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Ulrich Beck: exploring and contesting risk

Mads P. Sørensen

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Abstract

*While risk research normally understands risk as an entity that can be calculated using statistics and probabilities – and which therefore also can become the object of insurance technology – it is the production of new, non-calculable risks and therefore also risks that cannot be insured against, which is at the centre of Ulrich Beck's risk society theory. The article examines Beck's conceptualization of risk and discusses how he has clarified and further refined the concept since publishing *Risk Society* in 1986. The article shows, first, how Beck understands risk as an entity that is neither danger nor risk in the traditional sense but rather something in between, which he refers to as 'man-made disasters' and 'new risks'. The discussion then addresses Beck's position in relation to the ontological status of risk, which is an intermediate position between realism and constructivism. The non-calculability and non-insurability of the new risks are also examined. The article discusses what it means that the new risks are not visible and the significance of non-knowledge for how we understand them. Finally, the new conditions of existence for politics, states and individuals are outlined in the aftermath of Beck's risk society theory. The article concludes with a discussion of the analytical potential of the theory.*

Introduction

Risk Society was not really supposed to be called risk society. The title of Ulrich Beck's famous book from 1986 (Beck, 1992) could have been very different. With 'risk', Beck is getting at something other than that which risk studies conventionally associate with the term. In an interview from 2001, he explains that it was first after the publication of the book that he became aware of how 'the concept of risk in academic literature basically means that which I specifically would *not* express with the word; that is, the in principle calculability of civilization-created uncertainty. Risk means calculable uncertainty. While with "risk society" I was specifically getting at *non-calculable* uncertainty' (Sørensen, 2002: 125, own translation). In the same interview, Beck further explains that although *Risk Society* therefore possibly should have been titled differently, the concept had still managed to convey that which is most important; that is, 'the message that something is incalculable' (ibid.).

In that sense, it was important for Beck that the book and the concept managed to convey the feeling that we had entered into a new type of society – and even into a second phase of modernity. Beck wrote his book in the mid-1980s, not least in the light of Daniel Bell's book on the emergence of the post-industrial society

(Bell, 1973) and Jean-François Lyotard’s book *The Postmodern Condition: A Report on Knowledge* (Lyotard, 1984), a time in which there seemed to be a need for a new and more precise conceptualization or label for Western society and the historical period (Sørensen and Christiansen, 2013: ch. 3). Beck’s offering became, as we all know, *Risk Society*, which he posited as a replacement for industrial society. At the same time, he pointed out how we had moved towards a new kind of modernity, a second modernity, where modernity is confronted with itself and forced to deal with itself. Beck therefore also referred to this second modernity as a reflexive modernity (Beck, 1994a; Beck et al., 2003). By using this term, he was getting more at ‘reflex or reflector’ than ‘reflection’, whereas the core in Giddens’ conceptualization of ‘reflexive modernization’ (Giddens, 1994) is an ever increasing reflection in society over the course of modernity via the continuous production and inclusion of new knowledge. According to Beck, modernity is now cast back towards itself, like light that has struck a reflector is cast back towards its source. As he puts it, the ‘reflexivity of modernity can lead to reflection on the self-dissolution and self-endangerment of industrial society, but it need not do so’ (Beck, 1994b: 177).

Beck’s theory must therefore also be understood as a ‘grand theory’ or a ‘diagnosis of the times’, as Outhwaite (2009) points out. This is to be understood here as neither negative nor condescending, as this concept is otherwise sometimes used. On the contrary, in Beck’s case it is more likely a badge of honour. Far from everyone is of course excited about Beck’s sociology. Many critics feel he is too shallow and generalizing in his diagnostics.¹ Nevertheless, it seems fair to say that he has managed more than most to articulate the general sense of a shift towards a more uncertain and insecure society that would appear to be spreading in recent years despite the fact that we are generally living longer and better than ever before.

For Beck, the symbol of this new uncertainty is the accident at the Chernobyl nuclear power plant, which occurred at the same time he was completing *Risk Society* in April 1986. Before the book was published, he managed to briefly reflect on the significance of Chernobyl in the preface to the German edition (Beck, 1986: 7–11). Here, he writes of how the book’s description of the impossibility of observing the dangers, their dependence on knowledge, super-nationality, ecological expropriation and the transformation of normality to the absurd seen in relation to the Chernobyl accident is really just a pale description of reality (Beck, 1986: 10–11). Nevertheless, *Risk Society* became an international bestseller, and even though it is possible to find

¹ The purpose of this paper is to give an introduction to Beck’s risk concept, to show how it was first defined and later redefined several times. Elsewhere I have examined the criticism that has been raised against Beck’s theory (Sørensen and Christiansen, 2013: 123-140) and will refer the reader, who wants a more critical examination of the theory, to these pages where my own criticism of Beck’s theory likewise can be found.

traces of 1980s West Germany in the book, its timeliness and its contemporary diagnostic power would not appear to have diminished since its initial publication. Quite to the contrary.

So it all began with an error. Or at least with something of which Beck was unaware, that being that the concept of risk at the core of *Risk Society* is normally used to express the exact opposite of how he is using it. This proved to be a rather productive mistake. For this error called for further clarification and definitions, thereby opening up for a life-long exploration of what lay in the concept. In the following, I will attempt to account for some of the key clarifications so as to identify and explain a deeper understanding of Beck's risk concept. Finally, I will discuss the new conditions for decision-making that we now find ourselves in politically and privately with the emergence of the new risks and the current potential of Beck's risk society theory.

Both hazard and risk

While Beck basically uses the concepts 'danger' and 'risk' synonymously in *Risk Society*, he draws a distinction between the two in his next book, *Ecological Politics in an Age of Risk* (Beck, 1995), which was published in German with the title *Gegengifte* in 1988, corresponding to that which Niklas Luhmann also uses (Luhmann, 1990). With *Ecological Politics in an Age of Risk*, Beck now understood risks in line with the tradition in risk research, as 'determinable, calculable uncertainties', and drew a distinction between 'pre-industrial hazards, not based on technological-economic decisions, and thus externalizable (onto nature, the gods), and industrial risks, products of social choice, which must be weighed against opportunities and acknowledged, dealt with or simply foisted on individuals' (Beck, 1995: 77).

Using this distinction, Beck is also able to distinguish between *pre-industrial high cultures*, which are marked by *non-man-made hazards* (e.g., natural disasters, epidemics), and *classical industrial society*, where such dangers are supplemented with new, *self-produced risks*. As opposed to the pre-industrial hazards, the new risks have a limited range; only a limited group of people in a limited area and time period are exposed to them (Beck, 1995: 78). This renders them calculable and makes it possible to take out insurance against them. Beck uses unemployment, workplace accidents and traffic accidents as examples of such man-made risks.

But what about the risks that are at the centre of the risk society? How are we to understand the holes in the ozone layer, global warming, the threat of terrorism, genetic engineering, radioactive emissions from nuclear power plants and the global financial crisis? Are they hazards or risks? In fact, they are neither hazards nor risks – or, using a term that Beck generally believes to characterize the new modernity (Beck and Lau, 2005: 527), it is 'both/and'; they have *both* characteristics of hazards *and* risks. We are exposed to them in the

same manner as the pre-industrial hazards. Unlike the pre-industrial hazards, however, they have no external causes. Like the risks we knew from industrial society, they are man-made or self-produced. But they are also like the pre-industrial hazards in that they are something to which we are exposed and cannot avoid or insure ourselves against. In this book, Beck therefore calls them 'man-made disasters' (Beck, 1995: 78), while he calls them 'new risks' in another text (Beck, 1991b).

Between realism and constructivism

The question then becomes how we are to better understand these 'man-made disasters' or 'new risks'? Are they real? Or is there rather talk of constructions of the fears of our time (cf. Douglas and Wildavsky, 1982)? Once again, Beck would answer *both-and*. To begin with, he understands the new risks to be *side effects* of our industrial way of life (Beck, 2009: 212–234; Beck et al., 2001). For Beck, it is precisely the success of industrial modernity in the fight against poverty and material misery that has led us to the risk society. Here, we are confronted with the side effects of the first modernity. Using global warming as an example, one of the side effects of the burning of fossil fuels is increased CO² emissions, which in turn is the primary cause of global warming. The risk society is therefore not to be understood as a 'culture of fear' (Furedi, 2002), where hysteria and irrational fear becomes widespread. According to Beck, the new risks have a real core, to which Nassehi also refers when writing that Beck assumes that 'the risks have an objective reality' (Nassehi, 2000: 255, own translation).

Nevertheless, the epistemological and 'ontological status' of the new risks has been a contentious point in the reception of Beck's theory (Rasborg, 2001: 28).² It is also possible to find traces of both realistic and constructivist understandings of risk in Beck's authorship. In *Risk Society*, Beck writes that '[i]t is not clear whether it is the risks that have intensified, or our view of them. Both sides converge, condition each other, strengthen each other' (Beck, 1992: 55). For Beck, risks are always risks within a knowledge relation. It is therefore not possible to separate 'the risk itself and public perception of it' from one another.

In *World at Risk*, Beck (with reference to Strydom, 2002) describes his own position as 'weak constructivism' or 'constructivist realism' (Beck, 2009: 88). Here, he writes the following:

The point is no longer merely how realities are created in world risk society (for example, through corresponding reports concerning threats in the mass media); there is also the question of how reality

² See Mythen (2004, ch. 5; 2007) and Sørensen and Christiansen (2013: ch. 8) for a review of the criticism of Beck's risk society theory and not least his concept of risk.

'in itself' is (re)produced through discourse politics and coalitions within institutional contexts of decision, action and work. (Beck, 2009: 89–90)

Despite the objective core in the new risks, they first become risks in our societal perception of them. But that's not all. Our understanding of risks also rubs off on reality – in other words, our understanding of reality plays a role in reproducing or changing it. For example, our understanding of the holes in the ozone layer as man-made – that they are a side effect of the use of CFC gases since the 1930s – has helped to re-close them, as this understanding led to a comprehensive phasing out of CFCs, which would now appear to have had a significant impact (Solomon et al., 2016).

Beck is thus attempting to balance between constructivism and realism. He points out how the new risks in the global risk society will always be found between 'social staging' and 'real physical threats' (Beck, 2009: ch. 2). He therefore also objects to a stronger constructivism as found in, for example, Douglas and Wildavsky (1982). Beck (again with reference to Strydom, 2002) refers to their constructivism as 'strong or naïve constructivism', and he writes that they have overlooked the fact that 'people in the Stone Age did not have the capacity for nuclear and ecological self-destruction and that the threats posed by lurking demons did not exhibit the same political dynamic as the man-made risks of climate change' (Beck, 2009: 84).

Beyond insurance: the challenge of non-calculable threats

Subsequent to the publication of *Risk Society* in 1986, Beck's further work exploring and defining the new risks leans up against French social scientist François Ewald, a student of Foucault. Ewald understands the modern state as a provident state in which the insurance principle plays a main role (Ewald, 1991, 1993). According to Ewald, the modern society is alone in using the insurance principle as the basis for society. He says that society enters 'into modernity, as soon as insurance becomes a matter of society, as soon as the social contract comes to resemble an insurance contract. Insurance is at the core of modern society' (Ewald, 1991: 288, own translation).

Beck uses the insurance principle to clarify that which distinguishes the new risks from the old ones. In *Ecological Politics in an Age of Risk*, Beck thus reflects on his own theory in light of Ewald's work (Beck, 1995: 106–110). Among other things, he writes of how risk calculations and private and state insurance policies become the manner by which industrial modernity deals with its self-produced risks but that insurance arrangements prove themselves to be inadequate when confronted by nuclear, ecological, genetic and chemical 'man-made disasters' (Beck, 1995: 107). The new risks break with the old ones in at least three ways, which renders them far more difficult for insurance technology to handle: firstly, they involve 'global,

frequently irreparable damage’; secondly, it is not possible to predict them or calculate their consequences; and thirdly, it is often impossible to delimit them in terms of time and space. These new risks therefore break with the insurance principle, which is specifically based on transparency and calculability (Bonß, 1995). When it is no longer possible to accurately identify risk groups or on the background of collected data from past accidents and incidents to calculate the probability that an event will occur – and be unable to say anything about the extent of the damage should it occur – then it is also impossible to take out insurance against such man-made disasters.

The inability to insure oneself against the new risks becomes crucial for how Beck understands them. In an essay published together with the German translation of Ewald’s major work, *Der Vorsorgestaat [L’état providence – The Welfare State]* (Ewald, 1993), Beck explicitly writes that we are moving from the industrial society and into the risk society when private insurance arrangements are no longer adequate; when we encounter difficulty taking out insurance in relation to industrial technical-scientific projects (Beck, 1993: 541).³ Beck repeats this point in *World at Risk*: ‘The entry into risk society occurs at the moment at which the manufactured risks undermine or annul the provident state’s prevailing risk calculations. Those who ask for an operational criterion for this transition find their answer here: *the absence of private insurance protection*’ (Beck, 2009: 110).

Insurance arrangements – private and state arrangements alike – have a dual function, according to Beck: they are supposed to neutralize damage, thereby also neutralizing fear. And when they are no longer able to do so, then ‘[f]ree-floating fears are being set free’ (Beck, 2009: 139). In the following, we will return to what this means for the political and private decision-making processes. Before doing so, we will examine a couple of additional aspects characterizing the new risks that distinguish them from the old risks.

Second-hand non-experience

Another important aspect that Beck has already pointed out in *Risk Society* is that the new risks are only visible to us through scientific theories, experiments and instruments (e.g., Beck, 1992: 27). Whereas we immediately sense the danger and risks of riding a bike through London or using a drilling machine at work, holes in the ozone layer, global warming and other new risks are only visible to us as mediated by science. It is impossible for us directly via our senses to determine whether or not global warming is in fact taking place

³ Beck’s interpretation of the new insurance terms has been criticized, not least by Campbell and Currie (2006), who argue, among other things, that Beck has misunderstood the use of probabilities in risk analysis. Ericson and Doyle (2004) have also criticized Beck’s understanding of the insurance system. Beck used this criticism to specify his understanding of the insurability/non-insurability of risk (cf. Sørensen and Christiansen, 2013: 135–137).

and is something to be feared. Only through the senses of science (i.e., theories, experiments, instruments) are we able to 'see' these dangers. Beck therefore refers to our experience of the new risks as 'second-hand non-experience' (Beck, 1992: 71–72).

The potential in this observation becomes apparent in the study of how people in areas where radioactive leaks have taken place understand the dangers surrounding them. Kuchinskaya (2011) has carried out an interesting study of how lay people understand the risks of radiation in the contaminated areas in Belarus after the Chernobyl disaster. In this sense, radiation offers a good example of how our senses are put out of play by the new risks. We cannot see, smell or feel radiation. We can only see (and hear!) it using scientific tools such as Geiger counters. However, the people in Kuchinskaya's study did not primarily 'see' the risk of radiation through science. Science was often translated into administrative practices of economic compensation for those living in the affected areas. To lay people, economic compensation therefore became a sign of radiation. As one of her interviewees said when asked about radiation in the area where he lived: 'What radiation? We are not paid for radiation anymore' (Kuchinskaya, 2011: 415).

Kuchinskaya's study also revealed how important our senses are to us in order to understand risks. In order to deal with the radiation hazard and to be able to talk about it, it was constantly translated into sensory phenomena such as wild mushrooms and berries (that you are not supposed to eat) together with the money you get from the state for living in a contaminated area. The thyroid gland also became a tangible issue, the basis for conversations about radiation, as most of the illnesses that affect radiation victims affect the thyroid.

As I shall return to in the discussion below, Beck's observation of how our senses have become useless and without function in relation to the new risks (Beck, 1991a: 68) might shed some light on why it is so difficult to get people to act on threats such as global warming. For while we now depend on science more than at any time in the past in relation to being able to tell where danger lurks, Beck claims that we are also becoming more sceptical and critical of science. We no longer accept scientific findings or what we are told by authorities as authoritative knowledge in the same manner as did past generations. As Lyotard already observed in his studies of the state of science in the highly developed societies, contemporary science has lost its monopoly on the truth (Lyotard, 1984). This is partly the result of how institutionalized, scientific doubt and scepticism are leaked directly to the public via the media to a greater extent today than was earlier the case. In the aforementioned interview, Beck comments on this situation that

science – precisely because of its differentiation, its reflectiveness and its institutionalized doubt and questioning of itself – contributes to the uncertainty not being reduced but actually increasing. One

might argue that this seemingly minimal difference between a situation in which scientific expertise reduces uncertainty and a situation in which scientific expertises – in plural – so to speak pour gasoline on the bonfire of political controversies might be the crucial difference between a world that believes in progress and the one to which I refer to as a risk society. (Sørensen, 2002: 125, own translation)

Non-knowledge and 'unknown unknowns'

Before examining the consequences of this more closely, it is important to include one final aspect of the new risks, that being how non-knowledge is an important feature of these risks. Gross has gone so far as to suggest that Beck should have named the risk society 'the non-knowledge society' (Gross, 2016). Doing so might possibly over-emphasized one aspect of Beck's concept of risk, but there is no doubt that this aspect has become a core element in Beck's understanding of the new risks.

Beck has for example written about non-knowledge in *World at Risk* (Beck, 2009: 115-128) and in 'The Politics of non-knowing' (Beck and Wehling, 2012). Beck also touches upon non-knowledge in the aforementioned interview from 2001. Here, he explains how we 'must understand risks on the border between knowledge and non-knowledge' (Sørensen, 2002: 125, own translation). He also emphasizes that in relation to the new risks we are often groping in the dark in our attempts at understanding them. He therefore calls for a sociology of non-knowledge, partly because we are increasingly dealing with 'manufactured non-knowledge'. Beck is thus of the opinion that non-knowledge is becoming something with which we must learn to live; that it is becoming one of the fundamental conditions of life in the risk society.⁴ In the *World at Risk*, he writes:

Living in the world risk society means living with ineradicable non-knowing [*Nichtwissen*] or, to be more precise, with the simultaneity of threats and non-knowing and the resulting political, social and moral paradoxes and dilemmas. Because of the global character of the threat, the need and burden of having to make life-and-death decisions increase with non-knowing. (Beck, 2009: 115)

According to Beck, we must therefore learn to accept that regardless of how much research we carry out, we will never be able to produce certain knowledge about the new risks. With every new scientific breakthrough also comes the production of new non-knowledge.

⁴ Beck is far from alone with his interest in the significance of non-knowledge in contemporary society. Smithson (1989), Kerwin (1993) and more recently Gross (2010) have made some of the most important contributions to this discussion.

First modernity was marked by an almost unlimited faith in science – that, over time, science will be able to get into all of the nooks and crannies of a given issue or problem. This is replaced by a more nuanced perspective on science in the risk society, where on the one hand there is recognition of the need for science to tell us more than ever before about where the dangers are lurking, but on the other hand also an understanding that we will not always be able to produce certain knowledge about the new risks. Beck says that '[n]on-knowledge rules in the world risk society' (Beck, 2009: 115), meaning that we now find ourselves in the difficult and paradoxical situation that we must find solutions to problems that we are often unable to articulate.

One of the examples Beck uses repeatedly (e.g., Beck, 2009: 47, 117–118) to illustrate the difficulty of making the right decisions in the world risk society is the history of CFC gases. From the 1930s onwards, CFCs replaced liquid ammonia as a coolant in refrigerators. They were also used as propellants in spray bottles and as a cleaning agent. In the course of the 1970s, awareness increased of how CFCs were damaging the earth's ozone layer. And in the course of the 1980s, scientists were able to show how our use of CFCs had resulted in a dramatic thinning of the ozone layer over the Antarctic – that holes had actually developed in the ozone layer, resulting in far less protection from the sun's harmful UV rays than previously.

For Beck, the history of CFC gases demonstrates how dangerous the new risks are; or rather, how dangerous a situation we have brought ourselves into as a result of the production of these new risks. Here, the problem is not least non-knowledge; our insufficient knowledge of the risks. As mentioned above, it was first in the course of the 1970s that the negative side effects of CFCs were genuinely recognized. In other words, more than 40 years passed from their introduction as coolants in refrigerators and a propellant in spray bottles before scientific knowledge was produced about how these gases were actually harming the ozone layer. For more than 40 years, it was therefore not possible to restrain this new, self-produced risk – for the simple reason that nobody had any idea that it existed.

According to Beck, examples like this cast light on how the boundary between knowledge and non-knowledge has become blurred and how at any given time at which we have to make decisions on the application of a new technology, there will be knowledge of which we are unaware – and might not ever become aware. Beck and Wehling (2012) see indication of this recognition spreading. They distinguish between a classic, modern understanding of non-knowledge as *not-yet-knowing* – like a territory that has yet to be explored and mapped (Bauman) – and a new, more complex understanding of non-knowledge that is able to encompass both not-yet-knowing (i.e., the knowledge that we are aware we lack) and the so-

called ‘*unknown unknowns*’ (the knowledge we *don’t* know that we lack) (Beck and Wehling 2012).⁵ Thus, ‘*unknown unknowns*’ were in play when we began using CFCs in the 1930s. But the importance of these ‘*unknown unknowns*’ first became apparent 40 years later, when the link between CFCs and the holes in the ozone layer was discovered. According to Daase and Kessler (2007: 414), it is typical that unknown unknowns first become visible in connection with disasters – and it is therefore often first too late in relation to being able to do something about them. In the case of the CFC gases, we discovered the problems in time to be able to do something about them. But these kinds of stories contribute to a sense of insecurity – for what else have we possibly overlooked?

New living conditions in the risk society

Thus far, I have outlined the main features of Beck’s concept of risk, as the term has been defined and redefined since the publication of *Risk Society* in 1986. An extra detail that Beck points out in relation to risks – and which is relevant in relation to the above discussion of unknown unknowns – is the difference between catastrophes and risks: ‘Risk does *not* mean catastrophe. Risk means the *anticipation* of catastrophe’ (Beck, 2006: 332). At the moment a terror attack takes place, it goes from being a risk to being a catastrophe. The risk society is therefore not primarily about dealing with catastrophes – but rather with the *anticipation* of catastrophes. In the risk society we are therefore dealing with something that has not yet become real – and which we want to prevent from becoming real (Beck, 2006: 332). This might be a new terror attack, a new global financial crisis, a radioactive leak from a nuclear power plant, (even greater) global warming, the uncontrollable spread of GMOs or other possible catastrophes.

With the risk society theory, Beck shows how the anticipation of such catastrophes now plays a vital role in society and he manages to use his risk concept to cast light on the difficult decision-making situation characterizing both politics and our everyday lives with respect to the production of new risks. Like few others, Beck is thus sensitive to the uncertain ground upon which we are often standing when we find ourselves having to make both political and private decisions that involve the new risks. These kinds of decisions have obviously always involved non-knowledge, but the uncertainty has increased, as the new risks are more unpredictable than traditional risks and they transcend spatial and temporal boundaries. This means that it becomes increasingly difficult to deal with them. As the new risks are also potentially more dangerous than the traditional risks and given how we are unable to immediately perceive them and directly have opportunity to control whether or not they actually exist but are instead forced to turn to a science

⁵ ‘Unknown unknowns’ are also referred to in the literature as ‘unrecognized ignorance’ (Merton, 1987), ‘meta-ignorance’ (Smithson, 1989) or ‘nescience’ (Gross, 2016: 3).

community that disagrees with itself, then we are left standing with a new, massive challenge for the political decision-making process that also has consequences for the private sphere. For how can we decide on something about which we have no knowledge? Or about which science produces very different answers? How are we supposed to deal with the risks that possibly run across national, cultural and social boundaries and along the length of time over numerous generations? And what do we do when faced with the dilemma that the new risks, due to their potentially extremely destructive consequences, require that we become involved and address them while at the same time there will probably always be relevant aspects of these risks about which we lack knowledge when we have to make decisions about them?

These are merely a few of the difficult questions that have swirled up in the wake of Beck’s risk society theory and which require that citizens, experts, authorities and the media think in new ways; not least in relation to how to deal with non-knowledge (Nielsen and Sørensen, 2015). One of the strengths of Beck’s theory is that it manages to cast light on the difficulties and opportunities that are part of this new decision-making situation on a general, overall level and do so in relation to the individual person’s everyday life. In numerous books, Beck has thus analysed the new conditions facing politics and contemporary states and which force them to re-think themselves in order to be able to deal with the global risks and succeed in the new, global meta-power game resulting from the transition to the risk society (cf. e.g., Beck 2005; 2006a). He has also warned the social sciences against believing that the world can be divided in more or less isolated, nation-state containers that can be studied in isolation from one another (e.g., Beck and Grande 2010; Beck and Sznaider 2006). To the contrary, partly because of the emergence of the new risks, we are living in an increasingly interconnected world, which must also be the basis for the social sciences – anything else would be a futile ‘science of unreality’ or ‘zombie science’ (Beck 2006a: 21), as that would mean that the social sciences would be based on something that no longer exists: separate nation-state societies.⁶

The fact that Beck’s risk society theory has had the clout it has is, however, not least related to the understanding of the actual conditions of existence of humankind that have always been a central element in his theory. Beck’s concept of risk is not merely of interest for actuarial science or risk studies – or a concept that can say something about the challenges facing politics, the states and social sciences. It is also a concept that manages to shed light on many of the everyday problems and dilemmas that ordinary people are experiencing today. On a daily basis, we are all facing questions that are related to the new risks and which can be understood using Beck’s risk society theory. These include question such as whether or not to allow

⁶ See Sørensen and Schneider (2017) for an example of how difficult it is to separate developments in single nation-states. This article also shows how Ulrich Beck’s sociology can be used as a fruitful starting point for detailed empirical analyses.

your children to be vaccinated; whether or not to boycott genetically modified food; or whether or not you should take a genetic test that can tell you for which diseases you are genetically disposed. Questions about your family finances (e.g., if interest rates will remain stable so that you are able to remain in the home you have bought) or the family's next vacation – whether, in light of the terrorist attacks in recent years, you dare take your family on vacation to France or Turkey or whether it would be safer to choose Spain – can be related to the risk society and the new risks. Beck's theory is thus able to conceptualize the new uncertainty that ordinary people experience in their everyday lives.

Conclusion

Even though Ulrich Beck according to himself 'mistakenly' entitled his book and theory *Risk Society* in 1986 due to his lack of knowledge of the risk research tradition – and spend the rest of his life explaining, clarifying and exploring what the risk concept stands for – now, more than 30 years after it was first introduced, risk society theory still stands strong as a diagnosis of the times and a productive perspective for analysis. Two examples can be used to illustrate this. First, risk society theory can be used to shed light on the complicated game taking place when international agreements on global economic, security policy and environmental problems have to be negotiated. Taking the example of global warming, Beck's theory can explain why we can be expected to find a solution to this problem despite national, social and geographical differences, but also why it is so difficult to reach agreement on concrete action. Using Beck's theory, it is possible to explain both the failure at the United Nations Climate Change Conference, COP15, in Copenhagen in 2009 and the success in Paris 6 years later at COP 21. In *Risk Society*, Beck thus emphasizes the positive opportunities opened up by the new risks. The new risks cut across traditional boundaries. They abolish the distinction between rich and poor, black and white, Muslim and Christian. In other words, the new risks provide us with opportunities to create new risk communities. This can help explain the agreement from Paris, where despite all of the differences between countries rich and poor, big and small – for not to mention less affected and more affected – it was actually possible to reach a global agreement that acknowledges that 'climate change is a common concern of humankind' and 'the need for an effective and progressive response to the urgent threat of climate change' (Paris Agreement, 2015: 1).

But what about the failure in Copenhagen, then? Why was an agreement not reached then inasmuch as we live in a global risk community in relation to global warming? Even though Beck kept repeating that the new risks would not automatically lead to the establishment of new political communities and the reaching of transnational agreements – but that on the contrary they could also result in, for example, a reinforced nationalism – he nevertheless emphasizes the levelling properties of the new risks in relation to the class

differences at the individual level and wealth, geography and power relations at the global level. This is a major theme in *Risk Society*, where Beck formulated it in the following: 'poverty is hierarchic, smog is democratic' (Beck, 1992: 36). Beck has in this relation been criticized for not taking the effects of existing social imbalances seriously enough (e.g. Bovenkerk, 2003 and Mythen, 2005). Class distinctions still matters. We are not affected in the same way by the new risks.

Beck seems to have admitted to this in his later works (e.g. Beck, 2007; 2009; 2010). Besides the incentives that are built into the new risks with respect to the promotion of the construction of new political risk communities, he thus also develops a deeper understanding of how social, national and other differences continue to play a main role when the rules of the game in such risk communities are negotiated. For example, in *World at Risk* (Beck, 2009: 140–143) Beck emphasizes how there are often differences between those who are making decisions about a given risk and those who are exposed to it; those who must live with the unexpected side effects of such decisions. Here, he also points out how there is an ominous link between poverty, social vulnerability, corruption and the accumulation of risks; and that the poorest people in the world often live 'in the blind spots, and hence the most precarious lethal zones, of the world risk society' (Beck, 2009: 142). In relation to the climate negotiations, these kinds of disparities between the polluters and those who now must pay for their pollution also play in. There are also relevant differences in power politics and geography (e.g., between low-lying and high-lying areas), that provide different incentives to do something about the problem. The problems we have described above in relation to the invisibility of the risks and their considerable content of non-knowledge – which has also created problems in the climate area and opened up for scepticism, which in itself has delayed and at times partially short-circuited the attempts at curbing global warming in earnest – have further complicated the game that has been about reaching a climate deal. President Trump's decision in the spring of 2017 to pull out of the Paris agreement also shows how fragile these new, transnational communities build around new risks are. National interests will always play a key role in decisions to join or leave such communities.

Beck's risk society theory thus appears to present a useful, but also very broad framework for understanding the game that led to the failure in Copenhagen but also the more successful result in Paris. Another area with potential for risk society theory that will be briefly mentioned here is the analytical potential of the theory in relation to the conflicts that emerge between laypeople, scientific experts and authorities in relation to health programmes, new infrastructure projects, new technologies and so forth. When parents refuse to let their children be vaccinated, when citizens' groups protest against the construction of a new nuclear power plant, or when consumers express their scepticism in relation to genetically modified food products, this kind of opposition will often be seen as irrational from the perspective of the authorities and science. But that

which appears rather irrational from one perspective can, using Beck's theory, be understood as perfectly rational action from the lay perspective. Risk society theory thus demonstrates how the new risks reinforce the general individualization process characterizing modernity and force individuals to find their own strategies with which to deal with them.⁷ The new risks therefore look very different from the lay perspective as opposed to the perspective of the authorities and science. Beck already drew attention to this in *Risk Society*, where he wrote, among other things, that: 'What scientists call "latent side effects" and "unproven connections" are for them [the parents] "coughing children" who turn blue in foggy weather and gasp for air, with a rattle in their throat' (Beck, 1992: 61). The individualization process means that citizens (as parents, neighbours, consumers etc.) ultimately have to find ways whereby they are able to deal with the unpredictability of the new risks, their considerable content of non-knowledge and their potentially very destructive character. Therefore, if we wish to transition from being offended in relation to the apparent irrationality of citizens and gain a deeper understanding of the array of conflicts between authorities, scientific experts and ordinary citizens, Beck's risk society theory might well offer a constructive place to begin.

References

Beck, U. 1986. *Risikogesellschaft. Auf dem Weg in eine andere Moderne*. Frankfurt a.M.: Suhrkamp.

Beck, U. 1988. *Gegengifte. Die organisierte Unverantwortlichkeit*. Frankfurt a.M.: Suhrkamp.

Beck, U. 1991a. "Der anthropologische Schock – Tschernobyl und die Konturen der Risikogesellschaft." In *Politik in der Risikogesellschaft. Essays und Analysen*, edited by U. Beck, 67–81. Frankfurt a.M.: Suhrkamp.

Beck, U. 1991b. "Überlebensfrage, Sozialstruktur und ökologische Aufklärung." In *Politik in der Risikogesellschaft*, edited by U. Beck, 117–139. Frankfurt a.M.: Suhrkamp.

Beck, U. 1992. *Risk Society: Towards a New Modernity*. London: SAGE.

Beck, U. 1993. "Risikogesellschaft und Vorsorgestaat – Zwischenbilanz einer Diskussion." In *Der Vorsorgestaat*, edited by F. Ewald, 535–558. Frankfurt aM: Suhrkamp.

⁷ This article has not afforded room to delve deeper into Beck's thought concerning individualization, which has been a key phenomenon in his risk society theory from the very beginning. The entire second part of *Risk Society* (Beck, 1992) thus addresses individualization, while Beck has also later written extensively about the new radicalized individualization process that is in play in second modernity, including works he has co-authored together with his wife, Elisabeth Beck-Gernsheim (see e.g., Beck and Beck-Gernsheim 2002). For a comprehensive introduction to Beck's thoughts on individualization, see Sørensen and Christiansen (2013: ch. 4).

- Beck, U. 1994a. "The Reinvention of Politics: Towards a Theory of Reflexive Modernization." In *Reflexive Modernization: Politics, Tradition and Aesthetics in the Modern Social Order*, edited by U. Beck, A. Giddens, and S. Lash, 1–56. Cambridge: Polity Press.
- Beck, U. 1994b. "Self-Dissolution and Self-Endangerment of Industrial Society: What Does This Mean?" In *Reflexive Modernization: Politics, Tradition and Aesthetics in the Modern Social Order*, edited by U. Beck, A. Giddens, and S. Lash, 174–183. Cambridge: Polity Press.
- Beck, U. 1995. *Ecological Politics in an Age of Risk*. Cambridge: Polity Press.
- Beck, U. 2005. *Power in the Global Age*. Cambridge: Polity Press.
- Beck, U. 2006. "Living in the World Risk Society." *Economy and Society* 35 (3): 329–345.
- Beck, U. 2007. "Beyond class and nation: reframing social inequalities in a globalizing World", *British Journal of Sociology*, 58(4): 679-705. Beck, U. 2006a. *The Cosmopolitan Vision*. Cambridge: Polity Press.
- Beck, U. 2009. *World at Risk*. Cambridge: Polity Press.
- Beck, U. 2010. "Remapping social inequalities in an age of climate change: for a cosmopolitan renewal of sociology", *Global Networks* 10(2): 165-181.
- Beck, U., and E. Beck-Gernsheim. 2002a. *Individualization: Institutionalized Individualism and Its Social and Political Consequences*. London: SAGE.
- Beck, U., and E. Grande. 2010. "Varieties of Second Modernity: The Cosmopolitan Turn in Social and Political Theory and Research." *British Journal of Sociology* 61 (3): 409–443.
- Beck, U., W. Bonß, and C. Lau. 2003. "The Theory of Reflexive Modernization: Problematic, Hypotheses and Research Programme." *Theory, Culture & Society* 20 (2): 1–33.
- Beck, U., B. Holzer, and A. Kieserling. 2001. "Nebenfolgen als Problem soziologischer Theoriebildung." In *Die Modernisierung der Moderne*, edited by U. Beck and W. Bonß, 63–82. Frankfurt a.M.: Suhrkamp.
- Beck, U., and N. Sznaider. 2006. "Unpacking Cosmopolitanism for the Social Sciences: A Research Agenda." *British Journal of Sociology* 57 (1): 1–23.
- Beck, U., and P. Wehling. 2012. "The Politics of Non-Knowing: An Emerging Area of Social and Political Conflict in Reflexive Modernity." In *The Politics of Knowing*, edited by F. D. Rubio and P. Baert, 33–57. London: Routledge.
- Bell, D. 1973. *The Coming of Post-Industrial Society*. New York: Basic Books.
- Bonß, W. 1995. *Vom Risiko. Unsicherheit und Ungewißheit in der Moderne*. Hamburg: Hamburger Edition.
- Bovenkerk, B. 2003. "Is Smog Democratic? Environmental Justice in the Risk Society." *Melbourne Journal of Politics*, 29: 24–38.

Campbell, S., and G. Currie. 2006. "Against Beck: In Defence of Risk Analysis." *Philosophy of the Social Sciences* 36 (2): 149–172.

Daase, C., and O. Kessler. 2007. "Knowns and Unknowns in the 'War on Terror': Uncertainty and the Political Construction of Danger." *Security Dialogue* 38 (4): 411–434. doi: 10.1177/0967010607084994

Douglas, M., and A. Wildavsky. 1982. *Risk and Culture: An Essay on the Selection of Technological and Environmental Dangers*. Berkeley: University of California Press.

Ericson, R. V., and A. Doyle. 2004. "Catastrophe Risk, Insurance and Terrorism." *Economy and Society* 33 (2): 135–173.

Ewald, F. [1989] 1991. "Die Versicherungs-Gesellschaft." In *Politik in der Risikogesellschaft*, edited by U. Beck, 288–301. Frankfurt a.M.: Suhrkamp.

Ewald, F. 1993. *Der Vorsorgestaat*. Frankfurt aM: Suhrkamp.

Furedi, F. 2002. *Culture of Fear: Risk Taking and the Morality of Low Expectation*. 2nd edn. London: Continuum.

Giddens, A. 1994. "Living in a Post-Traditional Society." In *Reflexive Modernization: Politics, Tradition and Aesthetics in the Modern Social Order*, edited by U. Beck, A. Giddens and S. Lash, 56–109. London: Polity Press.

Gross, M. 2010. *Ignorance and Surprise: Science, Society, and Ecological Design*. Cambridge, MA: MIT Press.

Gross, M. 2016. "Risk as Zombie Category: Ulrich Beck's Unfinished Project of the 'Non-knowledge' Society." *Security Dialogue* 47 (5): 386–402.

Kerwin, A. 1993. "None Too Solid: Medical Ignorance." *Science Communication* 15 (2): 166–185.

Kuchinskaya, O. 2011. "Articulating the Signs of Danger: Lay Experiences of Post-Chernobyl Radiation Risks and Effects." *Public Understanding of Science* 20 (3): 405–421.

Luhmann, N. 1990. "Risiko Und Gefahr." *Soziologische Aufklärung* 5: 137–169.

Lyotard, F. [1979] 1984. *The Postmodern Condition: A Report on Knowledge*. Minneapolis: University of Minnesota Press.

Merton, R. K. 1987. "Three Fragments from a Sociologist's Notebooks: Establishing the Phenomenon, Specified Ignorance, and Strategic Research Materials." *Annual Review of Sociology* 13: 1–28.

Mythen, G. 2004. *Ulrich Beck. A Critical Introduction to the Risk Society*. London: Pluto Press.

Mythen, G. 2005. "From 'Goods' to 'Bads'? Revisiting the Political Economy of Risk." *Sociological Research Online* 10 (3).

Mythen, G. 2007. "Reappraising the Risk Society Thesis: Telescopic Sight or Myopic Vision?" *Current Sociology* 55 (6): 793–813.

Post-print version of Mads P. Sørensen "Ulrich Beck: exploring and contesting risk", *Journal of Risk Research*, 2017.
<https://doi.org/10.1080/13669877.2017.1359204>

Nassehi, A. 2000. "Risikogesellschaft." In Kneer, G.; Nassehi, A. and Schroer, M. (eds.) *Soziologische Gesellschaftsbegriffe*. 2. Edition. Munich: Wilhelm Fink Verlag. 252–279.

Nielsen, K. H., and M. P. Sørensen. 2015. "How to Take Non-knowledge Seriously, or 'the Unexpected Virtue of Ignorance'." *Public Understanding of Science*, 1–8. DOI: 10.1177/0963662515600967

Outhwaite, W. 2009. "Canon Formation in Late 20th-Century British Sociology." *Sociology* 3: 1029–1045.

Paris Agreement (2015):

http://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf

Rasborg, K. 2001. "From Industrial Modernity to Risk Modernity? A Critical Discussion of the Theory of the 'Risk Society'." In *The Transformation of Modernity: Aspects of the Past, Present and Future of an Era*, edited by M. Carleheden and M. Jacobsen, 19–39. Aldershot: Ashgate.

Smithson, M. 1989. *Ignorance and Uncertainty: Emerging Paradigms*. New York: Springer-Verlag.

Solomon, S., D. J. Ivy, D. Kinnison, M. J. Mills, R. R. Neely III, and A. Schmidt. 2016. "Emergence of Healing in the Antarctic Ozone Layer." *Science* 353 (6296): 269–274. DOI: 10.1126/science.aae0061.

Strydom, P. 2002. *Risk, Environment and Modernity*. Open University Press: Buckingham.

Sørensen, M. P. 2002. "Interview med Ulrich Beck." *Slagmark*. 34: 125–144.

Sørensen, M. P., and A. Christiansen. 2013. *Ulrich Beck: An Introduction to the Theory of Second Modernity and the Risk Society*. Abindon: Routledge.

Sørensen, M. P., and J. W. Schneider. 2017. "Studies of national research performance: A case of 'methodological nationalism' and 'zombie science'?" *Science and Public Policy*. 44 (1): 132-145.