Introduction

In Germany debates about risk developed along different lines from those in many other countries. In the US, Ron Johnston noted as early as 1980 that working on risk issues was ‘big business’ (1980: 105) and, in the same year, the Society of Risk Analysis was founded which produces the well-known international journal, *Risk Analysis*. At this time, in Germany, similar research was less well developed; however, technical-oriented risk research, in particular in chemistry and atomic technology, was being carried out. In addition, beginning in the 1970s in domains such as cancer and pregnancy, there was a significant increase in Risk Factor Medicine (Abholz et al., 1982) although again this was less developed than in the Anglosphere. In the field of psychological research, work was carried out on risk anxieties (Schicha, 1982), risk personalities (Klebelsberg, 1969) and children at risk (Steinhausen et al., 1984) but there was no significant contribution to the domains of risk perception and risk communication, which remained underdeveloped in the 1970s and 80s.

In the 1980s economic field, debates on risk and uncertainty were also somewhat marginalised despite publications such as ‘Suggestions for a better risk theory’ (Redlich, 1957) and *Risk and Risk Politics* (Philipp, 1967). Issues related to ‘Decision-making under uncertainty’ (e.g. Gäfgen, 1963; Haas, 1965; Schneeweß, 1967; Kirsch, 1971; Sinn, 1980) received slightly more attention; however, these contributions did not add substantively to the body of scholarly work. They tended to follow the Anglosphere debates instead and did not engage with Risk Assessment or Risk Management.

It was more unusual to find risk and uncertainty covered as a topic in sociology and political science, although there were some exceptions. Franz-Xaver Kaufmann’s book, *Security as Sociological and Social Policy Problem* (1970) made an important but not widely received contribution. Similarly, in technology studies the analyses of risk as presented by Conrad (1983) remained an exception. Likewise, Clausen and Dombrowsky (1983) were unsuccessful in establishing the importance of the risk topic with their *Sociology of Catastrophes*, which focused on risky decision making.

The slow development of risk research in the social sciences and sociology in particular was not only observable in German academia but also in the Anglophone world. In the field of technology studies, risk research developed into ‘big business’; however, in the field of social sciences, it lacked influence. Consequently, James Short Jr. in his ‘Presidential Address’ to the
American Sociological Association in 1984 demanded a stronger commitment to ‘the social fabric at risk’ and noted that ‘the contributions of sociologists to risk analysis have been rare and not widely recognized’ (Short, 1984: 713). The sociological analysis of risk was considered as only marginal compared to technical risk assessment and it also lacked an independent approach to risk research.

This situation changed in the German-speaking countries in 1986 with Ulrich Beck’s publication of Risikogesellschaft: Auf dem Weg in eine andere Moderne [Risk Society: Towards a new modernity] (1992[1986]). Risk Society opened up a new perspective on risk that positioned risk in a historical framework of social change. This work succeeded in shifting the debate in Germany and beyond.

However, these changes did not affect the already developed risk debates of the first generation of ‘objective’ risk assessment (e.g. Rowe, 1977), the psychologically accentuated risk perception research (e.g. Fischhoff et al., 1981), or the risk communication research (e.g. Krüger and Ruß-Mohl, 1991), which continued largely unchanged within their established parameters in the following years.

Thus, the new societal perspective on risk developed relatively independently. In addition to the succession of contributions by Ulrich Beck (e.g. 1992, 2009), the new perspective was taken up mainly on a conceptual level by Niklas Luhmann (1990, 1993[1991]) and other authors (e.g. Evers and Nowotny, 1987; Halfmann and Japp, 1990; Bechmann, 1993; Krohn and Krücken, 1993; Bonß, 1995; Renn et al., 2007; Gerhold, 2009).

With the translation of Beck’s Risk Society (1992), this new perspective became increasingly influential internationally. It is difficult to give a comprehensive overview of the impact of Beck’s work on academic and public debates; however, the continuously growing number of citations of Risk Society and Beck’s publications more generally speak for themselves (see Figure 8.1). Risk Society discovered some central truths about the social world and triggered controversial debates beyond Germany. Initially, both German and international scholars were often critical (Alexander, 1996a, 1996b; Cottle, 1998; Dingwall, 1999; Elliott, 2002; Boyne, 2003; Mythen, 2004, 2005; Atkinson, 2007; Curran, 2013) and claimed there were substantial weaknesses in Beck’s work. But these objections abated over time for two reasons. Originally, Beck did not position Risk Society primarily in a socio-theoretical tradition but he did provide such a perspective a few years later (e.g. Beck, 1995[1988]). At the same time, the alleged shift of emphasis in social problem processing could no longer be denied. That is why, during the last few decades, an increasing number of scholars (including some very prominent ones such as Anthony Giddens or Zygmunt Bauman) were inspired by Beck’s work, at times using it as a framework for their own research or even making his thesis of the risk society the centre of their own research (e.g. Simon, 1987; Adam et al., 2000; Kemshall, 2002; Hudson, 2003; Tulloch and Lupton, 2003; Webb, 2006).

It is open to debate whether a sociological approach to risk and uncertainty has always to take on a socio-theoretical perspective; however, it seems clear that the socio-theoretical perspective on risk has at least supported, or even made possible, the development of a sociological approach because the social responses to risk and uncertainty are not based exclusively on psychological, economic or political factors. Instead, each societal formation is characterised by a social dimension that cannot be reduced merely to psychological, economic or political aspects. Such social dimensions may also differ according to their historical context as between pre-modern and modern times and may further vary between different modern societies.

This article proposes that it is this particular socio-theoretical perspective on risk that characterises the German contribution to the international debates on risk in sociology and beyond. The thesis will be developed in three steps.
First, the contribution of Ulrich Beck is outlined; this goes beyond technical risks (from nuclear to genetic engineering). He has established risk as a theoretical core concept that characterises a particular ‘problem shift’ in central societal domains: in early modern societies, as described by Karl Marx and Max Weber on the basis of their empirical observations during the nineteenth and twentieth centuries, societal conflicts were essentially driven by questions regarding the allocation of wealth. As Beck argued, these conflicts, although still observable, are less important in second modernity. Instead, conflicts about the allocation of risk become increasingly important or even dominant. This central hypothesis and the related assumptions are outlined in the first section.

Second, the chapter discusses the alternative societal approach, which was introduced by Niklas Luhmann. Luhmann does occasionally refer to Beck, but key terms such as ‘uncertainty’ and ‘risk’ only occur systematically in his publications from 1990 onwards. In some ways this was a covert but important response to Beck, because since then these terms have turned into central concepts in Luhmann’s systems theory.

Third, the stronger social policy-oriented approach, as represented by Franz-Xaver Kaufmann (1970) and later Adalbert Evers and Helga Nowotny (1987), is outlined. Although these scholars have not had as much of a significant influence on theoretical debates on risk research as Beck and Luhmann, they have nonetheless established an important discourse.

Finally, the merits and deficits of the socio-theoretical risk debate is considered.

The risk society – reflexive modernisation

Before the mid-1980s it was uncommon to approach risk socio-theoretically. Even though Mary Douglas (Douglas, 1963, 1986; Douglas and Wildavsky, 1982) carried out some initial work on risk from a cultural sociology perspective, it was Ulrich Beck who provided the first societal theory on risk with the publication of Risikogesellschaft in 1986 that would later become a world bestseller. At first glance, it might seem that Beck’s book was a response to environmental dangers that had become more obvious following the accidents and disasters in Seveso (1976), Three Mile Island (1979), Bhopal (1984) and Chernobyl (1986); and Risikogesellschaft undoubtedly did give expression to this new social experience. However, attempts
to explain the catastrophe of Chernobyl as having been caused by inferior socialist technology were short-lived and it became difficult to deny that similar accidents could happen anywhere.

The outstanding significance of Risikogesellschaft was reinforced by its scope. Indeed, it went far beyond the side effects of nuclear power and tried to conceptualise fundamental changes in the societalisation mode (Vergesellschaftung) more generally, which refers to both technical and social dimensions. In this respect, the term ‘risk society’ was much more appropriate to express the new social conflicts that were experienced in developed modern societies at the time, rather than notions of ‘capitalism’ or ‘industrial society’. Ultimately the term ‘risk society’ indicates a shift in the centre of the societalisation mode that Beck characterises as a shift from simple or first modernisation to reflexive or second modernisation (Beck, 1992[1986]: 14; 1993: 15ff.). Some of the central social conflicts characterising current societies are indicative of this transition within modernisation. Following Beck, capitalism is characterised by conflicts regarding the allocation of wealth whilst modernised societies are characterised by conflicts regarding the allocation of risks. The contrasts between the bourgeoisie and the proletariat are not suspended, but increasingly environmental and social problems overlap with old class conflicts. In Beck’s view this is evidence of the success of capitalism, which has contributed to both scientific advancement and the transformation of structures of social inequality.

Advanced capitalist societies have indeed relativised problems of pauperism that had characterised the nineteenth century Manchester Capitalism; however, the inequalities between the poor and the rich have not been reduced. Quite the opposite is the case. Still, the ‘elevator effect’ (Beck, 1992[1986]: 122ff.; Beck, 1993: 91ff.) has moved the differences to a different level and thereby questions about the development of prosperity have lost their political significance. At the same time, the acceleration of scientific-technological advancement unexpectedly produced new problems, side effects and uncertainties that had not been imagined in the societal theorizing either of Karl Marx and Friedrich Engels or Talcott Parsons.

The theorists following the zeitgeist of first modernity had no doubt that the process of modernisation is characterised by an increasing mastery of inner and outer nature. Theorists such as Hegel and Marx, Horkheimer and Adorno or Parsons and Luhmann more or less clearly assumed a continuous growth of instrumental knowledge. The scientific-technical control of the world, according to this belief, implicit from the nineteenth century onwards, increases in a linear fashion into the future with its attendant consequences.

Beck rejects precisely this assumption and argues instead that the environmental dangers produced by human advancement disclose a kind of dialectic of scientization (Beck, 1986: 67ff; Beck, 1992: 51ff). Referring to Chernobyl and other developments, he argues that scientific advancement does not necessarily lead to better control of inner and outer nature; instead each scientific-technological innovation has, besides its intended goals, unintended consequences. Moreover, the relationship between the two systematically changes, with unintended consequences becoming increasingly important.

This has become most obvious in the case of nuclear power. Originally, experts assumed that the costs for storing nuclear waste would be solved by the advancement of science and technology. It quickly became clear that this expectation was far too optimistic. In contrast to a continuously growing control of inner and outer nature, there have been increasing social costs and a growing perception of potential dangers that have become more diffuse, contested and difficult to grasp.

Besides the dialectic of scientization and manufactured environmental threat, Beck (1992 [1986]) provided an additional perspective in Risk Society that had, at the beginning, often been neglected in the international perception of his work. Risk Society not only characterises
the looming side effects of scientific-technological advancement as uncontrollable and self-destructive, but also points to massive changes observable in the social sphere. Under the headings ‘Individualisation of social inequality’ and ‘Detraditionalization of industrial ways of living’, Beck describes new forms of social structuration in ‘Beyond status and class?’ (Beck, 1983; Beck, 1992[1986]: 91ff.): changed patterns of family organisation (Beck, 1992[1986]: 103ff.), new biographical forms (Beck, 1992[1986]: 127ff.) and problems of the ‘destandardisation of labour’ (Beck, 1992[1986]: 139ff.). These might all be quite distinct developments; however, in all these domains – following Beck – an erosion (whether in the form of greater fluidity or actual dissolution) of traditional bonding patterns is noticeable, which indicates both a loss of security and certainty as well as new opportunities for personal decision making and creativity.

Traditional social integration by birth has increasingly been supplanted by integration through chosen relationships. Allegedly natural forms of gender-specific division of labour in the family have been transformed into time-limited social arrangements. Such developments indicate new opportunities but also point to unexpected new uncertainties. Anticipated careers transform into uncertain life paths with breaks and disruptions and increasingly unpredictable occupational careers and intimate relationships. A relatively clearly differentiated stable modernity as described by Talcott Parsons transforms into a ‘liquid modernity’ (Bauman, 2000) with high uncertainties and risks on the micro- and macro-level.

From a social impact perspective, there are two main dimensions of these developments that are important for Beck. First, he focuses on the growing fluidity of structures and acceleration of processes in the economic and social spheres. He elaborates on these issues in his work on ‘globalisation’ (Beck, 1998) and ‘individualization’ (Beck and Beck-Gernsheim, 1994; Berger and Hitzler, 2010; Schneider and Kraus, 2014). Second, he further advances his arguments about the changing roles of science and politics (Beck, 1986: 251ff.; Beck, 1992: 155ff.). Beck identifies fundamental shifts at the cognitive and institutional levels. With the advanced scientization of society it becomes clear that scientific interpretation patterns have not lead to more security and rationality – in fact the opposite is the case. The political sphere is characterised by a loss of power and influence in the political centres whilst the ‘pre-political’ arena has become more influential. Political decisions are increasingly made in the ‘sub-political’ sphere of different stakeholder groups, which participate and contribute before such decisions finally enter the political-administrative system. Simultaneously, social movements indicate the trend towards a strengthening of the extra-parliamentary domain and an internal politicisation of the public sphere that is characterised by ambivalences and uncertainties rather than certainty and unambiguity.

At the time, Beck’s arguments resonated well with a situation in which traditional social integration was being eroded, societies were increasingly globalised and optimism in the perpetual scientific and social advancements was fundamentally challenged. This was particularly the case for his central thesis of a reoccurrence of uncertainty in scientised societies, although this was more nuanced than some critics claimed. Beck does not sweepingly criticise the scientisation of society; instead, he agrees with his implicit competitor Niklas Luhmann (1993[1991]) that recourse to scientific procedures is unavoidable and it supplants Talcott Parsons claims of ‘latent patterns’ and value consensus. But Beck notes that scientization in reflexive modernisation does not lead to more security and certainty as expected in the nineteenth and twentieth centuries, but instead leads to new uncertainties and ambiguities.

This is not only the case for scientific-technical but for social developments that are also characterised by new uncertainties and ‘liquidity’ on a national and international scale. It is precisely for these reasons that modern societies primarily appear as risk societies. Indeed, on the basis
of Luhmann’s distinction between risk and danger (Luhmann, 1993[1991]: 21f.) one can challenge whether Beck really describes risk societies rather than danger societies. However, this does not affect the change in the core structure of the societalisation mode. It does not suspend the problems of capitalist societies but relativises and superimposes them often to the point where they are no longer recognizable.

German and international scholars have often criticised Beck for his feuilletonistic style, claiming that his theses were conceptually superficial and lacked empirical support. In addition to the better integration of his theoretical concepts in Ecological Politics in an Age of Risk (Beck, 1995[1988]), other scholars attempted to differentiate and broaden the risk concept socio-theoretically (e.g. Bechmann, 1993; Bonß, 1995). In the early 1990s, there were increasing attempts to test his hypotheses empirically. Initially, scholars tended to take a somewhat critical stance (Friedrichs, 1998) but in the long term the focus shifted to more differentiated outcomes and to developing his observations conceptually. Strong and controversial debates focused on the individualization thesis (e.g. Berger and Hitzler, 2010; Burzan, 2011; Dawson, 2012). After that, with the foundation in 1999 of a collaborative research centre, Reflexive Modernization, Ulrich Beck headed a ten-year research program that examined the transformations towards a ‘risk society’ on three dimensions: (1) the production of knowledge, (2) social consequences, e.g. of individualisation processes and mobilization and (3) subsequent political and economic issues societies have to deal with in the context of new and possibly growing uncertainties. In this context important work developed (exemplary: Beck and Bonß, 2001; Beck and Lau, 2004; Beck and Grande, 2004; Böhle and Weihrich, 2009; Bonß and Lau, 2011; Wegenroth, 2012; Beck and Mulsow, 2014; Schneider and Kraus, 2014) that mainly confirmed the original hypotheses, with some refinements. It became clear that the shift to risk as a social principle for action has led to a successive decrease of traditional structuration patterns with highly ambivalent consequences.

These consequences are currently discussed under the notion of ‘second modernity’ or ‘reflexive modernity’ rather than ‘risk society’. It was one of Beck’s ongoing endeavours until his death in 2015 to overcome the ‘European’ and ‘Western bias’ of reflexive modernization theory. Indeed, the transformations that occurred with the shift towards risk and uncertainty had not only an impact on Europe, the US and Australia but also on countries worldwide. It was crucial to see that these changes do not always follow the same pattern. In contrast to Talcott Parsons (1964), the ‘occidental rationalisation’, as described by Weber (1920), varies depending on specific cultural and institutional contexts. China, India or Africa, for example, respond in different ways to climate change or trends towards individualisation; however, for Beck, systematically comparing divergent patterns and trajectories of ‘multiple modernities’ (Eisenstadt, 2002) would be instructive both conceptually and practically.

**Modern systems theory – functional differentiation**

In Germany, environmental dangers have driven public debates for quite a while, and Beck was not the first who responded to the environmental hazards that have been looming since the 1970s. In the same year as Risk Society, Niklas Luhmann (1989[1986]) published Ökologische Kommunikation – Kann die modern Gesellschaft sich auf ökologische Gefährdungen einstellen? Using a systems theory framework, Luhmann developed a response to the question of whether modern societies are able to respond appropriately to ecological challenges; however, the notion of risk was not expounded in this book. It took until 1990/91, when Luhmann published Soziologie des Risikos (1991) and responded to Beck’s proposal to use ‘risk’ as a theoretical category, for Luhmann systematically to outline a systems theory approach placing ‘risk’ at its centre.
Luhmann contributed a new perspective to the socio-theoretical debates. He transformed Frank H. Knight’s (1921) distinction between risk and uncertainty into a sociological distinction between risk and danger (Luhmann, 1993[1991]: 20ff.). *Risks* are uncertainties that are linked to action and decisions that are understood as calculable and attributable. In contrast, *dangers* are ‘external’ uncertainties that can neither be calculated nor attributed (Bonß, 1995: 52ff.). Luhmann illustrates the difference between risk and danger by the example of the umbrella: ‘The danger, that one will get wet in the rain, turns into a risk that one takes, when one does not take the umbrella’ (Luhmann, 1993a: 328). Indeed, whether it is perceived to be appropriate to protect against the ‘divine’ rain was temporarily contested in nineteenth century Germany. This is more than a historical anecdote. Since probability theory and respective calculations developed only in the eighteenth century, there is much to support the idea that the notion of risk is a specific modern form to construct and perceive uncertainty. Arguing in this vein, it is not accidental that the notion of risk developed in a parallel fashion to the successful differentiation of science since the eighteenth century (Luhmann, 1993[1991]).

In Luhmann’s view, risk refers not only to a cognitive change in dealing with uncertainty that took place during the modernisation process, but he also connects risk to a parallel socio-structural shift that is characterised by the transition from *stratified differentiation* of early modern societies to *functional differentiation* in modern societies. Against this background ‘risk’ (as opposed to danger) is understood as a particular mode of ‘observing’ social reality in terms of decisions. Although dangers as external uncertainties have nothing to do with human decisions, risks refer to the consequences of decisions that will occur in the future, but are unknown in the present.

Luhmann’s approach builds on Parsons’s general systems theory but departs in many respects into an independent and original theoretical approach. Most important are his decisions to identify as the smallest social unit not social action but communication and to understand the notion of system not just as a conceptual tool as Parsons did but as an empirical social reality. According to Luhmann’s perspective, modern societies change their structure fundamentally. Early modern societies were still dominated by a hierarchical structure with a number of layers and top positions with religious and moral authority that provided a general binding frame for actions. This situation changed fundamentally during modernisation because the events in the world appeared less (or no longer) as external matters that are determined by God. Instead, as Marx said (1978[1852]: 10), ‘men make their own history’ and they paid for this development, not least with a fundamental change in the uncertainty structure and perception. Luhmann argues that social spheres such as the economy, politics, law, education and science differentiated into increasingly independent social spheres that follow their own rationale – they are self-referential, productive and uncertain. They develop an independent language or *code* that identifies particular communications as being part of the system and orient their processing mainly according to their own rationale. For example, the economic system observes the world through the lens of money, liquidity, profit, etc. The political system focuses on power, its representation, enforcement and continuation. The scientific system deals with the processes and criteria of generating true knowledge, where the true knowledge is only a result of specific, scientific methods that are commonly recognized.

As a result of functional differentiation, Luhmann argues, there is no longer a centre or a superior position within society that could claim to be speaking for society as a whole. There is no external position to observe social processes either. There are only social systems producing their own reality in their system-specific mode (e.g. the economic system being concerned with money). In systems theory, the processing of a system’s rationale stands for *first order observation* but systems can also observe the processing of themselves or other systems and can reflect on the rationale of the process logic (*second order observation*); however, when doing so, they are still...
restricted by their own rationale. According to this perspective, there is no ‘objective’ truth any longer. The notion of objectivity makes sense only on the level of first order observation. As soon as the existence of the reality of other systems is acknowledged all ontological notions of objectivity are obsolete. Instead, all reality depends on observations that are made following a particular perspective of a system. That does not mean that everything is possible or relative. It mainly insists that every communication about social reality is part of this reality and restricted by its own point of view.

With the loss of an external religious and moral anchor that could silence doubts regarding the future, social systems have to rely on their own processing when dealing with a future perceived to be uncertain and to be shaped by human decisions rather than being predetermined. Systems theory assumes that functional systems build in complexity to deal with the new uncertainties of the future. However, all decisions (and non-decisions) are not enough to provide ultimate certainty; instead, doubts can occur about the quality of a decision and inefficient outcomes might ask for new decisions and so on.

Luhmann uses three dimensions to highlight the consequences of these conceptual decisions: a time dimension, a material dimension and a social dimension. With modernisation, the unit of past and future and a cyclical notion of time were replaced by a linear concept of time emphasizing the novelty and the difference between past and future. Under these conditions human decisions have become central, although the open horizon of the future does not produce certainties but further decisions and uncertainties. With functional differentiation, decisions and uncertainties escalate and as a result societies, organisations and people tend to observe the difference between past and future no longer in terms of progress but in terms of possible increased harm, damages or risks. For example, the financial crisis in the economic system has led to calls for politicians to implement stronger legal regulation; however, legal regulation is quite limited in actually preventing another financial crisis, but it has to facilitate decisions that deal with the possibility of another financial crisis even when we already know that uncertainties persist and the next crisis will come.

With regard to the material dimension, Luhmann argues that risk is opposed to security; however, safety is an ideal state that can never be reached – it may only be a point of reference for political demands, for example. Technicians or safety experts can work on increasing the safety of a technology or a production process. Even though they can significantly increase safety, uncertainty remains and accidents happen. Both ‘risk’ and ‘safety’ contain uncertainty, and Luhmann suggests changing to second order observation to see that observers significantly differ in the way they deal with possible harm depending on its attribution to decisions. As already indicated, Luhmann suggests defining risk as decision-based uncertain outcomes and danger as uncertain negative events that are external to the observer. For example, people’s preparedness to accept risks differs depending on whether they take the risks voluntarily or are exposed to them involuntarily (Starr, 1969). From a systems theory perspective, there is a tendency for systems to try to prevent being made responsible for negative outcomes. For example, after the financial crisis the political system blamed unrestricted economic developments for the crisis whilst the economic system tended to emphasize inappropriate legal and political regulation.

With regard to the social dimension, the difference between decision makers and those affected focuses on conflict. A large body of research focuses on approaches that try to deal with conflicts through strategies that bring decision makers and an affected public together to discuss and, hopefully, overcome differences. Systems theory would be rather sceptical as to what extent this is possible. The structural difference between decision makers and those affected would trigger resistance independently of the particular issue. Because of systematic differences between people involved in social conflicts about risk, notions of consensus are prone to fail, and instead solutions
have to be found that are able to combine different views without reaching consensus. For example, the German compromise to abandon nuclear power is set up in a way that economically old and relatively inefficient nuclear power plants are turned off first and the most technologically advanced can produce energy for the longest (for more examples, see Japp and Kusche, 2008).

The systems theory approach has informed research in a large variety of areas. There is a particular focus on risk regulation and risk management (e.g. Halfmann and Japp, 1990; Hiller, 1993; Japp, 1996, 2000; Hiller and Krücken, 1997; Bora, 1999; Hapke and Japp, 2001; Zehetmair, 2012), social movements, participation, expert/lay communication (Halfmann and Japp, 1993; Hellmann, 1996; Bergmans, 2008; Boholm, 2008; Bora and Hausendorf, 2010) and organisations (e.g. Hiller, 1994; Tacke, 2001) but also case studies that examine the rationales of particular function systems (Baeker, 1991; Arnoldi, 2004) and refer to systems theory to reconstruct the self-referential dynamics of social processes.

Social policy – shaping uncertainty

There is a third socio-theoretical perspective discussed next that focuses more strongly on social policy and social risks. In contrast to Beck and Luhmann, the authors focus on long-term semantic and discursive changes. Franz-Xaver Kaufmann examines the current meaning of security and how the debates about a lack of security can be dealt with in a world of growing uncertainty. Adalbert Evers and Helga Nowotny shift the focus from individual support to the complex discursive patterns that develop historically in public negotiations of uncertainty.

Kaufmann’s remarkable analysis is important for risk research because he focuses on the other, often neglected, side of risk – security. For example, Luhmann (1993[1991]: 19ff) considered security as a virtual point of reference that can never be reached and he therefore shifted his analysis to the allocation of responsibility and distinguished between risk and danger. In contrast, Kaufmann examined what is actually at risk and engaged in a thoughtful analysis of the history of the concept of security in academic writing. Security, according to his underlying hypothesis, is a specifically modern concept and project. In pre-modern societies that dealt mainly with the problem of containing physical violence, the establishment of social security was hardly conceivable.

For Kaufmann, modern security is combined with three general principles (Kaufmann, 1970: 357). First, security is understood as a comprehensive embeddedness (Geborgenheit) in a static order that stabilises the human psyche by stable external social structures (e.g. Gehlen, 1957). Second, a pragmatic notion of systemic security (Systemsicherheit) stands for the notion of the availability of means for any purpose. Third, the psychological notion of self-assuredness/self-confidence stands for a general principle of subjective identity.

Kaufmann suggests that what these three notions of security share is ‘the destruction of the temporality of the future’. The future appears somehow determined (Kaufmann, 1970: 357). The notion of the future as having a temporal structure that can therefore be changed is a new linguistic and cognitive phenomenon that reflects a fundamentally changed society. In modernising societies individuals are no longer integrated as a whole in a gemeinschaft, which would provide stability to the subject by timeless institutional contexts; instead, societies have become complex, interdependent and differentiated. They are difficult to comprehend and appear to be in permanent transformation. Thus ‘society’ has become an empty concept that has been replaced by a number of secondary systems (e.g. economy, science, law, politics, education) that stabilise themselves and provide services to the individual; however, they cannot stabilise the individual as a whole because they only refer to particular aspects of the individual. In this way, individuals are liberated from comprehensive social constraints, although subjected to a multiplicity of dependencies. One is socially integrated by the intersections of often little-coordinated different social
spheres and as a result individuals are tasked to integrate themselves and invent their own in-

vidual identity whilst their future becomes open to individual creation.

The comprehensive and traditional notion of security has therefore disappeared. There is no

longer a comprehensive social condition that could integrate the individual as a whole and as a

result security has become a social problem of modern societies because inner security of the

individual can no longer be reached by external security provided by stable social institutions

(Gehlen, 1957). Kaufmann suspects that trust in abstract systems is not enough to stabilise indi-

vidual identity. In his view, a new resource to develop agency and confidence would be required

to balance the new institutional conditions. He concludes that these abilities, to a large extent,
depend on one's education and occupation. These would contribute to individual development

of skills and competencies to manage one’s life under highly complex and volatile conditions.

The book by Adalbert Evers and Helga Nowotny About Dealing With Uncertainty (1987)

responds less to Beck but builds on Kaufmann’s analysis. Their study deals with the emergence

of the modern understanding of uncertainty in terms of risk, which they perceive as the discov-

ery of the configurability of society. They describe how modern societies manage the experi-

cence of uncertainty as risk, but reject Kaufmann’s suggestion of seeking a solution in advanced

educational policy; instead, they suggest a perspective that conceptualises learning as a broader

social process. They become a bit vague when proposing supporting public discourses, which,

through pluralistic communication, would open consensus-oriented interventions (Evers and


They build an argument on two central assumptions. First, they argue that the management

of uncertainty is a process during which dangers and uncertainty can never be fully eliminated.

They are therefore interested in the institutional and cultural forms that develop when dealing

with dangers and uncertainties. Second, they focus on changing societal learning and the chang-

ing knowledge that characterises and structures social debates (Evers and Nowotny, 1987: 12f.).

They support their argument with two historical case studies that show the complexity of

those developments through the example of poverty and technological risks. They reconstruct

complex social learning processes, starting from specific measures to exclude and isolate the

poor, through the development of labour oriented financial protection and finally to a universal

model of social policy. Poverty was finally no longer understood as natural but as a socially pro-

duced condition for which society took responsibility. As a result the risk of poverty became a

social issue that is increasingly regulated and negotiated among different social stakeholders

(Evers and Nowotny, 1987: 88ff.).

Similarly, the case study on technological risk using the example of nuclear power, recon-

structs the shift of an understanding of technological advancement as something ‘natural’, self-

evident and uncontested to something political that is contested and requires the reassurance

of its legitimacy (Evers and Nowotny, 1987: 190ff.).

The central argument for Evers and Nowotny is the social discovery that issues such as

poverty and technological development can be socially shaped. Poverty is neither natural nor is

there a self-evident advancement of scientific knowledge. How these issues become socially

configured is not due to science or social sciences but is a complex interactive social process that

is manifested in discourses that amalgamate everyday actions and scientific knowledge and result

in new knowledge that is able to guide social developments.

Conclusions

The contribution of German sociology of risk consists, above all, in the socio-theoretical

explication and discussion of the risk framework. It was Ulrich Beck who first showed that
risk is a fundamental category for social theory. An important additional sociological differentiation came with the distinction of risk and danger as described by Niklas Luhmann. Furthermore, German sociology has provided at least three streams of debate linking general social change to the increasing social engagement with risk. Most influential has been Beck’s work on the risk society and reflexive modernisation, which fundamentally shifted the focus from technical and rational approaches to risk such as risk assessment and risk communication to a socio-theoretical perspective that positions risk in the context of fundamental social change. Starting from the hypothesis of side effects of technological development and processes of individualisation being central to these changes, during recent decades he has specified the mechanisms of reflexive modernisation, which were the driving forces behind more general societal changes that question and transform the fundamentals of first modernity into something new. Similarly, but with a different approach to theorizing, Luhmann positioned risk in the centre of a theory on social differentiation and explained the debates, problems and conflicts around risk by the increasing functional differentiation of modern societies. Both approaches contrast with the French debate on post-modernism and ‘the end of history’. Beck and Luhmann continued theorizing with an interest in the long-term societal processes that drive and explain social change towards the future.

Kaufmann, even though diagnosing the growing complexity of the modern world, still considers successful integration and management possible, depending on the skills and resources available to the individual. He did not acknowledge the much more fundamental changes transforming our societies. Evers and Nowotny examine the complex and sometimes contradicting social processes and interests of different stakeholders that support the experience of society as being no longer organic but socially constructed, negotiated and designable. Similar to Kaufmann, from their perspective the world appears still rationally manageable through a learning process. Methodologically, Evers and Nowotny are close to many scholars in the governmentality perspective who reconstruct historically the complexity of socio-historical development and its non-necessity. The similarity seems strong when governmentality scholars criticize Beck for his assumption that calculative technologies (in particular the insurance industry) would be challenged by new risks. Instead, scholars such as O’Malley (2008) have emphasized that insurance does not fail but other instruments and their applications develop in response to new conditions. More recently, some scholars have acknowledged that some of the fundamental changes Beck diagnosed require new social responses (Ewald, 2002). However, with the contributions of Beck and Luhmann, this earlier stream of research (which has never been translated into English) was discontinued.

Foucault’s work on governmentality has mainly been taken up and connected to risk in the UK, Australia and Canada. The argument of risk as a new technology to govern neoliberal societies was highly convincing, for example when Tony Blair utilised risk politically. It appealed in particular to scholars who searched for a new theoretical haven after Marxism lost some steam. Informed mainly by nationally specific experiences, the ‘risk society’ and ‘governmentality’ were quickly played against each other even though scholars such as Ericson and Haggerty (1997) and Mythen and Walklate (2005) tried systematic comparisons. There is obvious overlapping between the concept of institutional individualism (Beck) and technologies of the self (Foucault 1991) and there are also opportunities to integrate conceptually the observations regarding social change and risk. There is scope to develop risk theorizing, further complementing common debates on the risk society and governmentality with Luhmann’s insights from systems theory.

Even though it is difficult to connect theoretically long-term social change to everyday life, all socio-theoretical approaches help to highlight relevant dimensions of social change that support identifying crucial changes and problems when managing risk. The fragmentation of
knowledge, the need for new political forms to manage risk, the pressure to find legitimate forms of risky decision making and the structural changes that challenge normative expectations of consensus are just a few examples. Consequently, societal theorizing is an important tool to direct research and strategies for managing risk and uncertainty reasonably.

Note
1 In the English translation the section has been changed and does not contain the phrase ‘elevator effect’.

References


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