlayne, Prue / Rustin, Michael / Wengraf, Tom (eds.) 2002: *Biography and Social Exclusion in Europe. Experiences and life journeys*. Bristol: Policy Press.
- Coleman, C. L. 1993: The Influence of the Mass Media and Interpersonal Communication on Societal and Personal Risk Judgments. In: *Communication Research* 20, 4, 611-28.
- Coleman, James S. 1990: *Foundations of Social Theory*. Cambridge: Belknap Press.
- Dean, Mitchel 1999: *Governmentality. Power and Rule in Modern Society*. London; Thousand Oaks; New Delhi: Sage.
- Delhey, Jan/Newton, Kenneth 2003: Who Trusts? The origins of social trust in seven societies. In: *European Societies* 5, 2, 93-137, 93-137.
- Denscombe, Martyn 2001: Uncertain identities and health-risking behaviour: the case of young people and smoking in late modernity. In: *British Journal of Sociology* 52, 1, 157-177.
- Dickens, Peter 1992: Who Would Know? Science, Environmental Risk and the construction of Theory. Working Paper 86, Centre for Urban and Regional Research, University of Sussex.
- Dingwall, Robert 1999: 'Risk Society': The Cult of Theory and the Millennium? In: *Social Policy & Administration* 33, 4, 474-491.
- Douglas, M. / Wildavsky, A. 1982: *Risk and culture. An Essay on the Selection of Technological and Environmental Dangers*. Berkeley: University of California Press.
- Douglas, M. 1985: *Risk Acceptability According to the Social Sciences*, New York: Sage
- Duff, Cameron 2003: The importance of culture and context: rethinking risk and risk management in young drug using populations. In: *Health, Risk & Society* 5, 3, 285-299.
- Elliott, Anthony 2002: Beck's Sociology of Risk: A Critical Assessment. In: *Sociology* 36, 2, 293-315.
- Esposito, Elena 1997: Unlösbarkeit der Reflexionsprobleme. In: *Soziale Systeme* 3, 379-392.
- Ewald, François 1986: *L' état providence*, Paris: Grasset.
- Fischer-Rosenthal, Wolfram 2000: Biographical work and biographical structuring in present-day societies. In: Chamberlayne, Prue / Bornat, Joanna / Wengraf, Tom (eds.): *The Turn to Biographical Methods in Social Science. Comparative issues and examples*. London – New York: Routledge, 109-125.
- Flynn, Rob 2002: Clinical governance and governmentality. In: *Health, Risk & Society* 4, 2, 155-173.
- Foucault, Michel 1991: "Governmentality". In Burchell, G. et al. (ed.), *The Foucault Effect*, 87-104.

- Freudenburg, W. / Coleme, C. L. / Gonzale, J. / Helgeland, C. 1996: Media coverage of hazard events: analyzing assumptions. In: *Risk Analysis* 16, 1, 31-42.
- Frewer, Lynn J. / Scholderer, J. / Bredahl, Lone 2003: Communicating about the Risks and Benefits of Genetically Modified Foods: The Mediating Role of Trust. In: *Risk Analysis* 23, 6, 1117-1133.
- Furedi, Frank 1997: *Culture of Fear. Risk-taking and the Morality of Low Expectation.* London – New York: continuum.
- Giddens, A. 1990: *The Consequences of Modernity.* Stanford University Press, Stanford.
- Giegel, Hans-J. 1992: *Kommunikation und Konsens in modernen Gesellschaften,* Frankfurt am Main: Suhrkamp.
- Hier, Sean P. 2002: Raves, Risks and the Ecstasy Panic: A Case Study in the Subversive Nature of Moral Regulation. In: *Canadian Journal of Sociology* 27, 1, 33-57.
- Higgs, Paul 1998: Risk, Governmentality and the Reconceptualization of Citizenship. In: Scambler, Graham / Higgs, Paul (eds.): *Modernity, Medicine and Health: Medical Sociology Towards 2000.* London: Routledge, 176-197.
- Hiller, Petra / Krücken, Georg (Hg.) 1997: *Risiko und Regulierung. Soziologische Beiträge zu Technikkontrolle und präventiver Umweltpolitik.* Frankfurt a. M.: Suhrkamp.
- Hobson-West, Pru 2003: Understanding vaccination resistance: moving beyond risk. In: *Health, Risk & Society* 5, No. 3, 273-283.
- Hood, Christopher / Rothstein, Henry / Baldwin, Robert 2001: *The Government of Risk. Understanding Risk Regulation Regimes.* Oxford: Oxford University Press.
- Inglehart, R. 1999: Postmodernization, Authority and Democracy. In: Norris, P. (ed.) *Critical Citizens: Global Support for Democratic Government,* Oxford University Press, Oxford.
- Irwin, A. / Simmons, P. / Walker, G. 1999: Faulty Environments and Risk Reasoning: The Local Understanding of Industrial Hazards. In: *Environment and Planning A* 31, 1311-26.
- Japp, Klaus Peter 1996: *Soziologische Risikotheorie,* Weinheim; München: Juventa.
- Japp, Klaus Peter 2000: *Risiko,* Bielefeld: Transcript
- Joyce, Paul 2001: Governmentality and Risk: Setting Priorities in the New NHS. In: *Sociology of Health and Illness* 23, 5, 594-614.
- Joyner, Melanie 2000: Surfing the Crime Net: Probation and Risk Society. In: *Crime Prevention and Community Safety: An International Journal*, 2, 2, 67-74.
- Kasperson, R. E. / Kasperson, J. X. 1996: The Social Amplification and Attenuation of Risk. In: *The Annals of The American Academy of Political and Social Science.* 545, 95-105.
- Kelly, Peter 2001: Youth at Risk: processes of individualisation and responsabilisation in the risk society. In: *Discourse: studies in the cultural politics of education* 22, 1, 23-33.
- Kitzinger, Jenny 1999: Researching risk and the media. In: *Health, Risk & Society* 1, 1, 55-69.
- Krimsky, Sheldon / Golding, Dominic 1992: *Social Theories of Risk,* Westport CT: Praeger.
- Krohn, Wolfgang / Krücken, Georg 1993: Risiko als Konstruktion und Wirklichkeit. Eine Einführung in die sozialwissenschaftliche Risikoforschung. In: Krohn, Wolfgang / Krücken, Georg (Eds.): *Risikante Technologien: Reflexion und Regulation. Einführung in die sozialwissenschaftliche Risikoforschung.* Frankfurt a. M.: Suhrkamp
- Lash, Scott 2000: Risk Culture. In: Adam, Barbara; Beck, Ulrich; Van Loon, Joost (eds.): *The Risk Society and Beyond. Critical Issues for Social Theory.* London, Thousand Oaks, New Delhi: Sage, 47-62.
- Latour, Bruno / Woolgar, Steve 1979: *Laboratory life. The social construction of scientific facts.* Beverly Hills, London: Sage.
- Latour, Bruno 1993: *We have never been modern.* New York. London. Harvester Wheatsheaf.

- Levidow, L. / Carr, S. / Weld, D. 2000: Genetically modified crops in the European Union: regulatory conflicts as precautionary opportunities. In: *Journal of Risk Research* 3, 189-208.
- Lewis, J. David / Weigert, Andrew 1985: Trust as a Social Reality. In: *Social Forces* 63, 967-85.
- Lindblom, Charles E. 1959: The Science of 'Muddling through'. In: *Public Administration Review* 19, 79ff.
- Lupton, Deborah (ed.) 1999: *Risk and sociocultural theory: new directions and perspectives*. Cambridge: Cambridge University Press.
- Lupton, Deborah / Tulloch, John 2001: 'Border Crossings: Narratives of Movement, 'Home' and Risk'. In: *Sociological Research Online*, 5, 4, <http://www.socresonline.org.uk/5/4/lupton.html>
- Lupton, Deborah / Tulloch, John 2002: 'Risk is Part of Your Life': Risk Epistemologies among Group of Australians. In: *Sociology* 36, 2, 317-334.
- Lupton, Deborah 1999: *Risk*. London; New York: Routledge.
- Macgill, S. 1989: Risk perception and the public: insights from research around Sellafield. In: Brown, J. (ed.): *Environmental Threats: Perception, Analysis and Management*. London: Belhaven Press, 48-66.
- March, James G. / Simon, Herbert A. 1958: *Organisations*. New York: Wiley.
- Marris, C. / Wynne, B. / Simmons, P. / Weldon, S. 2001: *Public Perceptions of Agricultural Biotechnologies in Europe* (European Commission), available at www.pabe.net .
- Maticka-Tyndale, E. 1992 Social construction of HIV transmission and prevention among heterosexual young adults. In: *Social Problems* 39, 3, 238-52.
- Misztal, Barbara A. 1996: *Trust in Modern Societies. The Search for the Basis of Social Order*. Cambridge: Polity Press.
- Mitchell, Wendy A. / Crawshaw, Paul / Bunton, Robin / Green, Eileen E. 2001: Situating young people's experience of risk and identity. In: *Health, Risk & Society* 3, 2, 217-233.
- Mölling, Guido 2001: The Nature of Trust: From George Simmel to a Theory of Expectation, Interpretation and Suspension. In: *Sociology*, 35, 2, 403-420.
- Murdock, G. / Petts, J. / Horlick-Jones, T. 2003: After amplification: rethinking the role of the media in risk communication. In: Pidgeon, Nick / Kasperson, Roger E. / Slovic, Paul (eds.): *The Social Amplification of Risk*. Cambridge University Press, 156-178.
- Nettleton, S. 1997: Governing the risky self. How to become health, wealthy and wise. In: Peterson, A. / Bunton, R. (eds.): *Foucault, Health and Medicine*, London: Routledge.
- Nuissl, Henning 2002: Bausteine des Vertrauens – eine Begriffsanalyse. In: *Berliner Journal für Soziologie*, Heft 1, 87-108.
- O'Malley, Pat 2000: Uncertain subjects: risks, liberalism and contract. In: *Economy and Society* 29, 4, 460-484.
- Perrow, Charles 1984: *Normal accidents. Living with high-risk technologies*. New York: Basic Books.
- Pharr, Susan J. / Putnam, Robert D. (eds.) 2000: *Disaffected Democracies: What's Troubling the Trilateral Countries?* Princeton: Princeton University Press.
- Renn, O. / Burns, W. J. / Kasperson, J. X. / Kasperson, R. E. / Slovic, P. 1992: The Social Amplification of Risk: Theoretical Foundations and Empirical Applications. In: *Journal of Social Issues*, 48, 4, 137-160.
- Rhodes, R. A. W. 1997: *Understanding Governance*. Buckingham, Open University Press.
- Rippl, Susanne 2002: Cultural theory and risk perception: a proposal for a better measurement. *Journal of Risk Research* 5, 2, 147-165.
- Rose, N. 1999: *Powers of Freedom*. Cambridge: Cambridge University Press.
- Royal Society 1992: *Risk: Analysis, Perception and Management*, London

- Scott, Sue / Jackson, Stevi / Backett-Milburn, Kathryn 1998: Swings and Roundabouts: Risk Anxiety and the Everyday Worlds of Children. In: *Sociology* 32, 4, 689-705.
- Sjöberg, L. 1995: Explaining risk perception: an empirical and quantitative evaluation of cultural theory. In: *Rhizikon: Risk Research Reports* 22, Center of Risk Research.
- Sjöberg, L. 1997: Explaining Risk Perception: An Empirical Evaluation of Cultural Theory. In: *Risk Decision and Policy* 2, 2, 113-130.
- Slovic, Paul 1999: Trust, Emotion, Sex, Politics, and Science: Surveying the Risk-Assessment Battlefield. In: *Risk Analysis* 19, 4, 689-701.
- Spencer, W. J. / Triche, J. 1994: Media Construction of Risk and Safety: Differential Framings of Hazard Events. In: *Sociological Inquiry*. 64, 2, 199-213
- Strydom, Piet 2002: Risk, environment and society. Buckingham, Philadelphia: Open University Press.
- Taylor-Gooby, Peter 2000: Risk and Welfare, In: Taylor-Gooby, P. (ed.): Risk, Trust and Welfare. Houndmills, Basingstoke, Hampshire, London: MacMillan, New York: St. Martin's, 1-18.
- Thompson, M. / Wildavsky, A. 1982: A Proposal to Create a Cultural Theory of Risk. In: Kunreuther, H.C. / Ley, E.V. (Eds.): *The Risk Analysis Controversy. An Institutional Perspective*, Berlin: Springer, 145-161.
- Thompson, Michael / Ellis, Richard / Wildavsky, Aaron 1990: *Cultural Theory*. Boulder. Westview Press
- Tulloch, John / Lupton, Deborah 2003: *Risk and everyday life*. London: Sage Publications
- Tulloch, John 2000: 'Landscapes of fear' Public places, fear of crime and the media. In: Allan, Stuart / Adam, Barbara / Carter, Cynthia 2000: *Environmental Risks and the Media*. Routledge: London; New York, 184-197.
- Wiesenthal, Helmut 1990: Ist Sozialverträglichkeit gleich Betroffenenpartizipation? In: *Soziale Welt* 41, 28-46.
- Wilkinson, Iain 2001a: *Anxiety in a risk society*. London; New York: Routledge.
- Wilkinson, Iain 2001b: Social Theories of Risk Perception: At Once Indispensable and Insufficient. In: *Current Sociology* 49, 1, 1-22.
- Wilson, Kris M. 2000: Communicating climate change through the media. Predictions, politics and perceptions of risk. In: Allan, Stuart / Adam, Barbara / Carter, Cynthia 2000: *Environmental Risks and the Media*. Routledge: London; New York, 201-217.
- Wynne, Brian 1989: Frameworks of rationality in risk management: towards the testing of naïve sociology. In: Brown, J. (ed.): *Environmental Threats: Perception, Analysis and Management*. London: Belhaven Press, 33-47.
- Wynne, Brian 1996: May the sheep safely graze? A reflexive view of the expert-lay knowledge divide. In: Lash, S. / Szerszinski, B. / Wynne, B. (eds.): *Risk, Environment and Modernity: Towards a New Ecology*. London: Sage, 44-83.
- Wynne, Brian 2002: Risk and Environment as Legitimatory Discourses of Technology: Reflexivity Inside Out? In: *Current Sociology* 50, 3, pp. 459-477.
- Zinn, Jens / Eßer, Felicitas 2003: Die Herstellung biographischer Sicherheit in der reflexiven Moderne. In: *BIOS (Zeitschrift für Biographieforschung, Oral History und Lebensverlaufsanalysen)* Jg. 16, Heft 1, S. 46-63.
- Zinn, Jens 2004: »Biographical Certainty« in Reflexive Modernity (unpublished paper).

Journals

British Journal of Sociology

Canadian Journal of Sociology

Current Sociology

Health, Risk & Society

Journal of Risk Research

Risk Analysis

Sociology